



**Selected Articles of Calotte Academy – A travelling
northern symposium on science and politics**

Edited by Lassi Heininen and Jussi Huotari

Published by Thematic Network on Geopolitics and Security

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Preface

Unlike, a global tendency of a dominance of big, or even bigger, units and more resources (i.e. quantity), and that of growing figures, for example in economics and science, the Calotte Academy is small, and not wealthy, when it comes financial resources. Instead, it is rich in expertise (i.e. quality), flexible and resilient being able to run its annual events and travelling symposia in the European Arctic for 30 years. Locals in Inari, the center of the Academy's world, use to say that a summer has started when participants of this 'Northern Circus' arrive to the town.

Though small and rare, the Academy has acted as an expert seminar for academic and other knowledge-based discussions between stakeholders on relevant Northern and global issues, and as a school of dialogue for early-career scientists (PhD candidates, post-docs). The Academy is about inclusivity, has a participatory approach and by nature synergistic, for open-minded, new thinking and analytic, open discussion. It has served as a public platform and sub-forum for international research projects and conferences, a springboard for bigger forums, organizations and international networks, such as UArctic's TN on Geopolitics & Security, and the Arctic Yearbook, as well as implemented synergy between universities, research & expertise institutions and networks.

All this makes it interesting, even relevant, to have a retrospective overview on the presentations (altogether almost 160) and themes of the 28 annual events of the Academy on the one hand, and on the other hand, to tell its story including the aims, methods, procedure, structure, as well as outcomes and achievements. "Selected Articles of Calotte Academy – A travelling northern symposium on science and politics", edited by Lassi Heininen and Jussi Huotari, consists of 54 scholarly articles from the annual academies in 1991-2019, and the Academy's (first time) written history. These articles are divided into seven sections – Peripheries vis-à-vis World Order & International Law (7 articles from 1991-2002); Civil Society, Sustainable Development & Governance (9 articles from 1991-2011); Regionalization & Institutionalization – North Calotte, Barents Region, Europe, Arctic (9 articles from 1992-2016); Traditional & Indigenous (Knowledge) vis-à-vis Modernization, Science & Technology (7 articles from 1991-2018); Environment & Environmental Protection vis-à-vis Resources & Exploitation (8 articles from 1992-2011); Climate Change & Human Security (4 articles from 2008-2018); Military, Security, Stability & Peace (9 from 1991-2011) – which well show, even manifest, the variety of themes discussed at, and that of expertise of the speakers of, Calotte Academy's sessions. Retrospection is illustrated by the years, when the articles have been published (first time), or the presentations have taken place.

We sincerely thank all the authors for their important contributions, first at a session of an annual event, and now as a part of this collection of articles. Special thanks belong to our local co-organizers in Inari and other 18 locations, and our financers for their invaluable assistance and support.

In Helsinki & Kajaani in October 2021

Lassi Heininen & Jussi Huotari

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From Scholars' Journey to the North into a School of Dialogue - History of Calotte Academy

Lassi Heininen

Introduction and Background

In the beginning, there were two scholars willing to go beyond the mainstream by exploring fresh approaches and ideas in, and bring an international research project and scholars' network on, to northern peripheries. On the other hand, there was a Saami village in upper Lapland with a small college, which was open-minded and willing to host an academic event of this research project. Now 30 years later there is the Calotte Academy and its annual sessions in Inari and other locations in the European Arctic.

The Calotte Academy (CA) is an annual symposium with local audiences and expertise travelling across borders in several destinations in the North Calotte region, as well as an international academic forum on Northern / Arctic issues with a series of sessions and scientific presentations,

as well as lively discussions and publications. Since being organized first time in 1991, it is been run as an international post-modern academic seminar for interdisciplinary and policy-oriented dialogue, as well as for dissemination of research, in particular on social sciences, and multi-dimensional expertise. This makes the Academy an important part of the international Arctic scientific and expert cooperation, and one of the oldest international academic gatherings and institutions on circumpolar northern affairs within the region.

The Academy does neither aim to build new concrete facilities for established institutes, nor other traditional ways to do and promote science and education by financing walls and organizing official meetings. Instead, it is based on immaterial values focusing on a substance and quality. It has an inclusive approach, fruitful attitude and innovative nature. These indicate a cumulative process - i.e. the dynamics of a continuity and a change -, where a dialogue and ‘transdisciplinarity’, based on the interplay between science, politics and business, are applied as the main methods. All this is been supported by Academy’s philosophy consisting of openness, inclusivity and flexibility, and a participatory approach, simply implementing the social relevance of science.

In the difficult and turbulent times of a global crisis - caused by the combination of grand environmental challenges and climate change (as wicked problems), and accelerated by the COVID-19 pandemic (as the latest global problems) -, when real world problems are faced, international contacts are been declined and in-person meetings limited, we organized the 30 years anniversary of the Calotte Academy - as a hybrid (both in-person and on-line) event - in June 2021 at Jeera, the venue of the first Academy, in Inari. The 2021 Calotte Academy, with the title *New and Emerging Trends of Arctic Governance, Geopolitics, Geoeconomics, and Science*, will be organized in November 2021 in several locations in the northernmost parts of Finland and Norway, and Sapmi.

Thereby, this publication is devoted to the 30 years anniversary of the Calotte Academy, as an international platform, network, method and forerunner for promoting transdisciplinary and participatory research. The anniversary is utilized here to highlight an importance of a dialogue as an efficient method between different stakeholders and their expertise. And, to collect, first time, on the one hand, the information, experiences and outcomes of all 28 annual academies and travelling symposia for a written history and future analysis, and on the other hand, selected articles from the previous academies and their proceedings / publications. The completed version of Calotte Academy’s written history is published here as a part of the larger book, “Selected Articles from Calotte Academy in 1991-2019”, including 55 articles(?).

As history is been often told chronologically, after a short background the story starts from the first Academy in 1991 and goes towards the present time. After this retrospective overview, the aims, methods, procedure and structure of the Academy, i.e. how the event is developed, are been described and analyzed, as well as co-organizers and financers are mentioned. Furthermore, there will be discussion and analysis how the eight main themes, as sections titles of this book, have been discussed at annual academies within these years. Finally, outcomes and achievements are specified and discussed.

Background

The first Calotte Academy, as an international research seminar, took place in May 23-24, 1991 in Inari, and since then the academy has been arranged annually (except the years of 2000-2001, and 2020). This means that the Academy (counted from the first event, instead of the date of

foundation) is one of the oldest still running international academic platforms / institutions on circumpolar northern affairs, and the only one with all (in-person) sessions located in the Arctic region.

The Academy's story started during the first Arctic boom, or the "Arctic Age" (e.g. Young 1986), an intensive time, when the foundation for international Arctic cooperation, including the first intergovernmental meetings and international academic forums, was built on the initiatives of the famous Murmansk Speech by President Gorbachev (1987). Based on one of the six initiatives of the Speech the Arctic states organized their first ministerial meeting in June 13-14, 1991 in Rovaniemi, where the Arctic Environmental Protection Strategy (AEPS) was signed by the foreign ministers of the eight states. International Arctic Science Committee (IASC) was founded a year earlier, in August 1990 in Resolute, Canada (IASC 1990; Tulkki 1990), and its first Council meeting took place in January 1991 in Oslo (Mälkki 1991). Correspondingly, the International Arctic Social Sciences Association

(IASSA) was founded in 1990 in Fairbanks, Alaska, though its first conference took place two years later in October 1992 in Quebec City, Canada. The first ministerial meeting inspired the WWF to create its circumpolar Arctic Programme in 1992 (Langlais 2000). Finally, the Northern Forum, an international organization connecting northernmost regions (founded in November 1991), had its first General Assembly in 1993.

Behind were two emerging trends of Arctic governance and IR, according to the 2004 Arctic Human Development Report: first, an increasing circumpolar cooperation by and between Indigenous peoples organizations (e.g. Saami Council, Inuit Circumpolar Council), sub-national governments (e.g. Northern Forum), international (environmental) NGOs (e.g. WWF), and scientific community (e.g. IASC); and second, region-building with unified-states as major actors like for example, Barents Euro-Arctic Region & Council (founded in 1993) and Arctic Council (founded in 1996), and these intergovernmental forums as new platforms (Heininen 2004). Followed from this, there was also going on the first significant geopolitical change of the Arctic, and first wave of the region's transformation, from military tension of the Cold war between two superpowers into increasing geopolitical stability based on constructive cooperation on environmental protection between the eight Arctic states.

All this was much inspired, pushed and politized by environmental awakening of local residents and civil societies of the European Arctic, who became concern on a state of their environment - lands and waters, fauna and flora - due to long-range air and water pollution from lower latitudes of the industrialized North America and Northern Eurasia (Heininen 2020). As an outcome, the AEPS was signed in mid-June 1991, a few weeks after the first Calotte Academy with discussions on security, the environment and sustainable development. This date can be interpreted to mean a birth of the official international Arctic cooperation, though the Arctic Council was established several years later in Ottawa.

The first Calotte Academy was organized by Tampere Peace Research Institute (TAPRI), Research Institute of North Finland and Arctic Centre, in cooperation with Summer University of Lapland and Inarin Opisto (Inari College). Behind was an idea and aim to bring together scholars, scientists and other experts with different academic backgrounds and in different stages of their academic careers from Arctic and European states to discuss and analyze emerging circumpolar northern issues, and share their expertise with decision-makers. Indeed, the event was integrated with the

Arctic research project, "Sustainable development and alternative ways for development" (by TAPRI, in cooperation with North Finland Research Institute, and Saami Institute), as the project's seminar was organized in Inari back-to-back to the 1991 Academy. Since then, there has been close interrelationship with international research projects, which has often used the Academy as a public hearing / discussion platform.

According to the Memorandum (1990), Academy's another aim was to create a forum, located in the North Calotte region, for researches, decisions-makers, representatives of civil organizations and other interested ones, where to discuss current issues concerning a state of security, the environment and development of the northernmost region of Europe, also called the North Calotte, as well as to discuss with Indigenous peoples, in particular the Saami, and issued important to them. Though, the main organizer was TAPRI, the initiative for to establish this kind of event in Lapland came from the Summer University of Lapland, and Inarin Opisto was willing to host the Academy. The co-organizers, Research Institute of North Finland and Arctic Centre were invited by TAPRI. Interestingly, another recent academic event played an important role here, as the Calotte Academy, as a new forum, would not be possible without the experiences from this Academy in Kuhmo, even the word "academy" in the name comes from there.

The Summer Academy was been organized annually in 1987 – 1997 in Kuhmo, Finland and Kostamus, the Soviet / Russian side, by TAPRI and Town of Kuhmo and Town of Kostamus, in cooperation with a few civil organizations. Thus, in 1991 it was rather well-known international forum for academic and policy-oriented discussion on contemporary northern and arctic issues, such as security policy, nuclear-weapons, arms control & disarmament, borders & borderlands, as well as economic development & cooperation, the environment, culture (see, Heininen & Käkönen 1996). It produced new and innovative ideas and visions, as well as new knowledge, for all levels of a society - locally, regionally and internationally -, and had an ambitious aim to find ways how to stop the peripheralization process in the European northernmost regions. As a meeting place for researchers and decision-makers, the Kuhmo Summer Academy had achieved a high profile to implement the interplay between science and politics, and between scientific community and civil society, and bring a few ideas on foreign policies for foreign ministries in Helsinki and Moscow like for example, new ideas for the 1987 Murmansk Speech, and arctic issues and northern dimension onto Finland's political agenda (Heininen & Käkönen 1996; Heininen 1989). It also promoted an academic discussion on borders, and inspired international cooperation on border studies (e.g. Borders in Transition conferences) by using the Finnish-Soviet / Russian border and the US-Mexican one as case studies for the 'from a boundary to a borderland' thinking and a new kind of neighborhood policy.

As an open public platform and a scientific seminar of TAPRI Project, "Alternative Security and Development in the Arctic Regions" (1987-1989), the Summer Academy was a forerunner in Finland and North Europe. Without going into details of interrelations between these open platforms and international research projects, it is interesting to note that this TAPRI Project, funded by McArthur Foundation, was not only the backbone of the two academies (e.g. *Politics and Sustainable Growth in the Arctic* 1993). It also brought the first international workshop on circumpolar arctic issues to the Arctic region having a seminar in Ivalo, Finland in November 1988 with researchers from Canada, Finland, Great Britain, Norway, Soviet Union, Sweden and the USA, as well as representatives of Finnish industry (e.g. Pauli Jumppanen from Wärtsilä Ltd., Jussi Palmu from Imatran Voima Ltd.) and that of the Foreign Affairs Ministry of Finland (Esko Rajakoski).

The Project was the first of the two international research projects on Arctic International Relations with a forum for the interplay between scholars and policymakers of the Arctic boom in the 1980s; the other was “Working Group on Arctic International Relations” coordinated by Dartmouth College and University of Toronto (Möttölä 1988). Thus, no wonder that in this capacity the TAPRI Project acted as a springboard for the both academies, and correspondingly, they served as a public forum for the Project.

All in all, for a few years, these two academies were run parallel – the Calotte Academy usually late spring and the Summer Academy in July – until late 1990s, when the local organizers in Kuhmo were not any more able to run it, except occasionally in 2000s. After that, the Calotte Academy successfully continued to carry the torch despite challenges, narrow financial resources, ignored by mainstream academic institutions. This is thanks to interested and motivated early-career scientists and senior scholars, local and regional policy-makers, planners and other experts, as well as local hosts in different Academy’s locations, in particular in Inari, Kirkenes and Apatity.

Three Phases & Several Places – Annual Travelling Academies Chronologically

When looking chronologically the annual events, and analyzing the aims, structure and target group(s) of the Academy, it is possible, though not planned in the beginning, to recognize three phases within the (first) 30 years: At the first phase (in 1991-1999/2000), the Academy was a platform, with a policy-oriented aspect between researchers and civil society for international research projects, as well as a ‘university’ for journalists; at the second phase (in 2001-2011), it acted as an international expert seminar of international organizations, especially a sub-forum for NRF, and for regional and local decision-makers; and at the third phase (since 2012), it was transformed into a doctoral school for early-career scientists (PhD candidates, post docs, advanced MA students). As the newest phase the aim is to develop it as a school of dialogue.

The Arctic region has changes significantly in the last 30 years. If at early-1990s there were the two above-mentioned emerging trends, and the consequent regionalization process - the Arctic as a distinctive region (e.g. AHDR 2004) -, at the early-21st century the Arctic is a geographical region placed within global cultural, environmental, societal and technological systems, as well as politized. Due to globalization what happens at the global level affects and transforms the entire region, and what takes place today in the Arctic has significant worldwide implications on the global economy, world politics and the Earth system, as well as accelerates global trends (e.g. Heininen and Finger 2016). All this has influenced, and influence, the Calotte Academy and its themes, as annual events are neither prepared nor do take place in a vacuum. Much opposite, changes in Arctic governance, geopolitics and security, as well as those in relations between the Arctic and the rest of world have reflected to discussions of the sessions and their highlights.

In this section I go through all annual academies (1991-2019) chronologically, dividing them into three phases. Each annual academy is briefly described, including theme(s) and subthemes / session titles, route, location, if proceedings / publication is published, and few names of presenters, as well as some interesting comments on the attitude by participants (see also, Appendix 1).

First phase: a platform for the interplay between research projects and civil societies and media

As mentioned earlier, the Calotte Academy started as an open international platform (in northern periphery), and with a policy-oriented aspect between research projects and civil societies. Interestingly, it also acted as a 'university' for media, as emerging arctic and northern Russian issues, in particular nuclear safety and region-building, were new and attracted young journalists to follow and report. Here the Academy was a part of the above-mentioned, still emerging, trend of an increasing circumpolar cooperation between Indigenous peoples' organizations, sub-national governments, NGOs and scientific community.

1991:

As mentioned earlier, the pilot Calotte Academy took place in May 23 - 24, 1991 at Jeera of Inarin Opisto in Inari. The main theme was *Security, the Environment and Sustainable Development*, and discussion on that was divided into two sub-themes, the first about needs of centres and the environment of peripheries, and the second about sustainable development and safety. These themes were introduced by 14 expert presentations in the two long sessions. As outcomes there was a lively discussion, and a proceedings (in Finnish) *Inari Kalotin keskellä ja Euroopan laidalla* published by Arctic Centre.

There were 25 participants, consisted of the invited speakers from Arctic States and Central Europe, and an audience of local, regional and national policy-makers, planners, activists, as well as a group of journalists. Among the speakers, many of them also attended TAPRI's Arctic Research Project's workshop back-to-back to the Academy, were Nils Ole Gaup from Sapmi, Walter Goldfrank and Steven Miller from the USA, Clive Archer from UK, Gennadi Kalabin from Russia, Steinar Pedersen from Norway, Tuomo Molander and Erkki Nordberg from Finland, as well as the co-founders of Calotte Academy Lassi Heininen and Jyrki Käkönen from TAPRI.

The first Academy was organized by Tampere Peace Research Institute, Research Institute of North Finland and Arctic Centre, in cooperation with Summer University of Lapland and Inarin Opisto. The gala dinner at Hotel Kultahovi was hosted by Voitto Tervahauta, chairman of Inari Municipality Council. Due to the local audience of non-academics the language was Finnish, and there was a simultaneous translation from Finnish to English, Russian and Swedish / Norwegian.

1992:

The second Calotte Academy (in May 21 - 23) also took place at Jeera in Inari. The main theme was *Future, Environment and Sustainable Development*, including 'Locality' in Northern peripheries. It consisted of the sub-themes on local experiences, strategies for the future, and a state of the European Arctic environment. The last one was a multidisciplinary & multi-expertise panel on environmental problems and solutions with six experts on different fields. As an outcome of these sessions and discussions a proceedings, *Regionalism in the North* was published by Arctic Centre.

There were ten presentations in two sessions and a panel with six panelists. Among the speakers were Nicholas Flanders from the USA, Elina Helander from Sapmi/Norway, Kurt Larsson from Sweden, Olav Stokke from Norway, Antti Korhonen and Olli-Pekka Jalonen from Finland. All together there were 48 participants. The dinner at Hotel Kultahovi was again hosted by Inari Municipality.

Selected Articles of Calotte Academy on 1991-2019

1993:

The next year's event (in May 20 - 22) was the first Academy with sessions also in Svanvik, Norway hosted by Svanvik Högskola. The main theme was *Regional Cooperation, Self-determination and Sustainable Development*, and the sub-themes dealt with land claims, law on the sea, environmental problems and social solutions as well as Arctic strategy for the future.

There were 13 presentations in three sessions, and altogether 30 participants. Among the speakers were Sverre Jervell from Norway, Gennadi Matishov from Russia, Oran Young from the USA, Kari Hakapää and Kaisa Korpijaakko-Labba from Finland. Inari Municipality hosted the Academy's dinner at Hotel Kultahovi.

1994:

Exceptionally, the 1994 Academy (in May 26 - 29) was the first one with session in three countries, Finland, Norway and Russia. An experimental session was organized in Nikel, the Russian side hosted by Kola Science Center, in addition of sessions in Inari and in Svanvik. The event's main theme was *Regionalism in the Barents Region / North Calotte*, and the sub-themes dealt with regionalism, an economy region, security-policy in transition, and environmental policy.

There were 19 presentations in four sessions. Among the speakers were Oddrunn Pettersen from Norway, Sanjay Chaturvedi from India, Gennady Luzin and Romuald Krumin from Russia, Ulf Wiberg from Sweden, Seppo Aho, Tapio Reinikainen and Kristiina Rissanen from Finland.

This annual event, with 64 participants, achieved much publicity in media, as for example Barents-Nytt, Finnmarken, Kaleva, Lapin Kansa, Pohjolan Sanomat reported on the presentations and discussions (see, Kalottiakatemia 1994 – Tiedotusvälinekooste). The traditional dinner at Hotel Kultahovi was hosted by Jouko Lepistö from Inari Municipality.

1995:

To complete the expansion to the East, the 1995 Academy (in May 18 - 21) was the first with full sessions in Russia, Norway and Finland, and to start the program in Nikel, on the Russian territory. The event was a real travelling symposium, as it crossed three national borders: the Finnish-Russian border, that of Russian-Norwegian, and finally, the Norwegian-Finnish border. as well as to start the program in Nikel.

The first part of the route was, indeed, very special and rare, as the Academy got an official permission - though neither a written document ('propuska') nor a fax - to cross the Finnish-Russian border at Virtaniemi along the old Pechenga road to Nikel (former Kolosjoki) (for more details, see Heininen 1998). This was not an official crossing point and goes through the Russian federal restricted border zone. Furthermore, the permission was for the entire international group of 55 persons (scholars, students, journalists) representing nine different nationalities, including several Finnish journalists and photographers. Finally, due to technical problems, when driving from Nikel to Kirkenes, another bus had hard time to manage to cross the Russian-Norwegian border in time but did it before the crossing point was closed.

The event's main themes were *The European Union in the Barents Region* and *Regime for the Arctic*, and the session titles accordingly. There were 21 presentations in four sessions. Among the speakers were Dag Mjaaland from Norway, Helena Basmakova from Russia, Ulf Wiberg from Sweden, David Scrivener from UK, Pauli Jumppanen and Paula Kankaanpää from Finland.

This event, with altogether a record of 76 participants, was first time organized by Finnish, Norwegian and Russian scientific & educational institutions. The dinner hosted by Inari Municipality was served at Sami Education Institute and cooked by the students.

1996:

Next year's Academy (in May 29 – June 1) took first time a Western route from Inari to Sweden. Thus, a part of the sessions took place in Kiruna, hosted by Mamfältens folkhögskola, and organized by Centre for Regional Science (CERUM) at University of Umeå and Norrbotten's Föreningen Norden. The theme was *Economy of the European North / Barents Region*, and the sub-themes dealt with the Barents Region as an economic region and / or a multiple-use region, and alternatives for development, as well as Kiruna as a case study.

There were 18 presentations in four sessions. Among the speakers were Frank Rawlingson from EU Commission, Gennady Luzin from Russia, Ingrid Liljenäs from Sweden, Esko Lotvonen, Arto Nokkala, Leo Granberg and Heikki Tunkkari from Finland. The 1996 event had altogether 73 participants in Inari and Kiruna. In this year the dinner was hosted by Mamfältens folkhögskola.

1997:

The 1997 Academy (in April 25 - 26) was exceptional being organized only in Rovaniemi as an international expert seminar under the auspices of the research project, "Alternatives to the Northern Policy of Finland" by several Finnish universities and research institutes. The idea and aim of the seminar was first, to have contributions, different points of view and feedback from abroad for the Project with the goals to analyze the geopolitical and economic situation of, and challenges for change in, the European North; second, to create alternative scenarios for regional development, and based on the scenarios create viewpoints for northern policy, strategy and research policy of Finland; and finally, to contribute substantially the Barents Today international conference, planned to take place in later the year in Rovaniemi (see, *BEARING the European North* 1997).

The main theme was *Northern Dimension and Alternative Scenarios in the European North* with the sub-themes on institutionalization and regionalization, North-West Russia after the collapse of the Soviet Union, Northern dimension / policy, and alternative scenarios for the future.

There were 14 presentations in four sessions. Among the international group of 28 scholars and other experts were Sveinung Eikeland from Norway, Antony Penikett from Canada, Gunnar Lassinantti from Sweden, Roman Tripolsky and Larisa Riabova from Russia, and Veikko Tikkanen and Richard Langlais from Finland.

1998:

In 1998 the Academy had another experimental structure having two parts combined: The first was a town-hall meeting on *Understanding the Impacts of Global Changes in the Barents Region* in Inari in June 3-4, 1998. The second was a Think Tank Expert Seminar on Security in Rovaniemi in October 9-10, 1998 with a fact-finding Field Trip to Russia before by a smaller group of experts.

The town-hall meeting, with public lectures and hearings on the Barents Sea Impact Study (BASIS), was organized by Calotte Academy and Arctic Centre, in cooperation with an international Global Change Research Project financed by European Commission (IV Framework 'Environment and Climate' Programme). There were a few scientists and experts (Peter Kuhry, Risto Jalkanen, Terhi

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Kurttila, Timo Rusanen) introducing the theme and methods, and local residents (Saami fisherman, hunter, reindeer herder, administrator, member of Saami parliament, activist) in Stakeholder's Panel (moderated by Lassi Heininen).

The overall theme for the Think Tank Expert Seminar on Security in Rovaniemi and the Fact-Finding Field Trip to Russia was *The European North – Hard, Soft and Civil Security*. There were 13 presentations in three theme sessions covering such themes as transition to civic security (in Russia), changes in problem definition (in the European North), and security as a part of the European Union's Northern Dimension (see, *Security in the European North* 1999). The group of 24 experts consisted of several foreign and Finnish scholars and experts, among them Lars Frisk and Jan Prawits from Sweden, Doug Nord from Canada, Vladimir Didyk, Oleg Reut, Alexander Sergounin and Tair Tairov from Russia. The first dinner was hosted by Provincial Government of Lapland, and the second one by University of Lapland.

1999:

The 1999 Calotte Academy (in June 17-18) took place in the twin-town / Euro-City 'Hapatornio' in Tornio, the Finnish side and in Haparanda, the Swedish side. The event was organized by Arctic Centre, Finnish Committee for European Security and International Olof Palme Institute, in cooperation with Provincia Bothiensis and Pohjola-Norden in Lapland. There were altogether 26 participants.

The theme was *Civil Society, Democracy and Security of Everyday Life of People* (see, *Vital North! Security, Democracy, Civil Society* 1999), which was introduced by 17 presentations on four sub-themes. Among speakers were Bengt Westman, Andreas Ådahl and Björn Lunqvist from Sweden, Boris Mishnik, Vasili Derbin and Olga Liapounova from Russia, Hannele Pokka, Aino Saarinen and Raimo Ronkainen from Finland. There was also an excursion to the Torniojoki-river valley, and the traditional dinner was hosted by Provincia Bothiensis.

Partly due to difficulties in fund raising for the Calotte Academy, and mainly due to the establishment of the Northern Research Forum (NRF) in 1999 (initiated by President Olafur Ragnar Grimsson (1998), and the preparations of its first Open Assemblies (in 2000 and 2002), there was a break of two years (2000-2001) in organizing the Calotte Academy. The main goal of NRF was defined to provide a highly qualified forum for a dialogue on northern matters, with an agenda to be carried out by the scientific community, as will be discussed later (see, *Feasibility Report* 1999).

Although not officially titled as an annual Calotte Academy the *International Workshop on Social Science and Sustainable Development* was, however, organized based on the Academy's model and using its local contacts in Lapland and Sapmi. It took place in August 29 – September 1, 2000 in Inari and Utsjoki, and included an excursion to Tana in the Norwegian side. The nature of the event was an expert workshop to implement on the one hand, interdisciplinarity, and on the other hand, the interplay between theory and practice / research and politics (Einarsson, et al. 2000). There were 20 invited participants from Finland, Iceland, Norway and USA.

Summary, Findings and Outcomes

To sum up the first phase of Calotte Academy (in 1991-1999/2000): First, under the Calotte Academy title there were seven annual events with an international group of scholars, local and regional experts and authorities, and local audiences in Inari (all them), Svanvik (1993-1995, and 1998), Nikel (1995), Kiruna (1996) and Haparanda-Tornio (1999); two international scientific seminars in Rovaniemi (1997-1998), as well as a Town Hall meeting in Inari, and a fact-finding trip to Murmansk Region and North Norway (1998). There were altogether 140 presentations in 30 sessions of ten annual events. They took place in nine different locations in Finland (Inari, Rovaniemi, Tornio), Norway (Kirkenes, Svanvik), Russia (Nikel, Murmansk), and Sweden (Haparanda, Kiruna), most of them located in Sapmi;

Second, the academies and their presentations of the first phase are well documented, as from ten events there are altogether seven publications, in Finnish or English. They cover the annual academies of 1991, 1993, 1994, 1997, 1998, 1999 and the Barents Today conference (see, Appendix 2: List of Calotte Academy publications);

Third, there was some social and political impact regionally and nationally, as the first academies enjoyed media interests in Finland, Norway and the Murmansk Region. Among media who attended and reported from annual academies, were Finnish Radio & TV Broadcast (national and Lapland), Saami Radio, Murmansk TV, and the following Finnish and Norwegian newspapers: Barents-Nytt, Finnmarken, Helsingin Sanomat, Inarilainen, Kaleva, Lapin Kansa, Pohjolan Sanomat;

Fourth, the main organizers of the annual Academy were Tampere Peace Research Institute (TAPRI), Arctic Centre, and Summer University of Lapland. Inari College / Sami Education Institute was the host, and the Municipality of Inari and Adult Education Centre of Inari financial supporters. Rather soon, the Academy had new organizers in the neighboring countries, when Norwegian Barents Secretariat and Svanvik Högskola hosted sessions in Svanvik and Kirkenes, the Kola Science Centre sessions in Nikel and Murmansk, CERUM and Mamfältens folkhögskola sessions in Kiruna, and International Olof Palme Institute and Provincia Bothiensis were co-organizers of the 1999 event in the Euro-City Haparanda-Tornio;

Fifth, due to the local audience of non-academics in Inari there was a simultaneous translation at the first Academies from Finnish to English / English to Finnish, from Finnish to Swedish/Norwegian / Swedish/Norwegian to Finnish, and in some years even from Finnish to Russian / Russian to Finnish. There was also a small registration fee for (non-speaker) participants;

Finally, as a part of the first phase, there were efforts to have more permanent funding and budget line for the Academy. Among them was an application to the Nordic Grant (under the auspices of NMC for Network Co-operation with the Baltic Countries and Northwest Russia) for a research network "Regional Development in a Barents Region / North Calotte Context" of five Nordic and Russian research institutes (Arctic Centre, CENTRUM, Finnmark Research Centre, Fridtjof Nansen Institute, and Kola Science Centre). This application was built on the foundation of Calotte Academy, and that of Barents University Programme, but was not, unfortunately, successful.

Correspondingly, among interesting findings and outcomes of the Academy's first phase are:

Firstly, there were three main themes discussed through the academies of 1991-1999: security, the environment / climate change, and sustainable development. The 1991 event concentrated on security, environment and sustainability, and the 1999 one on civic society, democracy and security. These themes are still very relevant 30 years later (when writing this) in Arctic research, though the public focus is on climate change, and sustainable development is less discussed. In addition of these themes, regionalism / regional cooperation, regimes, and the EU and its Northern Dimension were also discussed;

Secondly, the Calotte Academy was among the first scientific seminars to implement the main objective of the TAPRI Project, *Sustainable Development and Security in the Arctic* "to find alternatives to the traditional outlook of development... [as] Sustainable development is defined as solving problems without simultaneously creating new ones". Here sustainable development "has to be understood as a continuous process, the central realizer of which can be defined to be the civil society. This viewpoint has been selected because, as unified states, economic growth and environmental problems are closely connected, the research project aims at finding an alternative for the state-centered approach". (Arctic Project, Research Plan 1991-1993);

Thirdly, by crossing - rhetorically and physically - state borders in the European Arctic, the Academy reformulated the North Calotte as a 'cooperative region without borders'. Behind was on the one hand, modern theories on regionalism and regionalization (e.g. Stokke & Castberg 1992), and an economic region in world economy (e.g. Wiberg 1994), and on the other hand, the North Calotte's rich history of trans-border cooperation between regional and local actors, both civil societies, peoples and authorities (e.g. Heininen 1989). Interestingly, this kind of experimental regional modeling and redefining of territories was discussed at Calotte Academy before the Barents Euro-Arctic Region (BEAR) between three Nordic counties (Finland, Norway and Sweden) and Russian Federation, as well as between the northernmost counties of these states as the core of the cooperation, was founded in 1993 (e.g. Stokke et al. 1995; Heininen 1999);

Fourthly, the Academy was collecting valuable experiences of an importance of policy-oriented research and international research cooperation on the Arctic, in particular on social and political sciences, before the institutionalized international Arctic cooperation started in the contexts of Arctic Council, Barents Euro-Arctic Region and the European Union's Northern Dimension. The Academy's experiences were used for example, to organize the Barents Today conference (in 1997), as a platform to launch the Northern Dimension for the EU (see, Lipponen 1997; Heininen & Langlais 1997). Behind was a Strategy-Paper which proposed "to build up an international scientific network interested in the North and northern affairs,... from the point of view of political science... [and] a process with different stages... be based on the international network of the Calotte Academy" (Heininen 1997). Here the Calotte Academy was described as "an international seminar which has annually travelled around the European North... [and] a forum for a discussion between researchers, civil servants, politicians, students, journalists and civil organizations, between science/research and praxis/politics"; note that the 1997 Barents Conference had the same idea;

Fifthly, in particular, the Northern Research Forum “can be interpreted as an outcome” of the Calotte Academy and its activities within 1991-1999 (Heininen 2003, 113). As the main aim to establish the NRF was “to provide a highly qualified forum, or even a ‘village square’, for the discussion and debate of research on northern matters, with an agenda to be carried out by researchers, and with a sense of shared communities; to interpret and transform new research findings... into a form that is useful for decision-making and vision creation in circumpolar society;... by and between researchers and different interest groups and stakeholders...” (Feasibility Report 1999, 11);

Finally, to sum up the first years as a travelling forum, the Academy took place in four Arctic States and in seven locations within the European Arctic and around northern European periphery in Inari, Rovaniemi, Kirkenes, Svanvik, Nikel and Kiruna, as well as in Haparanda-Tornio. Therefore, it is possible to assess that the Calotte Academy, as an annual international gathering, with relevant themes and an international network, is first of all a process which was managed to keep going without permanent funding.

Second phase: as an expert seminar for regional and local decision-makers and a sub-forum for NRF

At the second phase, from 2001 to 2011, the Calotte Academy continued its role as an international expert seminar for regional and local decision-makers, as well as for international organizations. It also acted as a sub-forum for the Northern Research Forum. Thus, the Academy sharpened the message of a greater role of the interplay between science, politics and business, which issue had become more relevant in policies of the Arctic States and for the work of the Arctic Council.

Unsurprisingly, the Northern Research Forum (NRF) was partly built on the foundation of the Academy, as its main aim was to promote the interplay between science and politics, and business. This was done by having a policy-oriented dialogue on relevant and challenging issues between policy-makers, academics, civil activists, resource users and business people. After the first NRF Open Assembly, which took place in November 2000 in Akureyri and Bessastadir, Iceland, and when preparing the second one in autumn 2002 in Vileky Novgorod, Russia, it became obvious that a pan-Arctic forum cannot compensate a regional and local gathering. Thus, it would be better to have the both, which was also confirmed by the results of a questionnaire on living standards and livelihoods (to stakeholders in Lapland) of the Academy.

Followed from this, the Calotte Academy was been taken from mothproof, and preparations for annual academies were restarted in 2001. Having the same aim and acting as a springboard for the NRF it was natural for the Academy to contribute its Open Assemblies, with a series of sessions with local audiences in different location in Finland, Norway, Russia and Sapmi, emphasizing the regional dynamics of Northern European peripheries. Thus, the Academy served as a regional workshop to discuss on the themes of forth-coming NRF Open Assemblies among regional and local experts, decision-makers and media, as well as to collect experiences and expertise on regional development (see, *The Proceedings of Calotte Academy 2007*). In this capacity, at the second phase the Academy was, first of all, an international expert forum for academic and policy-oriented open discussion on

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relevant northern issues, and the global-national-regional-local interrelations among members of the research community and a wide range of other stakeholders.

2001:

There were proposals and aims to organize the Academy already in autumn 2001 with themes related to new industries and IT, peoples' well-being, eco-tourism vis-à-vis industrial tourism, as well as demography, i.e. what is a right number of population. It, however, came out that it is too short time for preparations. Therefore, instead of a full Academy in Inari a Press Club evening, on a role of Northern studies / political sciences, and that of the Calotte Academy and the NRF, was arranged in Rovaniemi for journalists and media. An annual Academy was organized next year.

2002:

The main theme of the 2002 Academy, organized in Inari in May 6-7, was two-fold: on the one hand, *Population Dynamics and Human Capital in the European North*, with a slogan on demography: "What is the right number, and for what, and whom?", and on the other hand, *Traditional Knowledge and Application(s) of New Technology*. The theme was divided into roundtable discussions on population dynamics and wellbeing, information vis-à-vis knowledge, as well as reindeer meat in politics and technology in reindeer herding. One of the roundtable discussions was titled "Opportunities for the European North" with representatives from different stakeholders.

The first part of the main theme was introduced by an analysis of the answers to the questionnaire on a current state of human development and wellbeing in the Finnish Lapland (Tirronen et al. 2002). It was sent to 300 representatives of different stakeholders and individuals, and responded by 193 persons, as well as "got remarkable attention in the local newspapers". According to the questionnaire the top five positive issues in Lapland are: Great environment, Peacefulness, The people of Lapland, Many possibilities to spend free-time, and Favorable living costs. Unlike, Decision-makers lack of faith, Unemployment, Too high moving-rate to South / big cities, Weak economic situation, and Envy people and different confrontations are been experienced as negative ones. Circa 70% of those who responded thought that the number of Lapland's population should be increased, when taking into consideration the current state of Lapland's livelihoods, economy and environment, and 85% thought that it would be good to have more tourists to visit. (Tirronen et al. 2002)

The restarted annual Academy was with 33 participants. There were 15 presentations in three sessions, and the roundtable on opportunities for the European North included seven panelists representing University of Lapland, Regional Council of Lapland, Norden Association in Finland, Inari Municipality, environmental movement, and tourism business company Riekkoparvi. Among the speakers were Ivar Lie and Inge Nilsson from Norway, Anne-Karin Berglund from Sweden, Vladimir Didyk and Svetlana Britvina from Russia, Elina Helander, Seppo Aho, Aimo Aikio and Pirkko Nieminen from Finland.

2003:

The 2003 Academy (in April 4-6) in Rovaniemi was the first organized in close cooperation with an international organization, the Barents Press. It connects journalists from the Barents Sea area

(Finland, Norway, Russia and Sweden) to discuss on current northern issues, such as democracy, development and security, in annual meetings. The theme was *Regional Dynamics and Challenges of Democracy in the European North*, and the slogans were “Is the North needed to be populated?”, and “Democracy, old structures and new challenges”. As a part of the program, a special Academy session of 25 professionals was titled “Northern Expertise – is that a real thing?”, where representatives of several academic and other expert institutions, such as Institute of Economics and Tourism, Thule Institute, RENMAN Project, attended.

There were 18 presentations in four sessions. Among the speakers of the joint 2003 meeting were Per Unckel and Lars Anders Baer from Sweden, Igor Dylev and Ilja Solomeshch from Russia, Helena Luusua and Aino Snellman from Finland. The conference reception was hosted by the State Provincial Office of Lapland.

2004:

Correspondingly, the next year’s Academy was a part of the North Calotte Conference (Nordkalottkonferensen), which took place (in August 13-15) in Saariselkä, Inari. The conference theme was *The Developing Calotte*. The Academy’s contribution was rather modest limited to a session and roundtable on “Human development in Northern regions” based on the Arctic Human Development Report (AHDR 2004), introduced by Lassi Heininen (one of its lead authors) and discussed by Gunilla Johansson and Rune Sverre Fjellheim as panelists.

The Report was published a few months later, in November 2004 in Reykjavik, under the auspices of the Icelandic Chairmanship of Arctic Council. The theme was also in a focus of the 2005 Academy, where discussions based on the report continued.

2005:

Next year the Calotte Academy (in May 26-29) went back to its roots and had its sessions in Inari. The main theme was, again, two-fold combining science, technology and human development, as well as interdisciplinarity, *Role of Science and Research in Regional Development of Northern Regions, and Cold Climate Research and Technology in Finland and Lapland, and State of Human Development, and Impacts of Climate Change in the Circumpolar North and North Calotte*.

The main themes, lectures and discussions dealt with on the one hand, human development, in particular the role of science in regional development, and on the other hand, impacts of climate change in Northern regions, in particular cold climate research and technology in Finland and Lapland, as well as in North Calotte region. These themes were discussed both in the global context of the entire circumpolar North, in the regional context of the European Arctic, and finally in the local context of Inari.

As a part of the dissemination and feedback process of the AHDR and Arctic Climate Impact Assessment (ACIA), a public Town Hall Meeting (Open Public Hearing) on human development and climate change impacts in the entire Circumpolar Arctic, in particular in its European part and Lapland, was convened in a bar in Inari downtown, in conjunction with the Academy.

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Among main conclusions of these discussions were: First, the role of a university and research institute is critical in regional development in the North, although there are obstacles and lack of interests. To implement this through a deep cooperation between the Universities of Lapland and Oulu would be beneficial to North Finland when facing the challenges of globalization. Second, the AHDR is a valuable scientific contribution both for an academic discourse and political discussion on human development and other contemporary Northern issues in general, and also dealing with comparative studies between Indigenous and other local communities, where the Municipality of Inari would be in an interesting case study. Therefore, it would be valuable that the Report would be translated into Northern languages, which was partly materialized as it was translated into Finnish (as well as later into Russian) and launched at the 2007 Calotte Academy. Third, it came out that this kind of an open and trans-sectoral discussion (introduced by an academic community) is well-taken and needed, but not that easy to raise funding for. Fourth, as the Academy was invited by Municipality of Inari to be organized next year (including discussions how to redesign the structure, avoid overlapping events and build fruitful relations between policy-makers, NGOs and scholars, and PhD candidates), there was continuity.

Finally, the Academy's aims of 'interdisciplinarity' and 'internationality' were implemented on the one hand, through the disciples of anthropology, biology, cultural studies, economics, geography, international relations, media studies, natural sciences, Saami studies and technology, and that active participants came from all over the Arctic region. On the other hand, a final report (including summaries of the sessions and the town hall meeting, and the abstracts of the presentations) was, first time, done by early-career scientists and published as hard copy and online at the Academy and NRF websites (Final Report on the Calotte Academy 2005).

There were altogether 42 participants, and 21 presentations in two theme sessions and a Town Hall meeting. Among presenters were Lee Huskey from USA, Björn Gunnarsson, Joan Larsen and Jon Haukur Ingimundarsson from Iceland, Anatoly Vinogradov from Russia, and Sauli Rouhinen, Kari Laine, Mauri Ylä-Kotola, Mari Riiipinen, Veli-Pekka Lehtola, Hannele Pokka from Finland.

If the spring flood was a dramatic manifest of the forces of a nature, the "Taste of the North" dinner and Ijahis Idja Music Event's Porokonsertti were friendly examples of the hospitality of the local hosts. Behind was the local idea to organize the Academy as a part of the "Super Weekend of Inari".

2006:

Indeed, followed from these encouraging experiences and the invitation of Municipality of Inari next year was the "Lordi Academy" with its sessions in May 19-22 in Inari and further in Kirkenes, first time for years. The event's main themes were *New Geopolitics of the North Calotte*, focused on geopolitics and Inari's location, and *Multiculturalism in Lapland*, based on Saami culture and identities.

There was a new feature and method by having a panel, "Inari in a middle of North Calotte and a periphery of Europe" with invited experts from different disciplines and fields - Björn Gunnarsson from Iceland, Gunhild Hoogensen from Norway, Lee Huskey from USA, Sami Moisio and Antti Syväjärvi from Finland – moderated by Lassi Heininen. Each panelist was asked her/his personal assessment of a state of Inari, based on the distributed material on Inari and Lapland (e.g. AHDR

2004), i.e. how (s)he sees Inari and its location locally, regionally, internationally and globally at the early-21st century. Among main conclusions and proposals of this session were that locally areas “are fronting the challenge where they themselves are responsible of development”, here one opportunity to take this responsibility is to show “more independency in terms of decision making... [where] scientists can offer variable results for decision makers in order to find solutions to northern issues and problems of remote areas” (Lampelo-Iisalo 2006).

The second theme, multiculturalism was introduced by James McDonald from Canada, and Aimo Aikio, Veli-Pekka Lehtola and Maritta Stoor from Finland. The session was a kick-off of the post-graduate project “Multiculturalism in Lapland” at the University of Lapland, coordinated by Scott Forrest. Correspondingly, under the theme “New Northern Security” the nexus of climate change and environmental conflicts, exploitation of hydrocarbons and borderless space was discussed in Kirkenes. There were 16 presentations in three sessions and altogether 42 participants from Alaska, Finland, Canada, Iceland, Norway, Russia.

Finally, as an implementation of multiculturalism in Lapland and Sapmi, there in a hotel bar in Inari downtown was an extra ordinary performance on Saturday night, when the Finnish and Saami together celebrated the Finnish singer *Lordi* dressed by four-cornered (Lappish) hat as the first Finnish winner of the Eurovision Song Contents (see, Heikkilä 2006).

2007:

The 2007 Academy (in June 14-18) with the theme of New Northern Dimension took place in Inari, Finland, in Svanvik and Kirkenes, Norway and in Murmansk, Russia. The main aim was to discuss on the contents of the new Northern Dimension policy of the European Union with an emphasis to the priority sectors, and further, to apply the policy in the international, geopolitical, geocultural and environmental situation of the in European North. In the opening speech, it was noted that although the Barents Region’s universities have cooperated for years, and that there are inter-university networks on several fields (and new ones are created under the auspices of University of the Arctic), the Calotte Academy is the only annual interdisciplinary seminar, as well as an international expert platform for a dialogue between scholars and other stakeholders. Further, that there is an every day’s dilemma in implementation of the interplay between science and politics, that policy-makers do neither often feel themselves confident in, nor have time for, an open political dialogue with experts. On the other hand, social scientists are often isolated from the rest of society doing research and writing text for each other on issues, which often have little to do with decision-making. This means that often solutions of big social and economic issues are steered by expert reports.

The theme was actively discussed based on 23 contributions by 30 participants in eight sessions. Among the presenters were Susan Crate from USA, Zhanna Kasparyan, Anastasia Rogova, Vladimir Puzenko and Ludmila Ivanova from Russia, Honna Havas, Margrethe Aanesen, Ingvild Warttainen, Indra Øverland and Urban Wråkberg from Norway, Lars Elenius from Sweden, Björn Gunnarsson from Iceland, and Esko Lotvonen, Reijo Timperi and Oliver Krone from Finland. Among the presenters were, first time, post-graduate students and PhD candidates from Finland and Russia. In

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addition of academic participants there were also policy-makers from Finland and Norway representing sub-national governments and municipalities.

The main outcomes of the 2007 Academy were firstly, the viable dialogue based on seminar lectures, which was built between the participants who mostly represented academia and politics. As a follow-up to the previous academies of 2005 and 2006 there was a panel discussion on “Lessons to learn from the Arctic Human Development Report – what Lapland can offer”, based on the Finnish edition of the Arctic Human Development Report (*Arktisen alueen inhimillisen kehityksen raportti 2007*); Secondly, that this academic journey through three locations enabled seminar participants mutual intensive and vivid debates and offered enough time for open discussion in each location, as well as made it possible to create new contacts with colleagues and representatives of other stakeholders and thus build inter-relations with other institutions along the line of the Northern Dimension; Thirdly, the event acted as a kick-off of the Nordic-Russian “Northern Eurasian Geopolitics” (NEG) research project; and Finally, a Proceedings based on the presentations of the symposium’s speakers and the related discussions was edited and published in 2008 (see, *The Proceedings of Calotte Academy 2007*).

2008:

Next year the Calotte Academy (in May 22-26) also took place in three locations: In Inari back-to-back to Ijahis Idja Saami Music Festival, in Kirkenes and in Murmansk. The main theme was *Climate Change Defining Human Security*, and the integrated sub-themes dealt with impacts of climate change to indigenous peoples, climate change vis-a-vis alternative energy, climate change, sovereignty and international law.

The main aims of the 2008 Academy were First, to highlight and disseminate general scientific information and knowledge about impacts of climate change, and open discussion on human responses to climate change; Second, to define what are influences of climate change to human security, and what is meant by human security in light of climate change, and further to encourage both academic discourse and political discussion on relations between these two phenomena; and Third, to promote the interplay between science and politics by having a policy-oriented dialogue between policy-makers, academics, civil activists and business people when dealing with inter-relations between climate change and human security. These aims were implemented for example, in cooperation with the members of the Environment Committee of the Finnish Parliament, as the first session in Inari was organized in cooperation with Environment Committee of Finland’s Parliament. Unfortunately, due to a support voting for the government at the Parliament only one representative of the Committee, M.P. Janne Seurujärvi was allowed to be present at the Academy session (and the government got the support of the majority).

There were several questions designed to stimulate the discussions at the Academy’s sessions (see, *Final Report 2008*): “Is climate change a threat for human kind, and if the Empire able to strike back?” Dealing with the fact that reports on climate change are mostly based on scenarios, and therefore: “How accurate are scenarios, given the new array of evidence?” Concerning impacts of climate change to humans and societies on global, national, regional and local levels: “How to tackle the impacts, and what human beings are allowed to do, i.e. mitigation?”, “What would be new environmental

regulations, and how strict are they?”, and “Can climate change become a new discipline for disciplining, and what would it mean to democracy?” Finally, new questions, such as “Is climate change necessarily a negative thing?”, and “Does it make the North as a victim needing support from outside the region?”, or, “If climate change means a change of the post-colonial influence from outside toward strengthening self-governance by local and regional entities”? (see, About findings in Outcomes of the 2nd Phase).

Further, an ultimate question on security, “Does climate change mean a change in the definition of security?” This does not (necessary) mean that climate change should be interpreted as a threat, but more as a risk impacting human security by putting human settlements and man-made environment under threat, and a nature in a danger to be destroyed (by human activities), as well as by influencing the legitimacy of state sovereignty. Most of those who do security studies understand the difference between a threat and a risk, and recognize a holistic understanding and comprehensive definition of security, which much differs from that of traditional security. Alas, the aim of the 2008 Academy’s discussion on this was to promote discussion about different concepts of security, as well as a dialogue between different actors of security. Finally, there was the following question: “Is there a solution, and if so, does that prefer either mitigation or adaptation, or both? If adaptation, what kind of adaptation and by whom, and if mitigation by what kind of policies and technics (e.g. ‘risk technology for the Arctic’)?”

The 2008 event contributed the 5th NRF Open Assembly *Seeking Balance in a Changing North* (in Anchorage, Alaska in September 2008), in particular the NRF Theme Project Group “Climate Change - Northern Security(ies)”, by serving, again, as an interdisciplinary sub-forum on relevant Northern issues (see, The 2008 NRF Proceedings). The project focused on impacts of climate change to environmental and human security (e.g. migration), and state sovereignty (e.g. national security). The starting point for these discussions was that climate change is geographically global and its impacts holistic covering all fields of a society. In the Arctic the impacts can be seen in traditional (micro-scale) livelihoods (e.g. fishing and reindeer herding), traditional industrial livelihoods (e.g. mining, forestry and the military), new (macro-scale) livelihoods (e.g. tourism, oil and gas drilling, transportation); as well as in other new livelihoods (e.g. cold-climate / climate change research & testing, distance learning & working). Based upon this sequence of effects, it is relevant to study and discuss the impacts and influences of climate change to the region in general, and in particular when dealing with (traditional and new) livelihoods. The 2008 Academy also acted as a workshop for the NEG Research Project, with an emphasis on early-career scientists.

The core group of speakers and organizers remained with the Academy for the entire journey, while others (between 20 and 35) participated at specific location in Inari, Kirkenes orf Murmansk. In addition of the academic community, there were participants representing national, regional and local policy-makers (e.g. Environment Committee at the Finnish Parliament, Lapland’s TE Centre, Lapland’s Environment Centre, business community in Kirkenes (e.g. Port of Akureyri), as well as local NGOs (e.g. Bellona-Murmansk). The 2008 Academy got good publicity and media coverage, particularly in Russia where there were two regional/local TV-channels, two regional/local radio

channels. Also a few regional/local newspapers in Inari and Kirkenes (e.g. Barents Observer) reported from the sessions.

There were 27 presentations in six sessions. Among the presenters were Willy Østreng from Norway, Mark Nuttall, Heather Nicol and Lisa Cockburn from Canada, Anna Karlsdottir from Iceland, Mikhail Kalentchenko, Alla Trotsenko and Gleb Yarovoy from Russia, and Elina Helander, Janne Seurujärvi, Matti Hepola, Arja Rautio from Finland. Among the speakers were, again, several post-graduate students and PdD candidates from Canada, Finland, Iceland and Russia.

2009:

Next year the Academy (in May 28 – June 1, 2009) travelled from Inari to Murmansk via Kirkenes. The main theme was *Environmental Politics and Industrial Development*, and the sub-themes (as titles of sessions) covered politicization of the environment, environmental protection, industrial development vis-à-vis societal impacts of industrialization, and environmental degradation and conflicts. The focus was been moved from climate change affecting (human) security aspects of the 2008 Academy, to environmental politics vis-à-vis environmental degradation in general, and their interrelations with industrial development, as well as (re)defining security and its discourse globally and in the Arctic (see, Heininen and Nicol 2016; also Dahl 2009).

There were 27 presentations in seven (workshop and public) sessions. Among the presenters were Annika Nilsson from Sweden, Björn Frantzen and Don Hunter from Norway, Igor Shevchuk and Alexey Konovalov from Russia, and Pekka Aikio, Lotta Numminen from Finland.

The 2009 Academy again acted as a sub-forum for the NRF, in particular for the planned 6th Open Assembly in 2010 (was later postponed to 2011). Back-to-back to the event was a workshop of the “Climate Change and Human Security” book project based on the presentations of the previous Academy (see, Heininen and Nicol 2016). There was also a plan to act as a workshop on socio-economic impacts of mining organized by the Meänmaa Project of Municipalities of Kolari and Pajala, which was, however, cancelled due to a lack of coordination by the Project.

2010:

The 2010 Academy (in April 7-13) travelled first to Apatity and Murmansk, and from there to Kirkenes and Inari. When travelling from Rovaniemi to Apatity the core group had a stop in Salla, hosted by this Finnish municipality located just beside the Russian border, for a short discussion with local policy-makers on economic development in Eastern Lapland, in particular the Salla-Kantalahti economic corridor.

The first sessions of the 2010 event were organized back-to-back to Luzin Readings 2010, The 5th International Scientific-Practical Conference “The North and the Arctic in a New World Development Paradigm” organized by the Institute of Economic Studies and the Kola Science Centre, Russian Academy of Sciences in Apatity. The “back-to-back” meant on the one hand, that all the participants of the Calotte Academy attended the conference program at the first day, and Wråkberg and Heininen were among the 15 speakers of the first plenary. On the other hand, it meant that the 2010 Academy supported the conference by giving additional contributions, as among the presenters

of the Academy's session on Economics, Resources and Development were Vladimir Didyk, Larisa Riabova and Ludmila Ivanova from Russia, Helga Haftendorn from Germany, Ilmo Mäenpää from Finland.

After Apatity, the Academy 2010 continued the route and stopped in Murmansk for a Youth Conference organized by the Murmansk Humanities Institute. There were 2-3 student reports on such topics as "Health ecology socio-economic aspects", "Global warming-myth or reality?", "Environmental safety on the Kola North". This was followed by a travelling day, from Murmansk to Kirkenes. There the sessions were organized in cooperation with the Scientific Thematic Group "Energy & Environment of the Northern Dimension Institute" (STGEE) under the auspices of Barents Institute. The last stop in Inari with final sessions on Arctic States' policies" and regionalism / region-building in High North. Among the presenters of the Kirkenes and Inari sessions were Andrea and Matthias Finger from Switzerland, Joel Plouffe and Harry Borlase from Canada, Igor Shevchuk and Gleb Yarovoy from Russia, and Lotta Numminen from Finland. The final destination was Rovaniemi in the evening of 13th of April.

The Academy's main theme, *The High North in World Politics and Economics* indicated that the twenty-first century's High North is a stable and peaceful area based on international, mostly multi-national, cooperation without armed conflicts and an uncontrolled race on natural resources. Further, the northernmost regions of the globe are not isolated, but closely integrated into the international community, and indeed, there is a manifold growth in their geo-strategic importance in world politics and global economy. There is also a growing global interest toward the region and its resources, and options for either to be, or become, actively present in the region. This is largely due to growing interest in the region's rich potential energy resources, and a growing utilization of them, by the Arctic states as well as powers from outside the region which have shown their regional interests through energy security, on the one hand. On the other hand, due to global environmental problems, such as long-range air and water pollution, and climate change and its physical and socio-economic impacts. Climate change much precipitates physical change and contributes to Arctic vulnerability reinforcing the interdependence between the Arctic and the rest of the globe. Furthermore, this is even more due to the combination of the strategic importance of energy security and a potentially bigger share of more accessible Arctic regions in the global economy due to global warming and melting sea ice. One of those strategic issues is new potential global trans-arctic sea routes between North Atlantic and the Pacific. All in all, this indicates that the High North plays an important role in world politics and global economy, and that the region has become a part of global multi-dimensional geopolitical and geo-economic changes.

At the 2010 Academy, there were altogether 19 presentations in 9 sessions, and 26 participants. It again acted as a sub-forum for the 6th NRF Open Assembly in 2011, and was a meeting place for members of STGEE group. Finally, first time an annual Academy served as a meeting place for the joint Thematic Network (TN) on Geopolitics and Security of NRF and UArctic, which was established in autumn 2009 (see, www.arcticpolitics.com).

2011:

The 2011 Calotte Academy (in May 26 – June 1) took place in Inari, Kirkenes and Apatity. Having *From Circumpolar Stability toward Nordic Peace* as the main theme (unusually there were no session titles) the event concentrated on the importance of stability and peace in international relations and world politics, as well as a transformation from stability into peace. The Inari sessions were under the auspices of the Finnish Chairmanship 2011 of the Nordic Council of Ministers. A new book, *Jäättä poltellessa. Suomi ja arktisen alueen tulevaisuus* (in Finnish) on Finland and the Arctic, published by TAPRI, was launched at the Academy sessions (and hard copies distributed to the participants).

There were 31 presentations in seven sessions. Among presenters were Ambassador Christopher Shapardanov from Canada, Alyson Bailes from UK, Audur Ingofsdottir, Margret Cela and Gustav Petursson from Iceland, Sebastien Duyck from France, Nikolas Selheim from Germany, Rune Rafaelson from Norway, Adan Stepien from Poland, Angelica Astrakhantseva, Anton Lapsin and Alexandr Sabaev from Russia, and Tarmo Jomppanen, Tiina Seppälä, Teemu Palosaari, Regis Rouge-Oikarinen and Julian Reid from Finland.

Summary, findings and outcomes

To sum up the second phase of Calotte Academy (in 2001-2011): First, under the Calotte Academy title, there were ten annual academies with an international group of scholars, local and regional experts and authorities, and local audiences either sessions only in Inari (2002 and 2005), or as travelling symposia with sessions in Inari, Kirkenes / Svanhold, and Murmansk / Apatity (2006-2011), as well as two ones as a part of international conferences (in 2003 and 2004). In all these events, which took place in seven locations in Finland (Inari, Saariselkä, Rovaniemi), Norway (Kirkenes, Svanvik), and Russia (Apatity, Murmansk) – many of them located in Sapmi - there were altogether more than 180 presentations in 47 sessions;

Second, the Academy cooperated closely with two international organizations, Barents Press and North Calotte Conference, organizing its sessions back-to-back to their conferences. The annual academies also served as a sub-forum for NRF, as well as an international seminar for research presentations and scientific (often inter-disciplinary) discourses by researchers like for example, the Nordic-Russian “Northern Eurasian Geopolitics” (NEG) research project and the post-graduate project “Multiculturalism in Lapland” at the University of Lapland;

Third, the sessions of annual academies enjoyed public interests, as they were reported in Finnish, Norwegian and Russian media, though notable less than a decade earlier;

Fourth, there were several main co-organizers, old ones and new ones: The 2002 Academy was organized by Arctic Centre and University of Lapland, Rovaniemi Polytechnic, Saami College and Thule Institute at University of Oulu, in cooperation with Institute of Economic Problems at Kola Science Centre and NORUT Finnmark; the 2003 one was organized in cooperation with the Barents Press; in 2004 the sessions were a part of the North Calotte Conference; the 2005-2011 academies were organized by Municipality of Inari, Saami Educational Centre, Faculty of Social Sciences at University of Lapland and Thule Institute at University of Oulu, Barents Institute and Bioforsk Soil and Environment in Svanhovd, as well as Institute of Economic Studies at Kola Science Centre and

Murmansk Humanities Institute – all in cooperation with Northern Research Forum; finally, among occasional co-organizer of the 2008 Academy was the Environmental Committee of the Finnish Parliament. Most of the academies of the second phase were financially supported by Norwegian Barents Secretariat and Municipality of Inari / Learning Centre of Calotte, and occasionally by Regional Council of Lapland, and Sonera, too.

The 2008 Academy, with sessions in three locations, on the theme “Climate Change Defining Human Security” is used here as an example of relevant findings and outcomes of the annual academies of 2002-2011:

Firstly, climate change had become a relevant geopolitical factor in world politics, and from the point of view of human and environmental security. As well as, it had become an emerging factor of regional development in the Arctic and Arctic security, either taken already as a fact, or considered becoming a fact influencing the near future. Changes in Arctic geopolitics and security are interpreted to be responses to the impacts of climate change, like for example in the way in which navigation and transportation, and utilization of energy resources have been advanced by the coastal states of Arctic Ocean. Followed from this, no wonder that climate change was an emerging theme of annual academies at the second phase, together with human and regional development, and northern dimension;

Secondly, the theme and the above-mentioned integrated questions, designed to stimulate discussion, were applied by most of the speakers, as climate change / impacts of climate change was a starting point or focus of presentations. When this happened, as for example by Touinova and Riabova, it was interesting to listen. On the other hand, some other speakers did not have this component, either they did not define it relevant, or did not dare to discuss on climate change. However, it became clear that in the Barents Sea area there is an interest and certain readiness by scholars, scientists and policy-makers (e.g. Saarela and Tervo) to discuss on impacts of climate change and how they influence livelihoods;

Thirdly, at the same time policy-makers were not, yet, ready to discuss on how climate change impacts human security, i.e. everyday security of people and societies. In the Murmansk Region, this discussion was problematic, probably because an idea of climate change impacting societies did not yet exist, although many parts of the Russian North, for example Yakutia, were described to be among the first victims of the rapidly advanced climate change. Behind was that the phenomenon was scientifically denied by several Russian scientists, who argued that it was due to natural warming, and therefore it was not on the agenda to stop or even decrease the utilization of hydrocarbons in the Arctic. On the other hand, policy-makers, also in the Russian Arctic, were encouraged to discuss more actively on climate change. Behind is the fact that global warming caused by anthropogenic influences is not well known;

Finally, if the Academy started in 1991 as an international and public forum for the interplay between scientific project and civil society, 20 years later it had become an interdisciplinary method and a sort of experimental activity. This meant that quantity, i.e. number of participants, mattered less and quality of the content more. Consequently, the core group of the participants was asked, even required, to

participate actively in discussion, not only when each one presented a paper, but also when others present their ones. Further, that instead of having both participants and speakers, according to the new procedure there were only active participants with a presentation and task to write a report, and only have small ad-hoc audiences locally.

All in all, by the beginning of the 2010s the Academy was mature enough to act as an annual seminar for early-career scientists (PhD candidates and post docs), as well as to function as a forum for the scientific discussions and brainstorming of Thematic Network (TN) on Geopolitics and Security, an international, academic network under the auspices of the University of the Arctic and NRF (see, <http://arcticpolitics.com>). The Academy was developed as a forum, method and joint experimental activity for those who are interested in and open-minded.

Third phase: as a PhD summer school for early-career scientists

At the third phase, in 2012-2019, the high geopolitical stability, based on constructive cooperation between Arctic States and other regional actors, was been maintained despite a growing tension between Arctic states and a few tests of mutual confidence. Parallel to that it was obvious that the Arctic's transformation is global in nature largely dealing with global warming and scientific cooperation on climate, resource governance, and global economy, in particular new global aspects and expectations of Arctic shipping. According to the policy-documents among main trends of Arctic States are state domination, paradox of Arctic development (between environmental protection and economic activities) and the related political inability. Observer States share this paradox of Arctic development and prefer global Arctic, as many of them remap themselves as Arctic stakeholders. Finally, Indigenous peoples lean on international treaties on Indigenous rights, as well as Indigenous rights to self-determination. All these actors agree to focus on science (much due to the pressure of climate change). (Heininen et al. 2019, 250-253)

The transformation, and new and emerging trends reflected - directly or indirectly - to most of the themes, sub-themes and discussions of the annual academies of the third phase. Behind was on the one hand, an ambitious goal to concentrate on relevant overarching themes of resources and their use, as well as discourses, perceptions, trends and methods of Arctic research. On the other hand, that the Academy as a unique platform and methodology would make possible to investigate processes of democracy, relations between the State and civil society, as well as those between scientific community and civil society. Furthermore, if peoples' perceptions and voices are been heard, and if they reflect the policies of the Arctic States, in particular in the European North.

At this phase, the Academy was transformed into a doctoral school, or a school of dialogue, in particular for early-career scientists (PhD candidates and post docs). There was also an aim to increase continuity in its action by interrelating the themes of the annual events for 3-4 years research projects, as well as to utilize the annual events as platforms to create and develop an international research project on relevant contemporary issues, and to apply money for a project, instead of being depending on ad-hoc funding.

2012:

The Calotte Academy 2012 (in May 28 – June 4) took place in Rovaniemi and Inari, Kiruna and Abisko in Sweden, and Tromsø in Norway. The main theme, *Water – globally and in North Calotte*, as a follow-up to the 2011 NRF Open Assembly *Our Ice dependent world*, was discussed locally, regionally and globally, from the point of view of different livelihoods, as well as from several angles, as the session titles reveal.

This theme, as well as the focus, was inspired by the fact that (fresh) water is the most important resource, and that water is in a changing state from solid (ice or snow) to liquid (water). The open reception at Rovaniemi Town Hall was “Svalbard Orchestra”, a performance on sounds of melting glaciers in Svalbard. Water simply exposes a range of issues for futures of the world and humankind, for resilience, adaptation, transformation – in all, human and environmental security. Not least, since Rio 1992 there has been an annual “Day of Water”, and that the UNs’ General Assembly in July 2010 declared that fresh water - as the most important resource for human beings and non-human beings alike, as well as a precondition for the entire life - is an issue of human rights.

Two active attendees, Lempinen and Plouffe give an illustrative inside perspective of Academy’s working methods in their report on the 2012 event:

During the Academy, questions and aspects related to water were discussed both on the local level and in global contexts as well as from a multidisciplinary perspective. Some presentations focused on water as a commodity and raised themes related to 'water markets', the role of transnational corporations (TNCs) in the commercialization of water, as well as different models of water management around the globe, notably in major markets like Europe. Meanwhile, others focused on water as energy, inside and outside the Arctic; issues related to the advantages and downsides of hydropower, hydropower advertising and hydropower construction in development aid programs were discussed.” Furthermore that, “Questions were raised notably on the specific burning issue of (fresh) water security. Despite direct linkages between freshwater, human and ecosystem health, water security is currently not extensively addressed in states' Arctic policies, while the lack of monitoring is well known as a widespread challenge within and outside the region. (Lempinen & Plouffe 2012)

The 2012 Academy consisted of 27 presentations in nine sessions, as well as a roundtable discussion on “Understanding water resources in a rapidly changing Arctic” in Kiruna. Among the presenters were Gerald Zojer from Austria, Joyce Valdovinos from France, Joël Plouffe from Canada, Audur Ingolfssdottir from Iceland, Dag Avango, Andreas von Uxeckull from Sweden, Igor Shevchuk from Russia, Piotr Graczyk and Adam Stepien from Poland, Nikolas Sellheim and Andreas Raspotnik from Germany, Leena Roiko, Matti Hepola and Hanna Lempinen from Finland.

First time an Academy session took place in the premises of a company, as Kemijoki Ltd. hosted the 3rd session on hydropower and regulation power. Correspondingly, the contents of the Academy’s sessions in Kiruna and Abisko, Sweden were contributed by the Stockholm Environmental Institute’s research project on Arctic Futures, Voices, Resources and Governance, led by Annika Nilsson (see, Lempinen & Plouffe 2012 at <https://calotte-academy.com>). Correspondingly, the sessions at University of Tromsø in Norway were a part of IPY GAPS

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Conference, hosted by Gunhild Hoogensen. Finally, there was a short joint brainstorming meeting of TN on Geopolitics and Security and the Rovaniemi Think-tank Project.

2013:

Next year the Academy (in May 16-23) continued on the western route, as after Rovaniemi and Inari it travelled to Tromsø, and further to Kiruna. The main theme *Resources Geopolitics – Energy Security* was discussed in eleven sessions from several points of view (see, Appendix).

The report (Lempinen & Plouffe 2013) at Arctic Yearbook 2013 well describes the main aims, different activities, and holistic approach of this Academy:

Alongside the sessions, short field trips and evening cultural events were included in the Academy programme. For example, the international group of participants got a chance to visit a reindeer farm and research station in Lapland where they met with herders and local scientists; explore the stunning nature and landscape of the Abisko National Park in Sweden's Norbotten; and swim in the freezing waters of lake Inari (Finland's third biggest lake) after bathing/sweating in a Finnish sauna by the lakeside after a long day's work! Not to forget the unexpected delay near Tromsø where a (small) landslide had halted for several hours all traffic coming in or out of Norway's largest Arctic city and home to the Arctic Council Secretariat. As the CA is a very flexible traveling symposium – where unexpectedness is always part of the program – the international group took advantage of their layover in this unique Arctic traffic jam and setting to meet with local residents who were equally stranded on the road... Like every year, presentations in the CA sessions took a holistic view addressing not only the topics of 'resource geopolitics' and 'energy security', but also discussing and problematizing the notions of energy, resources, geopolitics, and security on their own.

As conclusions, presentations in these days...

...highlighted the need for continued dialogue between different actors and stakeholders, different disciplines and different viewpoints in addressing the existing and future issues and concerns brought up by natural resources, extractive industries and economic developments across the changing landscapes of the North Calotte and the circumpolar north. Sharing knowledge at multiple levels and across borders can certainly have positive impacts on policy making locally and regionally. The Calotte Academy's philosophy is to foster cross-border/international discussions and produce the most suitable environments between different stakeholders to produce ideas by increased dialogue. This goal was attained once again in 2013.

In the brief brainstorming meetings of TN on Geopolitics and Security were discussed first, the Arctic Yearbook as “an open access, online and peer-reviewed publication seeking... to create an accessible and scholarly global platform to share ideas across borders”; and second, the Calotte Academy which “has been running as a ‘school of dialogue’ since the early 1990s” were first time tight together to brainstorm fresh ideas, push dialogue across borders and produce knowledge. In this context, ”mobility, particular together with internationality, is an integral part of this process, in that it helps build a common identity, alerts policymakers to best practices in similar contexts, and improves our ability to jointly address common environmental, societal and economic challenges” (Heininen, Exner-Pirot and Plouffe 2013). Finally, the Canadian participants expressed their interest to apply the Calotte Academy model for North America by a working title “Far North Academy” for the Canadian North; this has not (yet) been materialized.

At the 2013 Academy, there were altogether 38 presentations in eleven sessions. Among the presenters were Heather Nicol and Natalia Loukacheva from Canada, Dorothee Cambou from Belgium, Berith Kristoffersen and Torkjel Sandanger from Norway, Marin Ros Tumadottir from Iceland, Dag Avango, Peder Roberts and Annika Nilsson from Sweden, Alexander Sergunin, Gleb Yarovoy and Igor Shevchuk from Russia, Ronald E. Doel and Kristine C. Harper from USA, and Anu Avaskari, Antti Aikio, Mika Aromäki, Mauri Nieminen, Kamrul Hossain, Johanna Hämäläinen, Heidi Helenius, Miia Mikkonen, Sanna Kopra, Henri Wallen from Finland.

2014:

As an international scientific symposium the first sessions of the 2014 Academy were arranged in Rovaniemi and Inari (in June 1-8). After these sessions in Finland and Sapmi, the symposium travelled to Kirkenes, and further to Murmansk and Apatity, where sessions took place until June 8. A favorable weather affected warmly the Academy's atmosphere – from +18 C on the first day in Rovaniemi to +24,4 C on second day in Inari and even +27 C on the fifth day in Murmansk –, until the last day when it dropped down to +14 C in Rovaniemi.

This year's Academy, with the theme *Resource Geopolitics – Sovereignty*, took an explicit focus on issues related to sovereignty, resource geopolitics and their interconnections. These themes were discussed holistically from many angles and disciplinary approaches, as well as examined at different scales from local to global. The sessions held in Rovaniemi and Inari approach the overarching themes also through addressing regionally important questions and concerns. The presentations focus on topics such as mining, indigenous people's rights, alternative conceptualizations of security and the globalized Arctic between rapid resources development and sustainability. Most of the participants, selected based on applications, were early career scientists (PhD candidates, post-docs) from the Barents Sea area, as well as elsewhere in Europe and North America.

There were altogether 36 presentations in ten sessions. Among the presenters were Gustav Petursson from Iceland, Rune Rafaelsen, Allan Sande from Norway, Nengye Liu from UK, Nikolas Sellheim from Germany, Jasper Nooij from Netherlands, Tom Fries from Arctic Council Secretariat, Andrian Vlahov, Larisa Riabova, Elena Bashmakova and Viktor Medvedev from Russia, Karen Everett and Heather Exner-Pirot from Canada, and Liisa Holmberg, Venla Karkola, Laura Olsen, Ilari Nikula, Teemu Oivo from Finland.

It was showed that the added value of the Academy lies in its explicit aim to create an alternative model for conventional academic conferences, where the time allocated for genuine discussion often remains very limited. This principle, which makes the Calotte Academy as a sort of academic 'school of dialogue', was again put into practice in the sessions of the event including the 36 academic and expert presentations followed by hundreds of comments, questions and answers. Thus, the Academy much contributed to discussions and debates over regional development through inviting local politicians and stakeholders to participate in the sessions with the intention of sharing research results and insights, creating networks and fostering dialogue between the local actors and the international scientific community. In addition to the working sessions there were excursions, receptions, dinners and dances with a local flavor in each five location.

2015:

Also the 2015 the Academy (in May 31 – June 7) took the eastern route, as it started in Rovaniemi and travelled via Salla Apatity and Murmansk in Russia, and finally ended in Kirkenes and Inari. The theme was *Resources and Security in the Globalized Arctic*, and among sub-themes actively discussed and debated in the sessions were resources, energy and security, human and social capital, environmental management, sustainable vis-à-vis regional development, Arctic strategies and science diplomacy, and the environment and military strategies. Among the sessions, there was a special session on human and social capital in Salla hosted by Mayor Erkki Parkkinen.

The report (Vlakhov & Lempinen 2015), at Arctic Yearbook 2015, well describes the main aims and role of the Calotte Academy, as it..

...features an outstanding example of how the boundaries between different groups and actors can melt and disappear if cooperation and communication are the chosen approach. This concerns boundaries between the established and the early-career researchers, Western and Russian scholars, women and men, but most importantly — researchers from different disciplines. The nexus between social and political sciences and humanities and, more broadly, between ‘hard’ and ‘soft’ sciences, is crucial for conducting meaningful Arctic research. Only comparing different points of view and assessing the situation from different perspectives we can understand the deep roots of the global processes such as climate change and militarization of the Arctic or, vice versa, understand how the global issues are reflected in individual case studies at the local level. This is exactly what happens during the Calotte Academy: exchange of ideas between people from different countries and different disciplines, evaluation of the research results by peers and established scholars, person-to-person contact between the brightest representatives of the Arctic research. Such opportunities keep bringing people together, and despite the fact that the Academy takes a different route every year, the ideas created during it persist and keep crossing the borders — physical and imagined ones alike.

The 2015 event consisted of 38 paper presentations in ten sessions, mostly by early-career scientists from the Arctic States and Central Europe. Among them were Marin Ros Tumadottir from Iceland, Rasmus Bertelsen from Norway, Gleb Yarovoy, Ilja Stepanov, Mariya Tumanova and Andrian Vlakhov from Russia, Hayley Hesseln, Karen Everett, Natalia Loukacheva from Canada, Arthur Mason from USA, Danko Aleksic from Hungary, Nikolas Sellheim from Germany, Barbora Padrtova from Czech Republic, Florian Vidal from France, Jussi Huotari and Anni Lahtinen from Finland. There were also two brainstorming sessions of TN on Geopolitics and Security.

2016:

Next year the Academy (in May 30 - June 5) was arranged in the Barents Sea area, the Finnish Lapland and Sapmi, the Northeastern corner of Norway and the Western corner of the Russian Arctic. After the first sessions in Rovaniemi and Inari the Academy continued onwards to Kirkenes and from there to Murmansk. Then, a week later Plan B, had to be implemented as the Finnish-Russian border was closed in Salla (the shortest route), and to return to Rovaniemi via the Norwegian-Russian Storskog-Boris Gleb border-crossing point. The reason was that the new more strict regulations in border

crossing between Finland and the Russian Federation up in the North were adopted due to the big migration movement to the EU member states and Norway.

In 2016 this travelling scientific gathering and doctoral school took an explicit focus on *Resilience related to Sustainable Development in Globalization*, in particular in the globalized Arctic context, as the main theme. The symposium sessions approached the overarching themes through addressing regionally important questions and concerns. It was discussed holistically from many angles and disciplinary approaches, and from the perspectives of past(s), present(s) and future(s), as well as from that of global. The presentations focused on topics such as mining, tourism, Indigenous people's rights and alternative conceptualizations of sustainability, and the globalized Arctic between (too) rapid resource development and growing need for sustainability and resilience. Here the 2016 event followed the four previous Academies under the themes: "Water – globally and in North Calotte", "Resource Geopolitics – Energy Security", "Resource Geopolitics – Sovereignty" and "Resources and Security in the Globalized Arctic" (See Final Reports of Calotte Academy 2012-2015 at www.arcticpolitics.com).

The 2016 Academy's report (Zojer & Olsen 2016), at Arctic Yearbook 2016, is illustrative to describe how the theoretical discussion from the first day continued, and...

...also got deepened by more intensively discussing aspects from the social sphere of the sustainable development and resilience concepts. The debates focused on issues such as language preservation; on the impacts of national and international developments on local communities; how tourism and mining affect northern communities, and how local residents can take part in such developments in a way to be able to maintain and preserve their traditions; or how local inhabitants – and in particular indigenous people(s) – can or may participate in decision making processes.

Furthermore, the report emphasized an importance of the Academy as...

...once again it brought together senior and early-career researchers from different parts of Europe, Russia and North-America, and from different fields of sciences. Additionally there were also journalists and professionals from numerous other fields among the speakers. This year's Calotte Academy demonstrated very well how it is possible with a strong will and innovative thinking to cross boundaries and borders and to bring together people despite of a changing geopolitical situation and other challenges faced. It also gave an excellent example of the importance and benefits gained from the open dialogue between academia and other stakeholders from different fields of profession. The need for this kind of open communication between academia, politics, and journalism – also for the future – got highlighted, and the Calotte Academy once again proved that it offers a very suitable and well established forum for such an exercise.

This Academy consisted of 33 presentations in eight sessions which took place in four regions (Finnmarken, Kola Peninsula, Lapland, Sapmi) and three countries (Finland, Norway, Russia). The number of questions and comments in the sessions' lively discussions was not counted, except that it was plenty, as well as the questions were constructed and focused on the theme. For the participants this travelling kind of symposium was friendly and deeper way of getting to know the region and people living there.

Among the participants were Danko Aleksic from Hungary, Matthias and Andrea Finger from Switzerland, Yulia Zaika from Russia, Miguel Roncero from Austria, Marianne Neerland and Atle Staalsen from Norway, Sergei Berezikov, Olga Burukina and Anastasia Gasnikova from Russia, Victoria Herrman from USA, Martin Breum from Denmark, Ayonghe Akonwi Nebasifu, Hilma Salonen, Minna-Carita Haantie, Markus Kröger, Katri Kulmuni, Esko Lotvonen and Daria Gritsenko from Finland.

2017:

In June 1 – 12 the Calotte Academy - with the theme *Perceptions of the Arctic: Rich or scarce, Mass-scale or Traditional, Conflict or Cooperation?* - was, again, on a road in Sapmi (Finnish Lapland, Northeastern corner of Norway, Western corner of Russia, and Northern Sweden): Starting by sessions in Inari the travelling symposium continued onwards to the Norwegian border town Kirkenes, and further to Murmansk and via Lovozero to Apatity, a Russian science town. Final, from there a smaller group of participants continued to Umeå, Sweden, where took place the last three Academy's sessions as parts of the IX International Conference of Arctic Social Sciences (ICASS).

This year the annual scientific gathering and doctoral school took an explicit focus from different points of view on Perceptions of the Arctic: Rich or scarce in resources, with mass-scale or traditional utilization of natural resources, and with conflicting or cooperative approach? The focus was inspired by the fact that there is a growing global interest, even a hype, coming from many actors, also from outside, towards the Arctic region and its resources, as well as Arctic issues. Furthermore, the North Pole and northernmost regions of the globe and related issues, such as northern dimension, are widely discussed in politics and academia, also misunderstood, or simply not understood. Due to rapid climate change within the circumpolar North and the expected consequences of mass-scale utilization of the region's resources, there are several different perceptions of the Arctic and its real nature, depending on one's position, profession, interest or mind-set. The dominant Arctic studies discourse is about how the Arctic should be (re)defined, if any strict definition is necessary at all, and, do we talk about the whole region or parts of it.

As it was discussed in the sessions, the Arctic states have defined themselves as Arctic nations and mapped their northernmost regions as part of the Arctic in their national policies. There are also younger generations of settlers who identify themselves as Northerners, as well as local and regional actors promoting cross-border cooperation and regional development representing 'paradiplomacy' as a new (Arctic) perception. Numerous non-Arctic states are also repositioning themselves towards the Arctic / related to the Arctic states, and there are growing tourist flows into the region, and thus there are outsiders' perceptions, too. At the same time, Arctic Indigenous peoples have their origins in the region as Northern peoples. In respect of this circumstance, the 2017 event started in Inari, the 'capital' of the Sámi in Finland, and visited in Lovozero, a Saami town in Russia. In the discussions traditional or Indigenous ecological knowledge was proposed and interpreted as a special perception, which has potential to play an increasingly important role in environmental decision-making processes nationally in the Arctic states and globally in the entire region.

The Academy's sessions approached the overarching theme through addressing regionally important questions and concerns. It was discussed holistically from many angles and disciplinary approaches, and from the perspectives of past(s), present(s) and future(s), as well as from regional and global viewpoints. The presentations focused on the following sub-themes: outsiders' perceptions of the Arctic, the Sami, energy and energy diversity, security, urbanism and tourism, science diplomacy, and sustainability and communities. This principle has been implemented at the previous Calotte Academies under such themes as "Water", "Resource Geopolitics – Energy Security", "Resilience related to Sustainable Development" (See, Final Reports of Calotte Academy 2012 - 2016 at <http://calotte-academy.com>).

The report by Huotari and Kalliojärvi (2017) for Arctic Yearbook takes readers to a journey to the sessions and discussions of this event:

On the morning of June 2nd, Calotte Academy continued its way northwest to Kirkenes, Norway, which hosted the next three sessions. Compared to the last year (see Zojer & Olsén, 2016: 210), this time the border crossing between Finland and Norway went without any inconveniences. The sessions in Kirkenes continued to explore perceptions of the Arctic from different angles. The vivid discussions were debated around the themes of "Energy," "Security" and "Arctic urbanism and tourism." The first session in Kirkenes raised many important questions concerning the production, utilization and future developments of oil and gas in the Arctic region. The presenters highlighted the crucial role hydrocarbons, and especially oil, play in societies living in and out of the Arctic region, and addressed some of the problems governments are faced with as the Arctic climate is getting warmer. The effects of changing climate and oil-dependency were also discussed in the second session that took place on Saturday morning under the topic of "security." The presentations approached security from theoretical and practical perspectives and covered both traditional and non-traditional security issues from the obstacles of military control posed by the ocean to the potential shifts in the meaning of security itself.

Altogether, Calotte Academy 2017 was comprised of eleven sessions and thirty-eight presentations held in the Northern parts of four different Euro-Arctic countries, five border crossings (including entrance to Sápmi) and more than 2000 km of driving, as well as innumerable questions, comments, debates and perceptions.

All in all, the 2017 touring symposium took place in four regions (Lapland and Finnmarken, Kola Peninsula (all parts of Sápmi), and Västerbotten) and in four countries (Finland, Norway, Russia and Sweden). It consisted of 29 presentations in eight sessions along the route, plus three more sessions with nine presentations at ICASS IX. Among the participants, mostly early career scientists, were Hege Kallbekken and Aileen Espiritu from Norway, Francisco Cuogo from Central & Southern Europe, Victor Frankowski from UK, Yulia Zaika, Luiza Saatova and Svetlana Tuinova from Russia, Min PAN from China, Jason Parry from USA, and Tiina Takala and Salla Kalliojärvi from Finland.

2018:

The 2018 Academy's (in June 3 - 10) main theme - *Discourses on the Arctic – (inter)disciplinary theories and methods of Arctic research* - was broad and holistic. It continued the 2017 overarching theme focusing on discourses on the Arctic, as well as interdisciplinary theories and methods of Arctic research. More importantly, this thematic phase was inspired by the substantial, multidimensional and multi-theoretical discussions and debates on perceptions of the Arctic in the previous Academy.

Further, the theme emphasized discourses, premises, paradigms and methods which were discussed in the context of the regional and globalized Arctic theoretically and holistically from many angles and disciplinary approaches, from academic and policy-oriented ones - including indigeneity and Indigenous peoples, digital Arctic, Calotte Academy as a method of research, supervision and learning. As well as, from the perspectives of past(s), present(s) and future(s) – like for example, migration, inflows and future developments -, and in different contexts, from global to local contexts, in particular in that of the European Arctic, such as energy solutions for Russian Arctic, Russian discourses on the Arctic, China and the Arctic.

Let's give Peter Kujawinski, as journalist and non-academic, to tell about the 2018 Academy as a journey in his report for Arctic Yearbook (Kujawinski 2018):

In Summer, the Rovaniemi airport feels empty, as if off-season is in full effect. To me this seemed strange because after all, Summer is historically considered the best time to visit Lapland. The temperature is comfortable, it is light almost all the time, and the forests and fields are in bloom. But now that Rovaniemi is the “official hometown of Santa Claus,” I guess it shouldn't be surprising that the area seems so empty during the most pleasant time of the year. It underscores how the Arctic works in rhythms that are often counterintuitive.

I was in Rovaniemi to join the Calotte Academy, a traveling symposium of academic researchers that takes a bus ride through northern Europe to discover the Arctic in all of its complexity. My own journey to Rovaniemi began in the Canadian Arctic, where I had worked both as an American diplomat and later as a freelance journalist. In North America, the Arctic is sparsely populated and remote. This makes it difficult to get to, and the challenges people face while living up there are similar to the challenges anyone would face in areas that are difficult to access. The cost of living is very high and getting anywhere is a challenge. Therefore the Canadian and US Arctic have a high profile mainly because of the myths of living in a place so far north – not because of any lived reality.

My time with the Calotte Academy demonstrated that the European experience of the Arctic is quite different. First, of course, is the fact that the European Arctic isn't as cold as the North American Arctic. As we drove through the beautiful forests of Lapland, I noticed a mix of hardwood, deciduous trees and pines. It could've been the forests of the north-central United States – of Minnesota, Wisconsin and Michigan. For example, here is a snapshot of late evening near Inari, where we stayed on the grounds of a wonderful conference center. As we drove through northern Finland, the topography remained similar, though those of us from North America were constantly surprised at how developed the infrastructure was in these northern latitudes. Cell phones networks, roads, even bike lanes were ubiquitous.

To me, the work done in the European Far North to build infrastructure and professional links crystallized in the Norwegian town of Kirkenes. The history of the town was fascinating in its own right – a common

Norwegian/Russian district until 1826 (and Sami before colonization), occupied by Nazi Germany and then taken over by the Russian army towards the end of World War II. And then of course there's the geographical aspect – it's further east than even Istanbul or St. Petersburg. It occupies a unique place in the northern European context.

Today, Kirkenes styles itself as an epicenter of the Barents region, which encompasses the northernmost parts of Norway, Sweden, Finland and Russia. When these Russian parts are included, the Barents region could easily be considered the most populated part of the Arctic. Here it is possible to perceive the sometimes conflicting currents of European integration, EU-Russian military concerns, environmental issues, and through it all, the desire to continue cooperation and trade. While in the town of Kirkenes, I was pulled between two contradictory thoughts. First, Kirkenes was indeed very far away, on the margins of Europe, at the every edge of Norway. The town itself, though tidy and well built, is small – with a population of 3500 people. On the other hand, Kirkenes is the center of the Barents region, an area that always seems to be on the cusp of attracting the world's attention, whether for natural resource extraction, military manoeuvres, or something else. The town is only 20 minutes from Russia and 40 minutes from Finland. I could well imagine that this town buzzed with expectation a few years ago, when European relations with Russia were at a higher level than currently. Now, the atmosphere seemed to be one of waiting. Or, to be more diplomatic, anticipation.

After our time in Finland and Norway, we visited Russia for several days. For an American like myself, the European Arctic is accessible, but the Russian Arctic feels different. Of course, a big reason is the recent downturn in relations between Russia and the West, as well as the palpable weight of the government. Checkpoints were many, and it was unclear what or why they were checking papers so often. We spent many hours in the bus, driving through areas that wouldn't seem out of place in Norway or Finland – swift-flowing rivers and thousands of square miles of forest. Other areas, like the massive factories and smelters on the road to Murmansk had clearly ruined the vegetation of the surrounding area.

After a few days in Russia, we returned to the nearly empty town of Rovaniemi. The only work going on was in the Christmas village, as workers prepared to expand even more. It seems the interest in the Arctic – especially in the Winter – never stops.

As a non-academic, I wasn't sure how much I could contribute to the Calotte Academy, but I'm so thrilled to have participated. Not only did I learn about a wide variety of issues I wouldn't ever have understood before, but there is a certain rhythm of traveling together on a bus that stands the test of time. It was the perfect introduction to the European and Russian Arctic. I was left with an impression of a region of great possibility – and great uncertainty. Because of the many changes going on in the Arctic, it's unclear whether the Barents region will become central in the way it had been in recent history, or whether it will recede and become even more of a backwater. Given the amount of attention, and the

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patient, deliberate building of relationships that I witnessed, my bet is this area will grow in importance in the decades to come.

The 2018 Academy consisted of 11 sessions in seven locations, and achieved a record of 48 presentations by early-career scientists, PhD candidates & advanced MA students, and a few senior scholars. Among them were Egill Nielsson from Iceland, Helena Lindberg from Sweden, Sander Goes from Norway, Anastasiia Zarova, Maxim Gutenev, Lidia Rakhmanova and Evgeny Zarov from Russia, Clemens Jöbstl and Helene Peterbauer from Austria, Daria Shvets from Spain, Will Greaves from Canada, Mia Bennet, Peter Kujawinski and Andey Petrov from USA, and Liisa Kauppala, Karoliina Hurri, Mirva Salminen and Tauno Ljetoff from Finland.

2019:

The 2019 Academy (November 12-19) was exceptional, as it was the first annual Academy organized in a wintertime. This, winter symposium by the theme, *Future Arctic Societies: Scenarios, Innovations, Best Practices & Actors* discussed issues, discourses, innovations and practices relevant for future arctic and northern societies in the context of the global Arctic. The route was started in Rovaniemi, as the first sessions were a part of the Rovaniemi Arctic Spirit 2019 conference, and continued to Inari with two sessions and an excursion. From there further to Kirkenes and Neiden in Norway. Then back to Finland, where an academy session was first time in Hetta (Enontekiö), and further again to Norway, as well first time a session in Kautokeino.

The issues under the main theme - including community development, governance, indigenuity, reindeer herding & tourism, technologies & industries & testing, as well as telecommunications and digitalisation - were discussed theoretically and holistically from inter-disciplinary approaches, and from academic, policy-oriented and business ones. Discussions were done from different perspectives, such digitalization and the Sami and reindeer herding, from that of different stakeholders, including media and science communication, non-governmental actors, as well as in global, international, pan-Arctic, regional and local contexts.

According to the report by Zojer (2020) the Academy's theme was discussed from many scientific and knowledge angles, including...

...exploitation, transportation, tourism, infrastructure and technologies, industries, film-making, as well as telecommunications and digitalisation... as well as from points of view of different stakeholders from Indigenous peoples to business. What are their ecological and socioeconomic impacts, and what kind of 'new sustainable economies' would be needed/foreseen? Finally, who are the involved actors, and what are their interests, and how do they take into consideration 'societal security', and how do they help to develop pathways to plausible sustainable futures? The focus of the 2019 Academy was inspired by the substantial, multidimensional and multitheoretical discussions and debates on perceptions of, and discourses on, the Arctic and Arctic politics in the previous (e.g. 2017 and 2018) Academies...continued by having the main focus on 'societal security' and what kind of Arctic societies, as well as scenarios, innovations, best practices for them, there could/should be in the future.

Correspondingly, the CA has a few rules and principles: First, and foremost, that there is always time for open discussion – usually this means about two times more time for open discussion than

for a presentation. Second, that each participant, in addition of her/his presentation, is asked to write a report on one session for the final report of the Academy, and actively participate in discussions. Finally, each participant is asked to be flexible, as are the organizers, but keep the time frame and schedule in sessions and in travelling.

There were 24 presentations in six sessions and three excursions. Among the small experimental group of early-career scientists and PhD candidates were Clemens Jöbstl and Gerald Zojer from Austria, Natalia Loukacheva from Canada, Adam Koci from Czech Republic, Laura Olszen-Ljetoff, Karolina Sikora and Salla Kalliojärvi from Finland, Anzelika Krastina from Latvia, Stephany Mazon from Mexico, Sander Goes from Norway, Sonai Malghaes from Portugal, Marina Falevitsch and Polina Irodova from Russia. Interestingly, a smaller group made it possible to accommodate three excursions hosted by local experts: Test World (hosted by Janne Seurujärvi), Neiden Skolt Sami Museum (hosted by director), and Husky Farm (hosted by Pasi Ikonen), as well as a session at International Centre for Reindeer Husbandry, EALAT (hosted by Anders Oskal), and an introduction of Inari (by Mayor Toni Laine).

2020/2021:

As a follow-up of, and proposed at, the 2019 Academy the theme of next years' Academy would be *New and Emerging Trends of Arctic Governance, Geopolitics, Geoeconomics, and Science*, as it was decided. The 2020 Academy was originally planned to take place in June 2-9, and the route to include Salla, Inari and Enontekiö in Finland, Kautokeino, Kirkenes, Neiden and Svanvik in Norway, and Apatity, Murmansk and Nikel in Russia.

There were already accepted participants (PhD candidates and early-career scientists) from Nordic countries, Central Europe and Russia. The COVID-19 pandemic, however, ruined this plan, and the Academy was, first time in its history, postponed: first to June 6-13, 2021, and finally to November 15-21, 2021.

The main theme (being the same) and focus of the 2021 Academy is inspired on the one hand, by the multidimensional and multi-theoretical discussions on perceptions, images/imaginaries, scenarios and trends of, and discourses on, the Arctic region and Arctic politics (e.g. AHDR 2004; Contesting the Arctic, Politics and Imaginaries in the Circumpolar North 2015). On the other hand, by new and emerging trends of Arctic governance and geopolitics based on the recent IIASA analysis *Arctic Policies & Strategies – Analysis, Synthesis and Trends* of existing policies of the Arctic States, Indigenous peoples organizations', Arctic Council Observer States, and AC Chairmanship programs & Ministerial declarations.

The Academy's discussions, as well as active participants' presentation, are planned to be based on the following new and emerging overall trends which the above-mentioned analysis recognizes (see, Heininen et al. 2019, 249-253): First, an ambivalence of Arctic development, as a balance is being sought between environmental protection & climate change mitigation, and new economic activities ('Political inability'); Second, state domination supported by geopolitical stability & sovereignty vis-à-vis globalization based on international treaties, UNCLOS & maritime law and UN declarations regarding Indigenous rights & self-determination; Third, focus on science, as to lean on scientific

research & international cooperation in science for problem-solving (due to the pressure of the rapidly advanced climate change & the Arctic development paradox); and Fourth, new interrelationship between the Arctic and Space (digital security, meteorology, WMO) due to climate change, globalization, the global economy.

The idea is that these new trends and the synthesis of the analysis will be tested and analysed, as well as further discussed their interrelations with Arctic governance (e.g. environmental protection & resilience vis-a-vis economic activities), Arctic geopolitics (e.g. state sovereignty vis-a-vis internationalization), geoeconomics in the Arctic (e.g. mass-scale tourism vis-à-vis traditional livelihoods), and Arctic research (e.g. focus on science vis-à-vis fragmentation of science).

Summary, findings and outcomes

To sum up the third phase of Calotte Academy (in 2012-2019): First, among the themes of these academies were “Water” (2012), “Resource Geopolitics” (2013, 2014), “the Globalized Arctic / Globalization” (2015, 2016), “Perceptions, Discourses, Scenarios” (201-2019) (for more information see Final Reports: <https://calotte-academy.com/final-reports>);

Second, altogether, there were more than 260 presentations in 80 sessions in eight annual events, which took place in 12 locations in Finland (Inari, Rovaniemi, Salla), Norway (Kirkenes, Neiden, Kautokeino), Russia (Apatity, Murmansk, Lovozero), and Sweden (Abisko, Kiruna, Umeå) – again most of them in Sapmi;

Third, since 2012 each of the participants, in addition of having a presentation, has acted as a rapporteur, as each annual event has been reported and illustrated. These human-interest reports, also referred in this history, are written by a couple attendees (mostly PhD candidates), and published at the Academy’s website and at Arctic Yearbook (e.g. Lempinen & Plouffe 2012; Huotari and Kalliojärvi 2016; Zojer 2020);

Fourth, since 2012 as a part of an annual academy there has been a short brainstorming meeting of the Thematic Network on Geopolitics and Security briefly assessing the current situation, as well as brainstorming and planning near-future events;

Fifth, the Academy’s co-organizers in 2010s were Saami Education Institute, Faculty of Social Sciences at Lapland University, Thule Institute at University of Oulu (2012-2014) and Institute for Atmospheric and Earth Research (INAR) at University of Helsinki (2019-2021) in Finland; Barents Institute, and Department of Sociology, Political Science and Community Planning at UiT - the Arctic University of Norway, and International Center for Reindeer Herding Husbandry (2019-2021) in Norway; Luzin Institute for Economic Studies of Russian Academy of Sciences (RAS) at Kola Science Center, Karelian Research Center of RAS (2015-2017), and Khibiny Scientific Station of Faculty of Geography at The Lomonosov Moscow State University (2018-2019) in Russia; and Stockholm Environmental Institute (2012-2013) in Sweden. These annual events were organized in cooperation with TN on Geopolitics and Security, and (occasionally) with City Administration of Rovaniemi, Lapland Regional Council, Kemijoki OY / Ltd., and Rovaniemi Arctic Spirit 2019 conference.

Correspondingly, among the scientific findings and outcomes of the Academy's third phase are the following: Firstly, the annual themes were on the one hand, dealing with natural resources and their use - from "Water" to "Resource Geopolitics – Sovereignty" (2014) - and on the other hand, there were thematic issues emphasizing discourses, perceptions, trends and methods - such as "Perceptions", "Discourses" and "Scenarios, Innovations, Best Practices & Actors". This will be continued by the theme "New and Emerging Trends of Arctic Governance, Geopolitics, Geoeconomics, and Science" at the 2021 Academy;

Secondly, the aim to increase continuity by integrating Academy's annual themes with research projects was partly successful, as the research was done through three thematic areas: Water, Resource geopolitics and Human Resources - each of them were used as themes for interdisciplinary discourse and discussed in an open dialogue with other stakeholders in the academies of 2012-2014. These events included sessions of the research project "Arctic Geopolitics and Security: Understanding the connections between Resource Geopolitics, Energy Security, and Sustainable Development and People". The project's aim was first, to increase an understanding of the connections between sustainable development, security and people in the European North and the entire Arctic region; and second, to promote sustainable development, and its benefit to the people of the Arctic by engaging communities of the Arctic region by research findings;

Thirdly, the scientific findings of the 2016 Academy's discussions on resilience vis-à-vis sustainable development in globalization are used here as an example of outcomes from an annual academy: The state-centric interpretation and usage of 'sustainable development', narrow interpretation of 'resilience', and strong links of the concept of resource-driven development require to re-define how better to describe regional and local challenges for sustainability in the Arctic region. Environmental concerns have been in the core of the Arctic security nexus for a few decades now, since long-range pollution became the trigger of the growing concern on a state of the Arctic ecosystem already during the Cold War period. One of the key questions is, concerning environmental and human security in the contemporary Arctic, if the industrial civilizations is willing and able of slowing down, or even abandon fossil-fuels based development, particularly off-shore oil and gas drilling;

Fourthly, the migration waves and big numbers of asylum seekers in the European North, at the time, apparently did not only affect the border regime between Finland and the Russian Federation but the frequent Nordic travelers, too. This was seen during the trip, when even on the usually open Finnish-Norwegian border the participants had to present their passports for a thorough border check. Consequently, border crossing issues and international migration became a reoccurring side-theme for the whole duration of this year's Academy;

Fifthly, the added value for the participants lies in its explicit aim to create an alternative model for conventional academic conferences and other gatherings in which the time allocated for genuine discussion often remains very limited. In Academy's sessions the situation is much opposite, as there is always been allocated time enough for open discussion after each presentation. This makes the Academy a perfect place for young and experienced researchers to present their research, as well as a venue for lively discussions and brainstorming between people that share overlapping interests;

Sixthly, the Calotte Academy was successful in fund raising, as it was financially supported by the Arctic Co-operation Programme of Nordic Council of Ministers, International Arctic Science Committee (IASC), and Norwegian Barents Secretariat, as well as in a couple of years from Inari Municipal Business & Development Nordica;

Finally, all in all, the 2019 event was concluded that the Academy is a post-modern (academic) stage and (expert) workshop for the Global Age that fosters interdisciplinary, knowledge(s), and dialogue-building, and implements the interplay between science and politics. This kind of academic forum for a dialogue is a much needed democratic and equal space for an open discussion in the future, too.

Aims, Methods, Procedure, Structure and Organizers

To give recommendations for policy-makers / policy-making is a sometimes used traditional academic way: Experts who 'own' the expertise, and know how things should be, give their recommendations to those who are in charge of making decisions but do not have an expertise on the field. The Calotte Academy has not applied this tradition of meritocracy, and does not give recommendations. It is rather a stage for an open dialogue based on expertise with participatory approach, and aims to implement the interplay between science and politics, and business by inviting policy-shapers and -makers to participate in discussions, adopt new knowledge and brainstorm new practises.

Behind is that the traditional method has (too) often shown not to be effective enough for example, if decision-makers do neither have time enough to study the recommendations, nor understand them. Actually, it is important to remember, as been reminded in annual academies, that before 'policy-making' there is 'policy-shaping' which is often more relevant in a longer run. Furthermore, recommendations do not always mean interactivity, as they are given by outsiders, and from outside the decision-making process. If among decision-makers / shapers there is no knowledge and understanding on the issue, recommendations per se do not necessary help. They can be used, not alone but together with an implementation of the interplay between science, politics and business.

There are different ways to implement the interplay: meeting representatives, lobbying, public hearings / town hall meetings, and a dialogue, less so via recommendations. An open-minded and democratic dialogue between relevant actors on real issues, including interactivity, is a good way to implement, maintain and promote the interplay. It is also a proper way to educate, supervise and train new kind of 'Leadership', which is much needed in our modern societies.

The Calotte Academy uses to implement 'double interplay', i.e. the interplay between science and politics (and business), and that between different disciplines and knowledge(s). Behind are 'transdisciplinarity', 'interdisciplinarity' and 'intersectorality', as well as the social relevance (of science), as a criteria of science. One essential question and challenge - for the Calotte Academy and other innovative stages for a dialogue - is left: Are research findings, or expertise in general, used by policy-makers in decision-shaping & -making, when final decisions are made?

'Social relevance of science'

In our modern societies, a more holistic picture and analysis is needed in order to have better understanding of the preconditions how sustainable development can be implemented and how to develop sustainability. This requires more advanced human capital based on scientific research and knowledge, and could be done by 'science' which is able and capable to produce (new) scientific knowledge as an outcome. Science often exists in narrow fields, and consequently, implementation of 'interdisciplinarity' is needed in order to combine different disciplines and fields of science.

Scientific knowledge is much needed in problem-solving concerning wars, conflicts and crises, such as armed conflicts and resource conflicts in developing countries, and grand challenges, such as pollution and climate change, as well as complex and wicked problems, such as pollution, climate change, loss of biodiversity and pandemics combined. Science is not, however, all about facts and objectivity, as Krieger (Newsweek 2008) has put it. "Science is more than labs – it's people, it's the environment", as well as it is the common heritage of mankind. Indeed, science is done by human beings, and human beings are also citizens. Thus, science deals with civil society, other stakeholders, the state, and other political structures, and the world – human and non-human. If so, then there is a need to implement the social relevance of science, i.e. the 'Science – Policy interface' in general, and here particularly the 'Societal Impact of Arctic Research' (Heininen et al. forthcoming).

In order to achieve this, a constant interplay on relevant and acute issues, and that between science and politics - as well as between science, politics, civil society and business - is needed to have and maintain. This kind of 'transdisciplinarity' is "to overcome not only the boundaries of scientific disciplines, but also those erected between academe and stakeholder expertise in society", which includes both 'boundary-breaking' and 'boundary-bridging'. As well as, knowledge across stakeholders' and sectoral borders with an aim "to produce solutions to societal problems through the fusion of knowledge provided by stakeholders and knowledge by scientists", as an important part of dialogue-building. (Østreng 2010, 22-38)

As an international academic seminar for scientific and policy-oriented dialogue and dissemination of research, the Calotte Academy is aiming: First, to foster scientific discussion and promote interdisciplinary discourse among members of the research community, in particular in social sciences, by inviting leading senior researchers and promising early-career scientists on social sciences from different countries and regions (e.g. Nordic countries, Central Europe, Russia, North America, Asia); Second, to implement and promote discussion between Western science and traditional / Indigenous knowledge; Third, to implement the interplay between science, politics and business (transdisciplinarity) and promote policy-oriented dialogue, with a wide range of stakeholders (policy-makers, civil servants, community leaders and planners, business representatives) and members of academia; Fourth, to contribute discussion over a relevant issues (e.g. regional development), introduced by scientific presentations and commented by invited local and regional stakeholders, with the intention of sharing research results and insights, even though local and regional decision-makers might give feedback that discussion is "too scientific"; Fifth, based on the interplay to create networks and foster dialogue between local and regional actors and the international scientific community and its networks; Sixth, to have experimental and interdisciplinary border studies when crossing several

state borders (Finland-Norway, Finland-Russia, Norway-Russia, Finland-Sweden, Sweden-Norway), as well as those between unified-states and the Sámi Area (Sápmi) in Finland, Norway, Russia and Sweden; and Finally, followed from all this, on the one hand to increase political stability and peace in the Barents Sea area across borders, based on the constructive Arctic cooperation and the ‘Nordic Peace’, often explicitly discussed in these annual sessions and implicitly implemented in the entire process (e.g. NGP Yearbook 2011), and on the other hand, to implement the social relevance of science, or ‘science diplomacy’ if you wish, which is very relevant in social sciences, as well as Arctic research (e.g. Heininen 2005).

In order to utilize these elements and aspects by fruitful way an open discussion / dialogue is needed, even requested. As a contrast to communication in which the participants exclusively aim for defending their own stance or other monologues, a dialogue makes much out of “the communicative potential offered by the overlaps of horizons” (Kornprobst 2009). Behind is optimism about “the potential of dialogues”, as Gadamer has put it, through rounds to find a common language. Or, as the Academy’s active attendees, Lempinen and Plouffe (2012) wrote in their report on the 2012 event:

In addition to the potential research themes brought up by the week-long discussions, participants also engaged on the role(s) and impact(s) of political sciences in the world of policy-making. The debates involved twofold views. On the one hand, research was seen as a crucial step forward in terms of improving the implementation and efficiency processes of policies; on the other, critical approaches were also seen as to have a valuable (but often underestimated or misunderstood) role in questioning the basis and projected outcomes of political decisions and developments in the Arctic. Nevertheless, both of these differing viewpoints highlight the guiding principle behind the Calotte Academy – dialogue is not only essential between researchers and within the scientific community, but equally importantly with (regional) policy-makers and northern societies.

Main method: a dialogue

More important than numbers of participants, sessions and presentations, is an added value, which lies in its explicit aim to create an alternative model for conventional academic conferences, in which the time allocated for genuine discussion often remain very limited (e.g. Heininen 2019). As been experienced and proved by the participants, the situation is much the opposite in the Academy’s sessions with the rule that there is always time for open discussion after each presentation. This principle is one of the best methods first, to combine research, supervision and practice in interrelations between early career scientists and supervisors, as well as other senior researchers; and second, to implement the interplay between science, politics, business and activism.

All this has been successfully implemented for years in these sessions of lively debate between different theoretical approaches, which makes the Calotte Academy a unique academic ‘school of dialogue’. Indeed, the Academy has made efforts to create, promote and enhance a lively dialogue. It, however, matters what kind of dialogue. Conventional wisdom says that, to what extent dialogue is able to live up to its potential depends on the communicators’ commitment to it, and a commitment has certain prerequisites and rules.

Kornprobst (2009) identifies five rules for a firm commitment from participants that the participants: Firstly, have an open-minded approach toward a dialogue, since a “dialogue is not a battle in which

each participant tries to make his or her own horizon win a contest of competing perspectives”; Secondly, “are committed to inclusivity”, i.e. to exclude perspectives from dialogue impoverishes it; Thirdly, “engage each other’s arguments” and listen carefully what the other side has to say and says; this is very crucial for mutual understanding and confidence; Fourthly, “focus on an issue domain”, since a dialogue is about generating insight into something (Gadamer 1972); and Fifthly, “embrace the open-ended nature of the dialogue”.

Further, based on the experiences from the discussions at the open assemblies of the Northern Research Forum two more rules could be added: An open and democratic dialogue requires mutual respect on the one hand, and on the other hand, that it has a transdisciplinary and intersectoral nature, i.e. each dialogue assumes a dynamic on its own, as there is always a specific group dynamic within a dialogue.

The Academy’s sessions with scientific and expert presentations are structured based on an ‘open dialogue’ with the above-mentioned rules for a firm commitment. Here a dialogue is interpreted as a cumulative process with an open-ended nature and inclusivity, to engage others arguments, and focus on issue domain. Followed from this principle, discussion in the Academy’s sessions is open, democratic, and with patience and respect.

For a dialogue a stage is needed, and it again matters what kind of stage: For an open and equal dialogue it is needed to create, maintain and promote new kind of open and wider, even global, stages or platforms. They are for fresh thinking and bold ideas from the leading minds for to cluster the expertise and human capital of talented people. In its best fresh thinking and bold new ideas are possible through a constant dialogue, where decision-makers actively participate with open-minded attitude by contributing and carefully listening (this means for example, it is not suitable to use smart phones or read e-mails at the same time). As well as, be ready to be committed, and capable to apply new knowledge for their own purposes.

Based on this, the Calotte Academy has had, and prefers to have, an equal and democratic dialogue with an open mind, where participants coming from a wide range of stakeholders build meaningful communication across sectors and perspectives, and do engage each other’s arguments. Experiences from the Academy’s sessions and discussions much prove the dynamics of an open dialogue, and its power. Behind are a few principles as rules, the most fundamental one of them is always to have time for questions, comments and answers, i.e. open discussion.

Followed from this, there are already plans beyond, or part of, the third phase, to develop the Academy as an interdisciplinary school of dialogue for early-career scientists (advanced Master students, PhD candidates, post-docs) with strong components of transdisciplinarity and dialogue-building. The emphasis will be studies across disciplines (Social Sciences, Humanities, Natural Sciences, Technology) and sectors of a society (academia, civil society, indigenous peoples, government, business), as well as across (state) borders (Finnish-Norwegian, Finnish-Russian, Norwegian-Russian, and Finnish/Norwegian/Russian-Sapmi). The overall goal here is to educate early-career scientists from different disciplines to recognize and analyze the complexity of the early-21st century’s Arctic.

Behind is the globalized world and its impacts locally, nationally, regionally and internationally, i.e. what happens at the global level - in terms of pollution (e.g. radioactivity, POPs, plastic), climate change, industrial development (e.g. megaprojects), advanced technology (e.g. space, nuclear, biotech), economics, as well as social, cultural and political change (e.g. self-government) – affects and transforms the Arctic region and its people(s) and societies. Furthermore, what takes place today in the Arctic - notably in terms of ice-melting, resource exploitation, transport, as well as knowledge-creation, stability-building, and science – has significant worldwide implications on the global economy, world politics and the Earth system, and accelerates global trends. Finally, there is a sharp increase in the number of actors / stakeholders interested in the region, and a great diversification takes place in the background of the actors involved. As a result, there are interrelated systems and research foci: the Earth System and the ‘globalized’ Arctic.

Procedure & structure

Though a theme / substance, is the most important thing for the Academy, it matters what kind of procedure and structure is there. In the Academy’s case both the procedure and the structure are simple. When planning the next annual academy there are three important steps of a process: First, an overarching theme is usually been selected circa a year beforehand, often the first discussion will take place in the conclusion session of the latest Academy. Background material for the theme is been collected and studied, and then the final version formulated for a Call for Abstracts. At an annual Academy, each theme will be discussed holistically from many angles and disciplinary approaches, and from the perspectives of past(s), present(s) and future(s), as well as from global, Arctic and local context in the European Arctic.

Second, a date of next annual event – usually beginning of a summer – and a route – mostly either the Eastern route or the Western one – are decided by a joint decision of the co-organizers. The aim is to avoid overlapping with other (local, regionally or international) events, and not to repeat the same route but find some new aspects and destinations. After knowing all titles of the presentations of the accepted participants (based on the applications and abstracts) the number of sessions and their themes, as well as locations, are been decided. This is a puzzle, as each session has its own sub-theme, and always there are a few participants who cannot make the entire route, but one or two destinations.

Third, since substance (i.e. themes, presentations and discussions), and application of science are the most important goals of the Academy, it is important that there are good conditions and attitude, as well as motivation, for a dialogue. This requires on the one hand, a few material and technical things, such as a proper venue and functioning technics, and equality between organized sessions, i.e. no parallel sessions, no presentations on a road, no keynote speakers. As well as, a simple thing that there is enough time allocated for open discussion (including questions & answers, comments & counter-arguments).

On the other hand, a fundamental precondition is that the timeframe will be followed – an important role of a moderator - , and that among the participants there is patience for listening to others’ argumentation having expertise in other disciplines, fields and knowledge. The participants are asked to apply the open-ended nature of a dialogue and to cross (discipline, sector, national and other)

borders. Unlike, in mainstream international conferences the Academy has a rule, in order to guarantee enough time for open discussion, that (at least) half of the entire time of a session should be allocated for discussion (questions & answers, comments & counterarguments), and that there is a discussion after, and based on, each presentation.

Fourth, in addition of her / his presentation each participant is asked to actively participate discussions, and write a report on one session, reflecting briefly the presentations and in particular explaining and analyzing the discussions (by her / his own words), for the Final Report. The (online) Arctic Yearbook is a major forum for dissemination of these reports highlighting themes and discussions of annual academies (e.g. Lempinen & Plouffe 2012; Huotari & Kalliojärvi 2017; Kujawinski 2018; Zojer 2020). Fifth, as mentioned earlier, during each annual route there are often a workshop of ongoing research project and 1-2 brief brainstorming discussions on activities and projects of TN on Geopolitics and Security.

Finally, around the Calotte Academy (since 1991) there has been built and promoted an 'Ecosystem', which originally started at Kuhmo Summer Academy (in 1987). Based on the experiences, expertise and model of these two Academies the Northern Policy Society (of Finland) was founded in 1994; and the Northern Research Forum was established in 1999, and its first Open Assembly took place in 2000. The International Summer School in Karelia (at Petrozavodsk State University) for BA and MA students started in 2003, and several senior scholars, who participated Calotte Academy, lectured first at ISSK before traveling up to Inari. The Thematic Network (TN) on Geopolitics and Security, originally a joint network between NRF and UArctic, founded in 2009, started to have its brainstorming meetings at annual Calotte Academies next year, as well as TN became one of the Academy's co-organizers. Under the auspices of the Thematic Network the Arctic Yearbook was founded and the first yearbook launched in 2012, as well as its tenth volume will be launched at the 2021 Academy. The Network's sessions and panels on security and geopolitics at Arctic Circle Assemblies were started in 2012, and as the outcomes Palgrave Pivot books were published a few years later. The GlobalArctic Project was launched at the 2014 Assembly, followed by the GlobalArctic Handbook (in 2018) and MOOC on the Global Arctic (in 2019).

All in all, the fact that the Academy is not an exclusive club, but with an open call for participation with a small grant to support travelling and accommodation of early-career scientists, is our strength. Our weakness is the fact that we neither have applied the traditional culture of keynote speakers nor registration fees, which makes the Academy a bit strange among traditional scientific conferences / institutions, and de-facto ineligible to apply financial support for scientific conferences from established academic foundations / funders.

Co-organizers & steering group

The organization of the Calotte Academy is light and simple, as it is no organization but more a process with an annual platform and an international network. In addition of annual academies, there are the co-organizers (consisted of universities, research & education institutes, municipalities), Steering Group, and co-coordinators of the Academy. Among permanent co-organizers are Sámi Education Institute and Municipality of Inari, University of Lapland (Arctic Centre in 1991-2005, and

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Faculty of Social Sciences since 2006); the Barents Institute (founded in 2006) and Department of Sociology, Political Science and Community Planning at UiT - the Arctic University of Norway; and Luzin Institute for Economic Studies of RAS at Kola Science Centre, and recently Faculty of Geography at The Lomonosov Moscow State University; and finally, Northern Research Forum (in 2002-2010), and TN on Geopolitics and Security (since 2011).

Financial support for the latest Academies is been given by Norwegian Barents Secretariat, UiT, Nordic Council of Ministers, International Arctic Science Committee, and Municipality of Inari. Most importantly, the co-organizers have always given in-kind support, such as venues with technics, accommodation, catering.

The Steering Group (earlier Idea Group) is in charge of the thematic content and program of annual events, preparations in locations and fund-raising. The organizing institutions are represented in the Group (for example, Liisa Holmberg in Inari, Ludmila Ivanova and Julia Zaika from Russia, Marianne Neerland Soleim from Norway), as well as co-coordinators, and chair. The Academy's first coordinator or secretary (in 1991-2006) was Raija Kivilahti, conference secretary of Arctic Centre. Since 2007 the co-coordinators have been PhD candidates, Jussi Huotari, Hanna Lempinen, Laura Olsen, Gerald Zojer, Salla Kalliojärvi, and the chair Lassi Heininen.

As an experimental thing, the following (first) Calotte Academy Fellows were announced in 2016: Prof. Matthias Finger, Director Liisa Holmberg, Prof. Steve Lamy, Prof. Heather Nicol, Dr. Larisa Riabova and Prof. Alexander Sergunin. An idea of the Fellowship is to institutionalize the network of Arctic expertise and additional human resource for research, and to attract the interests of the hosting universities toward this kind of activity when planning research and supervising PhD candidates and advanced MA students. Unfortunately, due to lack of funding and the COVID-19 pandemic the experimental effort is still in its preliminary stage, and thus this resource has not, yet, been used, as it could be.

The unorthodox and flexible format of Calotte Academy is neither common in the scientific community, nor seems to be easy for established academic and funding institutions fully understand and apply. This is much because of the open and process-kind nature of the Academy, including equality of participants instead of keynote speakers, and the highlight of a dialogue, which someones interpret as less scientific. On the other hand, it has been rather easy to attract established universities and research institutes in Nordic countries and Russia, as well as new international institutes and networks to become involved-in the cooperation as ad-hoc co-organizers or hosts. In a few cases, like for example when designing the NRF, and when establishing the Barents Institute the Academy played a useful international platform and model.

In any case, in the turbulent times of world politics, as well as in a crisis, this kind of flexible, non-hierarchical method and a 'school of dialogue' platform - with serious efforts to enhance open discussion, and share knowledge and experiences (participatory by nature) with local communities - is much needed for 'evaluation-learning' and confidence-building. Behind is an understanding that the wicked problems and grand challenges that our modern societies, including northernmost societies, face means that the scientific community takes, or is expected to take, literally the social relevance of

science. As well as, the task to produce new scientific knowledge, and apply it through policy-oriented discussion between different stakeholders.

Outcomes and Achievements

As an outcome of the 1st phase, the Calotte Academy was established on the one hand, to act as a platform of an international research project of TAPRI, in which role it attracted many scholars and experts from the Arctic States and UK. On the other hand, from the very beginning it has acted as a platform, originally initiated by Summer University of Lapland, for public discussion between international group of scholars, and local and regional policy-makers, planners, and Saami. Soon the Academy became the main platform on northern / arctic issues to educate younger generation of journalists who were interested in this new discourse, and eager to take part in academy's sessions.

All this reflects an implementation of the social relevance of science, as the discussion is based on expert presentations. These were good reasons to continue and soon the Academy became a loose, international network of experts, as well as a foundation for other activities like for example, the 1997 Barents Conference and NRF, which applied the idea to implement the interplay between science, politics and business.

As an outcome of the 2nd phase, the Academy acted as an international forum for both scientific and policy-oriented dialogue on relevant – global, circumpolar, regional, local - issues among members of the research community and a wide range of other stakeholders. In this capacity, it also served as a regional sub-forum for the NRF Open Assemblies, as well as an inter-disciplinary seminar for international organizations' meetings like for example, Barents Press, and international research projects, as well as a foundation for new institutes, such as the Barents Institute.

At the 3rd phase the Academy was mature enough to act as an annual seminar for early-career scientists (advanced MA students, PhD candidates, post docs). In this role, especially after being able to give small grants for travelling it became popular among young researchers, in particular PhD candidates, in the Arctic States and Central Europe. It also functioned as a forum for the scientific discussions and brainstorming of TN on Geopolitics and Security.

To quote the Report of 2019 Academy (Heininen & Zojer 2019) for IASC:

The Calotte Academy is on the one hand, an annual travelling symposium in Europe's Arctic, the North Calotte region, and an international, independent, academic forum for to discuss Northern / Arctic issues. On the other hand, it is an international summer school (in 2019 a winter school) for early-career scientists, particularly PhD candidates and post-docs with an aim to implement the interplay between senior & young researchers, and post-graduate students, and that between disciplines. It is designed to promote interdisciplinary discourse, and to foster policy-oriented dialogue among members of the research community and academia, as well as a wide range of other northern stakeholders, such as policy- makers, civil servants, community leaders and planners, business representatives. The Academy, has a participatory approach with visits, sessions and 'hearings' in several destinations in the European Arctic, across (national) borders (Finland, Norway, Russia, Sweden, and Sapmi), with local audiences and expertise. It aims to bring together academics and other experts, policy-shapers and –makers to

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discuss, debate and brainstorm on relevant global, regional and local issues with an intention of sharing information and ideas, research results and insights, as well as fostering dialogue and creating networks between different stakeholders. In this, the most important method, as well as the main principle, is to allocate time enough for open discussion and debate (about twice the time than for a presentation).

When it comes to the themes of the Calotte Academy there are both continuity and change: Security, the environment and sustainable development as red thread through the annual gatherings of these 30 years represent the former. Correspondingly, the latter is seen how perceptions, discourses, theories and methods instead of only substance are playing more important role, in particular when discussing and analyzing the globalized Arctic and its worldwide implications.

As numerous outcomes, there have been 28 annual academies in 1991 – 2020 with a few hundred active participants representing more than 25 nationalities. The total number of almost 160 Academy's sessions have taken place in 19 different locations within the European Arctic, in Finland, Norway, Russia, Sapmi and Sweden. They include altogether almost 600 presentations, covering all relevant northern and arctic issues and themes, and innumerable number of comments and counter-arguments, questions and answers in discussions after each presentation.

Finally, based on the presentations and discussions several scientific books and proceedings published (mostly in English, a few in Finnish) are been published, as well as final reports (in English) written annually for Arctic Yearbook and Academy's website (see, Appendix; Final Reports at Arctic Yearbook).

As the main aim of science is to produce new knowledge, as well as acknowledge and discuss with other knowledge(s) and expertise(s), the interplay between different stakeholders and knowledge is needed, and that could be built on an open and democratic discussion on relevant issues across the sectors of a society. The Academy has shown that it could be fruitful, and therefore has created a cluster the expertise and human capital of talented people, and maintained it, as well as promoted new and wider, even global, arenas for fresh thinking and bold new ideas from the leading minds.

The Academy also seems to be surprisingly resilient, as it has become an annual, international travelling scientific symposium and school of dialogue on a wide variety of overarching themes of Northern and Arctic studies addressing globally, regionally and locally relevant issues, concerns and problems. More importantly, it has become a method with a strong educational component (without an official duty) to implement an open and cumulative dialogue with focus on an issue, allocated time, and mutual confidence and respect. This could be taken as an alternative model for conventional academic gatherings with lack of time and patience for open discussion. It is these procedures and aims, as well as experimental nature, not the 30 years, that has made the Calotte Academy an open, democratic forum for academic and policy-oriented activities.

All these are achievements, in particular as the entire effort is been depending on intellectual resources and motivation of individuals, as well as done based on an ad hoc funding and administrative support. This also indicate that the Academy - though small-scale and with limited resources - has something special, what others do not have or do not appreciate. It is no mystification to remind the original idea to organize the Calotte Academy, as well as the Kuhmo Academy, in a northern periphery with

international group of experts, as a platform with light structure. As well as to focus on a dialogue between different stakeholders based on high scientific quality and expertise. Though, the geographical context is peripheral and with limited resources, and the unit small, the combination - of high expertise, openness, international and local attendance, hard work, travelling and fun - could create high motivation and fruitful outcomes, as well as good attitude in higher latitudes.

Behind is on the one hand, that the Academy has created its own philosophy behind the methods, procedure, structure and expertise. Its principles consist of, First, a participatory approach and inclusivity implemented by open discussion and dialogue as a cumulative process between relevant stakeholders, as well as a respect towards knowledge-building as a process; Second, critical approach across disciplines of science and expertise, and to implement the interplay between Western science, TEK & Indigenous knowledge, and that of science, politics & business; Third, flexibility and economical efficiency in organization; and Finally, that the environment - either being physical, geographical, or mental – with an attitude matters when building a process which is cumulative and exponential.

On the other hand, behind is that the Academy's aims and methods, as well as the philosophy, are been developed in these years based on values of 'Academia' and an open-minded, curious & critical approach towards issues, peripheries and margins (no taboos, no borders – instead borderless, going beyond). In other words, to 'take care' instead of having corrupted norms of double standards, or a schizophrenic approach of neoliberalism supported by meritocracy. And to take literally, that science is more than labs, it is about people(s), societies and the environment. The final aim is to find and discover new things, logics, and that new premises and norms are needed to be found and applied for a paradigm shift.

Among learned lessons of these 30 years are: First, if you have expertise, good connections and networks as well as curiosity, and you are not afraid of hard work you are able to do things you wish (money is not the first thing here); Second, to those in Academia, who neither emphasize nor support bigger units and growing figures it clear that small units and figures are more flexible and needed, as they might contribute something unique, and thus they should be tolerated. In particular, if fresh ideas, new methods, inclusivity and equality, and motivation are still among supportive values in our global societies. These things do not, however, happen by themselves but need to be heard and recognized, as well as resources – they could be taken into consideration; Third, to be able to do things by new way – go beyond - and create something new, you need to be open-minded, take risks & make mistakes; Fourth, though substance is the most important thing, it matters what kind of structure, platform and context are there; and Finally, though successful, it is every-now-and-then good to rethink and reconsider the situation, as there will be more & new changes – and remember the challenge: how to recognize your momentum?

All in all, the Calotte Academy can be interpreted to be a forerunner of, or even a model for, a new kind of international academic gathering based on a dialogue, and that of the interplay between science, politics and business with participatory approach. Indeed, it has acted as a platform for several international research projects and conferences; a foundation for Northern Research Forum, and acted as a sub-forum for its assemblies; and a springboard for the Thematic Network on Geopolitics

and Security, and its activities, such as Arctic Yearbook and GlobalArctic Project. Correspondingly, NRF gathered valuable experiences for Arctic Circle Assembly, in which context its Mission Council continues the global Arctic discourse. Here the Academy has acted as a main platform for, and 'ware house' of, scientific knowledge on different disciplines and expertise by different stakeholders at many levels. Outcomes include platforms for dialogue, PhD summer schools, annual sessions in conferences, international peer-reviewed publications, and an entire Ecosystem of expertise on several fields. Briefly saying, there is a 'springboard' effect.

Conclusions

The Calotte Academy's main aims are first, to combine theory and practice, different disciplines, different fields of knowledge and expertise, research-supervision-teaching, as well as different scales from local to global. Second, based on 'interdisciplinarity' and 'transdisciplinarity', and using an open discussion as a method to share experiences and expertise and thus implement synergy between individual researchers (in particular, early-career scientists), other experts and policy-shapers / -makers.

Interestingly, the Academy is an interdisciplinary brainstorming meeting to bring researchers and other experts from different fields, regions and countries together for to discover innovations and new methods, as well as synergy between different research approaches and projects. With unique format and active network, it has served as an example and model for to establish, and further develop, Northern Research Forum's Open Assemblies, TN on Geopolitics and Security, Arctic Yearbook, and the GlobalArctic Project.

Based on these aims, methods, as well as this nature and format, the Academy has played, and still plays, an important role on the one hand, for presenting and analyzing, as well as bringing into public discussion, relevant Northern themes, in particular the environment and sustainable development, as well as comprehensive security. And being able to discuss perceptions, discourses, theories and methods, how the globalized Arctic and the European Arctic are redefined and remapped. On the other hand, it has played on an important role for developing Northern and Arctic studies, as well as for supporting studies on IR, governance, geopolitics and security, in the Barents Sea area, as well as in the entire North.

No wonder, the Calotte Academy has attracted leading senior scholars and scientists, and promising early-career scientists, in particular on social sciences, from the Arctic states and beyond to work with Finnish, Saami and other Nordic researchers, built partnerships between them, other experts and policymakers. As well as, done community-based research in Saami, Finnish, Norwegian, Russian and Swedish communities in the North Calotte region. It uses to implement the social relevance of science and 'science diplomacy' by having the interplay between science and politics as one of the main aims.

The main method here has been, and is, an open 'dialogue'. Further, one of the most important learned lessons is that open dialogue is both important, and a process with direct and indirect impacts, as well as its long-standing and silent influence in peoples' minds.

In fostering the interplay between disciplines and expertise, and a dialogue, the Academy is one of leading international academic forums and networks in North Europe and the entire Arctic region. Furthermore, it is one of the oldest, still functioning, academic institutions on northern and arctic issues, and the oldest one located in the Arctic region.

In a nutshell, the Calotte Academy is an international, annual travelling symposium and interdisciplinary academic seminar on Northern / Arctic issues with high expertise, and strong educational and training component. Its sessions, in several locations in the European Arctic, serve as platforms for scientific and other expert presentations, and workshops for open and lively discussions to implement ‘transdisciplinarity’, as well as well substantial publications and reports. Each annual event consists of a core group of open-minded people and talented minds who are interested in substance, committed to open-minded dialogue and with motivation. The Academy is not, however, an exclusive club, since participants are equal - there are no keynote speakers, unlike in traditional scientific conferences –, and selected based on an open call for application. In each location, there is an active local audience. Finally, there is no registration fee, much opposite a small grant to support travelling and accommodation of early-career scientists, mostly PhD candidates.

Finally, Inari is the first location and center of the Calotte Academy’s operational environment and mental world. The Sámi Education Institute and other hosting institutions in Inari play an important role here, as their moral, political and financial support made it possible to start the Academy there in 1991, and transfer it into a unique travelling symposium, and further a school of dialogue. As born and raised in Inari, and acted as Inari’s special higher education component, the Calotte Academy is a perfect example of a ‘Global-Local’ interference - much emphasized, but not often implemented in the globalized Arctic – which deserves to be continued as one of the important and running international academic activities in the Barents Region and the entire circumpolar Arctic.

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Section I: Peripheries vis-à-vis World Order & International Law

Peripheries in a Changing World Order

W.L. Goldfrank

On December 12, charges of arson, mischief, possession of explosives and disguise with intent were laid against 13 people of the Lubicon (Cree) Nation in Northern Alberta. They are accused of sabotaging the logging equipment of Buchanan Lumber, which has recently begun logging in unceded Lubicon lands despite assurances that all development not authorized by them, the rightful owners of the territory, would be dismantled. They called this "direct action on the ground." The Lubicon struggle is one for survival. Already, moose, the traditional dietary staple, has "disappeared" from their land. One in every three Lubicon now has tuberculosis, compared to 1 in every 15,000 Canadians. Unemployment is at 95% and the community is forced into dependency on welfare. All this while oil and gas revenues reaped by Canadian and multinational corporations (Petro-Can, for instance) total over \$1 million a day. The Lubicon hold to their sovereignty in responding to the charges; they claim that the province of Alberta has no jurisdiction on sovereign Lubicon land and therefore that Nation members are not subject to Canadian courts.

This story arrived in my computer by electronic mail, one day during the bombardment of Iraq. It is a story told many times before, and, in different versions, one that will be told many times again. It is a story of intensified exploitation of the peripheral zones of the modern world system, of incorporating land (and the land's resources) and/or labor (when necessary to production). It is never a pretty story, and it is one that those who benefit directly or indirectly prefer not to hear,

much less to tell, unless they recast it in terms of heroic military adventure against the savages, devoted religious conversion of the heathens, or intrepid entrepreneurship to bring new comforts or pleasures to the civilized. In the currently unfashionable language of Karl Marx, it is a story of primitive (or primary) accumulation.

Marx, however, merely thought that the plunder of alien cultures and nature, and the expropriation of subsistence peoples, were necessary to start the whole capitalist accumulation process, providing, as it were, the "M" (money-capital), and the labor-power component of the "C" (commodities) for the ceaseless equation $M+C=M'$. However, in the understanding of the world system perspective, which is my own, the processes of primitive accumulation continue long after purely "capitalist" accumulation has been launched. Not only do they continue, albeit unevenly, but they are necessary to the reproduction and expansion of the capitalist system as we know it in the world today.

In what follows, my aims will be first, to sketch an overview of our understanding of how the modern world works; second, to specify some different types of peripheral zones; and third, to adumbrate some possible futures for the peripheries. In brief, I shall make two substantive assertions: (1) that in its proximate long cycles world capitalism will transform the remaining peripheral reserve lands into resource -yielding territories and will transform the remaining subsistence foragers, pastoralists, and peasants into proletarians; and (2) that peripheral zones within core states will fare significantly better than those in semiperipheral and peripheral states, albeit at great cultural cost. Allow me to begin, then, by showing you the lens through which I see the world.

The modern world-system is a capitalist world-economy encompassing virtually the entire globe, although as a system its 16th-century original scope was limited territorially to parts of Europe and the Americas. Historically changing, it is nonetheless a system, a structured totality whose parts both complement and affect one another. We call it a world- economy because its commodity chains link disparate peoples and cultures via the market, unlike a world-empire, which links peoples by way of a politico-administrative apparatus. We call it capitalist because accumulation is its driving force, because labor is thereby commodified, and because competition and class struggle are its hallmarks, competition and struggle that occur across as, well as within state boundaries. We understand this division into classes to intersect a division into zones, some with great wealth, sophisticated and diversified production, and strong states (the core), some with little wealth, low-wage production, and weak states (the periphery), and some in between on these dimensions (the semi periphery). By means of plunder, labor migration, capital flight, and unequal exchange, surplus moves from the periphery to the core, as it does in the production process from labor to capital. Over historical time the locus of particular products shifts from one to another zone, as for example iron and steel production has in the last decades been moving from the core to the semi -periphery. And there is limited mobility for states as the system as a whole has expanded, mobility we can see in the recent rise of Taiwan and South Korea from periphery to semi -periphery or the ascents of Italy and Finland from semi-periphery to core since World War II. But the massive fact about the modern world-system to date is its reproduced stability, as capitalist commodification has penetrated more and more of the globe and proletarianized more and more of its inhabitants, and as the interstate mix of diplomacy and war has contained and reprogrammed rebellious oppositional movements.

Further, we understand this modern world- system to move through time both cyclically and via secular trends. The cycles are economic' and political economically, the the world undergoes 50-60 year long waves of expansion and stagnation (sometimes called A and B phases), increasingly yet still imperfectly synchronized in their various national manifestations. Politically, the world experiences much longer cycles of hegemony, with four phases, which we may call ascent through conflict" supremacy, decline, and condominium. The secular trends at work are familiar to students of modernity: commodification (including labor), mechanization of production, bureaucratization of organizations, and last, geographical expansion, the process of incorporating previously external areas into the system, with very rare exceptions as peripheries. But we understand these trends to be constitutive of- rather than external to- the world-system, and we understand their limits, which we shall reach within a century or two, to presage a crisis from which a new politico-economic form of global social organization will emerge.

Given this perspective, the contemporary world appears as follows. Leaving aside some of the controversial and/or borderline cases, the core of the world- economy includes the USA and Canada, most of Western and Northern Europe, and Japan. Core countries are relatively wealthy and relatively democratic, specializing in high-technology products such as computers, aerospace, and machine tools, producing abundant food, experiencing shrinkage in industrial employment and growth in the so-called service sector (much of which is of course part of the production process). The contemporary semi -periphery includes most of Eastern Europe and Russia, at least the more industrial countries of Latin America, South Africa, Turkey, and the East Asian NICs. These countries feature heavy intermediate industrial production (iron and steel, petrochemicals), strong but diminishing state control of the economy, enormous debt burdens, and much of the democratization wave of the last decade. Their working classes are increasing in social power (Arrighi 1990), but this makes for increasing difficulty in resolving economic policy dilemmas, especially where statist protectionism of the socialist or populist variety have been prevalent.

The contemporary periphery includes the poorer countries of Latin America and the Caribbean, most of sub-Saharan Africa, South and Southeast Asia, and China. Most of the world's two billion peasants live in the periphery; with their compatriots who are no longer peasants they produce an array of raw materials and simple manufactures (textiles, assembly). They live for the most part under authoritarian regimes and face the stark alternatives of exclusion from the world economy (as rulers in Myanmar and Kampuchea chose for a time) or superexploitation within it. Note as well three complications of this very broad-brush sketch. The peripheral giants -- China, India, and to a degree Pakistan and Indonesia as well- - include substantial heavy industrial sectors similar to those in the semi-periphery. At the same time, many of the larger semi-peripheral countries contain significant peripheral areas within their national boundaries, such as the Brazilian Northeast and Amazonia, the Mexican South, some of the USSR (Central Asia, the far North), Kurdistan, and the South African Bantustans. And, to bring us closer to the principal subject of our conference these few days, there remain some peripheral pockets within the boundaries of the core states themselves, parts of Appalachia and the Southwestern desert in the USA, perhaps parts of Extremadura and Andalucia in Spain, the interior of Corsica (France), Sardinia, and Sicily (Italy), and the Arctic zones of Scandinavia, Canada, and the USA (Alaska).

In terms of the cycles and trends outlined earlier, where do we stand today? Politically, we are experiencing the end of US hegemony and its transmutation into trilateral condominium. The

political maneuvering that surrounded the Gulf massacre showed a confusing mix of old-style US unilateralism plus hat-in-hand begging and UN resolutions and authorizations. The State Department inclined toward the new multilateralism, the Defense Department toward the old unilateralism. The president wavered, one foot in each era. In the end, the old predominated, but with a heavy ideological emphasis on the coalition, the alliance, the UN. So if for the moment the US has a near-monopoly on usable tactical military might, this seems less the expression of a robust hegemony than a specialized function within a condominium of core powers, the emergency police of the world-system.

Economically, the world is approaching the end of a long wave that included the great post-war boom of the 1950s and 60s, and the slowdown of the 1970s and 80s. As with previous booms, a rising tide floated many boats, yielding some now rather quaint beliefs: that the core countries had solved the problem of crises by fiscal and monetary fine tuning, that the self-styled socialist countries would catch up (remember Khrushchev's "we will bury you" or the once-fashionable idea of "convergence" between the USA and the USSR?), that the periphery should be called "developing" nations in "the springtime of freedom." The downturn of the 1970s and 80s has been quite another story, however. Too much emphasis has been given to the exceptional successes during this B-phase, for example, to Japan and the East Asian NICs, which greatly resemble the advances in Germany and some of its eastern neighbors during the depressed last quarter of the nineteenth century. What requires a longer look are the declines, the disasters, the catastrophes, in most of the periphery and much of the semi-periphery as well, as the gap between the haves and have-nots of the world has grown larger.

The catastrophic losses of lives and livelihoods to floods, droughts, and earthquakes speak volumes about the injustices and irrationalities of a world that wastes billions of dollars on armaments. It is not for me to say how much is nature's toll and how much society's; having survived both devastating floods and a major earthquake in my own microregion of California, I am inclined to absolve nature. Inadequate infrastructure, impoverished health and nutrition systems, insubstantial emergency organization, these are the major culprits. But catastrophe is just the tip of an iceberg. As Ghai and Hewitt de Alcantara show, Africa, Latin America and the Caribbean have undergone crises "of unprecedented proportions" (1989, p. 1). In Africa real GDP per capita fell 25% between 1980 and 1988, per capita income 30%; for Latin America and the Caribbean, the comparable declines are 7% and 15%. They focus on four principal causal factors: deteriorating terms of trade, high interest rates, declines in credits and investments, and capital flight. They point out that the negative effects of the crisis have hit poorer countries harder than more prosperous ones, middle and working classes harder than the wealthy. They cite evidence even of "repeasantization" in Ghana and in Mexico. Writing of Latin America, Cornia and Jespersion (1989) show the distressing effects of the crisis on the health and nutrition of children, via higher food prices and declining incomes, lower government food subsidies and health expenditures, and child neglect as women in desperation enter the informal sector labor market. Focussing on the Caribbean, Thomas (1989) discusses a similar array of problems but paints an even grimmer picture by discussing technical and economic changes that will tend to increase the gap between the peripheral zones and the core. "Technical changes in the areas of robotics, information, and transport are leading to losses in the region's wage cost-location-proximity advantages in relation to the US-Canadian market" (p.8).

He adds that advances in materials science are devaluing the region's raw materials (especially true for sugar and bauxite -alumina), that flexible specialization in the clothing industry and migration to New York are hurting the islands' needle trades, and that new systems of information management are threatening the offshore financial sector. To summarize, the recent past has been disastrous for many peripheral zones, nor are the immediate prospects very promising.

Before projecting into the future, however, it is worth pausing to consider more carefully some differences among peripheries. What are the major axes for typologizing? Most important are structural location within the world system, resource and/or geo-strategic potentialities, population density, and, for peripheral territories located within non-peripheral states, ethno-cultural distinctiveness. Low-density descendants of European settlers who live in resource-laden lands within core states are at one extreme in their chances for general well-being; high-density indigenes occupying barren lands in peripheral states are at the other extreme. Compare here Appalachia in the USA with East Bengal before the break-up of Pakistan. Because of opportunities to migrate to Cincinnati, Chicago and other cities, because of structural access to strong representation by federal legislators, and because of locational and political (non-union) attractiveness to multinational industrial investors, the Appalachians have improved their situation over the last several decades to the point at which it makes little sense to characterize them as peripheral, if it ever did, though consciousness of being an "internal colony" has been part of the intellectual atmosphere there for some time (see Newman [1972] for an appraisal of regional development programs in the 1960s, and Batteau [1983] for a review of newer "dependencies"). The Bengalis of East Pakistan had neither opportunity nor democratic access; by all indices of well-being they were among the poorest people in the world--thank God for fish. Their political independence has scarcely brought improvements, but then the economic conjuncture has been worse since independence than before, and substitutes for jute in the global fiber industry have further increased their resource poverty. It has required a major catastrophe to call world attention to their plight, and they stand to receive charitable contributions that will do more to assuage the consciences of the well-off than to address the structural inequalities that perpetuate their misery.

To these extreme types we should add another: Antarctica, a vast continent whose riches have barely begun to be exploited. Thus far, krill harvests, primarily by the Soviet fleet, are the only extractive activity. Since Antarctica is uninhabited, its exploitation is subject merely to environmental constraints and to those arising from interstate conflicts. In a fascinating article, Rosh (1989) has shown that the marine, petroleum, mineral, and freshwater resources of the southernmost continent are scarcely regulated by the current treaty, which establishes "an exclusive real estate club that is not recognized as legitimate by most of the world's states" (p. 129). Some states assert exclusive rights over resources in the sectors they have claimed, while others--the most technologically advanced--want nondiscriminatory access. Claims of some semi peripheral and large peripheral states have divided the Third World, and weakened its efforts to make Antarctica part of the Common Heritage of Humankind.

It is often the virtue of extreme cases to highlight more general problems. Appalachia typifies the mildest form of peripherality; it is perhaps a model for the future of the more isolated and depressed regions of Western and Southern Europe. Bangladesh represents a situation of too many people with too little productive land, thus an utterly unlimited supply of labor, thus little incentive for mechanization. This bleak situation is reproduced with more or less severity in much of South

and Southeast Asia, and in the more remote areas of rural China as well (Selden, 1988). Population densities tend to be less unfavorable in Africa, but ethnocultural oppressions are often more severe. And individual escape from Afro-Asia through migration to the core- -an avenue for a tiny minority in any case- -will probably diminish with the increasing integration of Eastern and Western Europe. The case of Antarctica, meanwhile, signals the environmental and political dangers of unregulated exploitation of resource peripheries quite apart from damage to human populations.

If we move from the extreme types toward the center, we find an array of zones and peoples whose ways of life are also defined by their relationship "to core projects. From the point of view of cultural continuity, it is probably advantageous to inhabit economically marginal and strategically negligible land. Certain mountain- and desert-dwellers fit this description, but there is always the threat that mineral deposits will be discovered or rendered accessible by advances in mining or transportation technology. Such groups live at the sufferance of the powerful, but in core countries, if less so in the semi -periphery, they present little threat and elicit considerable sympathy from the liberal middle class. Forest and jungle dwellers are under even more pressure; exploitation of their traditional lands poses dangers not only to them but to the global supply of oxygen.

From the somewhat contradictory standpoint of improved living standards and/or security of livelihood, however, it is probably advantageous to reside in a resource-rich or strategically crucial territory. In this instance, the economic possibilities range from a rentier relationship to the assets (via leasing arrangements or royalty payments), to part or full ownership, to the development of technical and managerial capacity to assure medium- to long-run profits for the community. A cursory review (Kruse, et al. 1982) of the effects of energy extraction among the Navajo in the US Southwest and Indians and Eskimo in Canada finds employment benefits accruing to a small elite of wage earners, collective royalty payments well below fair market value, and most expenditures made to off -reservation businesses. Unemployment continues at high levels and conventional social pathologies are found along with declining availability of fish and game in certain areas. On the other hand they cite one apparently successful case, among the Inuit, of rotating wage -labor providing cash for "family necessities and hunting equipment" (p. 97) which increased the viability of customary subsistence practices.

Studies of resource extraction and food processing in Alaska furnish little basis for optimism in appraising the chances there for a happy marriage of indigenous cultural continuity and contemporary capitalist expansion. Current efforts are clearly preferable to the quasi- genocidal practices of settler colonization or coerced labor known in previous centuries. In their account of corporations founded under the Alaska Native Claims Settlement Act, Anders & Anders (1986, p. 213) suggest "limited prospects for achieving" economic and social goals given "conflicts between Native culture and. . .profit-making functions." They review the performance of thirteen such corporations (twelve corresponding to geographically circumscribed indigenous groups, the thirteenth including Native Alaskans in none of the other zones). The ventures ranged in initial government funding from \$13 to \$196 million and in number of shareholders from 1,074 to 15,819. Many of them have lost money, and most experience tensions between cultural practices developed during centuries of subsistence survivalism and the exigencies of corporate profitability. Encroachment on customary livelihood patterns has exacted a toll in suicide, homicide, alcoholism, and mental hospitalization rates far in excess of those for the European- descended population of

the state. Anders & Anders note further the dangers of political backlash against a racial minority whom many feel "have been given too much already" (p. 232).

In their contrasting study of the Inupiat adaptation to North Slope oil extraction, Kruse, et al. (1982) show how the creation of a local government "Borough" with access to tax revenues increased employment and cash income for many residents while enhancing the efficiency of many subsistence activities. Social problems were indeed serious, but the researchers found no increase in their severity owing to the introduction of petroleum extraction. They point to differences in male and female employment patterns without however exploring the consequences for family life or gender relations. Overall, the Inupiat are a sparse population in a vast territory; their revenues derive from a resource enclave in one corner of their lands, such that special circumstances may account for their relative success. But what will happen when the oil runs out? For Alaska as a whole, Ritter's (1979) research suggests that as the Native population has moved out of exclusively subsistence activities, "a quasi-caste-like cultural division of labor resulted" (p. 327), with Natives in the bottom ranks of each occupational sector. This is likely to be the Inupiat fate as well.

Let us step back from our exploration of types of periphery and look toward the immediate and medium-term futures. As is characteristic of B-phases in world- economic cycles, the present has witnessed an intensification of the secular trends characteristic of capitalist accumulation. Over the cries of environmentalists, geographic expansion into the last available territories is underway, in the Amazon and other tropical woodlands, in the Arctic and the Antarctic, even in the seabed; space exploitation remains at the level of science fiction. The social movements of indigenous peoples have gained a limited hearing at the UN and in liberal salons, but these Polanyi-esque movements to protect customary livelihoods have made little headway outside of the core countries; the assassination of Chico Mendes, leader of the Brazilian rubber -tappers might serve as a symbol here. New mechanization has been in process, preparing new product lines for widespread marketing when the world economy turns the corner toward accelerated growth at some point in the 90s. The most important of these processes appear to be microprocessing, genetic engineering, solar (and other renewable) energy, and robotics, and the peripheries will most probably be excluded from any profit opportunities in these sectors. But we should not rule out some benefits, e.g., from agricultural innovations, trickling down to the Third World. Democratization in much of the semi-periphery represents a potential for redistributing income such that the world market will expand, in turn sustaining new growth in the next A-phase. But the periphery is as conspicuous for its avoidance of democratization as the semi -periphery is for its tortured embrace.

In the short-run, after one or two further recessionary dips over the next few years, the accumulation process will accelerate as the world economy enters a new long wave. The leading high-technology sectors will return outsize profits to investors in Japan, Europe, and the US. Semi-peripheral competition for intermediate industrial production will intensify, and rebellious labor movements in democratized settings may well chase some of it to the periphery. Those semi-peripheral states with large peripheral zones will be sorely tempted to increase internal colonialism in order to keep pace or move forward, much as the Chilean state has recently fostered the overexploitation of forest and marine resources in the South, and the overexploitation of rural workers in the temperate central regions (Goldfrank 1989). Some peripheral exports may face replacement by novel materials, bringing further impoverishment, while others may turn out to be

the 21st century's equivalent of petroleum in the 20th. But much of the periphery will be subjected to new forms of exploitation, much to disdainful exclusion punctuated by binges of charity. Meanwhile, the trend toward multinational corporate decomposition of production processes will gather momentum, making "national development" or national industrialization even more chimerical than they are today. In this scheme, peripheries will continue to be invited to contribute low cost labor to certain stages in the production process, in the manner of scattered Export Processing Zones. But this will not have large multiplier effects.

If we shift our attention further into the future, to the middle-run 50-60 years of the new long wave, prediction becomes more difficult. Most probably, the currently visible trend toward forming three economic blocs around Japan, Europe and the US will give way to a bipolar arrangement. A US/Japan alignment facing a European (West and East) agglomeration is more probable than any other. The Americas and the Pacific would be part of the former orbit, the Middle East probably part of the latter, with contestation between the blocs over India and sub-Saharan Africa. But this tendency toward bipolar bloc formation and rivalry will be dampened by a continuing trend toward a high degree of organizational integration among at least the core states at corporate, governmental, and associational levels (quite likely including labor). Because of growing international integration, hegemonic shifts, in the past occasions for world war, may in the future occur more peacefully, or perhaps not at all.

At the same time, significant new proletarianization in the semi-periphery and periphery will lead to the reinvigoration of oppositional movements, doubtless quite different from the Leninist model that prevailed for much of the 20th century. Heightened degradation of nature and increased exploitation of women will further stimulate such movements. For the first time in world history, not particular environments but the biosphere itself is threatened by human rapacity. Pressures for world state formation will come from core middle strata fearing disruption, nuclear proliferation, and environmental disaster. So too may they arise from semi-peripheral syndicalism after the OPEC model, and from Third World workers demanding global redistribution. In the absence of such redistribution, we are likely to see massive migratory movements toward the core, with increasing potential for ethnically or racially chauvinistic reaction.

Where, finally, do the peripheries within core states look to eventuate? First, there will be no stopping the extraction of valuable resources from these territories. Environmental and political constraints may bring to bear regulatory restrictions on these activities, but the momentum of capitalist expansion cannot be stopped over the medium run. Second, the relatively small size of the ethnic minority populations living in climates which their dominant fellow citizens find harsh and unappealing make it unlikely that they will be seen as a threat, so long as they do not interfere with resource extraction. Nor will these zones tend to attract significant migratory streams of non-indigenes. Third, increased access to cash income can enhance indigenous capabilities to continue customary subsistence practices, with perhaps some added danger of depleting nature. Fourth, the democratic structures and professed humane values of the core states render doubtful any reversal of the general post-war course toward a choice between supervised collective self-determination (resource use [excepted]) and individual assimilation. Pristine life-worlds have been irretrievably lost, cultural adaptation has exacted a heavy toll, but compared to the peripheries in the periphery, the middle-run future of the ultra-North offers promise as much as problems.

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Northern Peripheries in Europe

Jyrki Käkönen

Speaking of changes in the European system in the 1990s one usually refers to the collapse of real socialism in eastern Europe or to the deepening and widening integration process in western Europe, or to both of these processes. They have brought up the idea of Europe being homogenized since the fall of socialism has opened the way for parliamentary democracy and market economy all over in Europe. At the same time Europe is searching for a new identity with which to distinguish itself from the rest of the world (Nelson et al. 1992, Senghaas 1990). This is how European power elites perceive the situation, as could be seen e.g. in the Helsinki CSCE meeting and its final act.

Possibilities for an essential change in Europe

The crucial contradictions of the new European system are resented in these two processes. If one looks beyond the above presented views, one realizes that they are actually nothing new. As a matter of fact they rather emphasize constancy and stability (Käkönen 1991). Strengthening the status quo is the ultimate goal of the CSCE process as well. Only behind these phenomena one can find the seeds of a more profound change. The so-called nation states or unified states are disintegrating in Europe. Integration reduces the importance of sovereign states while cities, municipalities, regions and ethno-national communities enter the stage of international politics

(Kirkinen 1991, Mennola 1991). The legitimacy of the unified state is more and more often put into question. The breakdown of various welfare states has prompted the citizens to question the necessity of state.

When the role of the unified state in the integrating community declines, power is transferred upwards even further away from the citizens. On the other hand it is simultaneously dispersed as other actors enter to areas previously reserved for states only. Thus power gets closer to people, and power elites, which were dependent on the unified state, lose their importance. In case this process continues and is supported by conscious political actions, there is reason to believe that profound changes will take place both in Europe and in the whole international society. Such a process of change would put an end to the period which got started in the end of the 15th century.

In the process of change a power struggle will evidently occur between the old political elites and those which are only now taking shape. The elites of unified states are already using state as a means to secure their own status and to prevent any profound changes. Both the CSCE and the Rovaniemi process, for example, have been harnessed to forward this policy. In all such situations states are trying to regain the initiative and to push the civil society aside.

One should also keep in mind that these profound changes which affect the organization of the system always suffer from side effects. Unpolitical or apolitical social forces also strengthen their positions during critical periods. This has been evident in several recent elections in Western Europe. The unpolitical or apolitical forces aim at preventing changes and at keeping their own positions in relation to those forces which they regard as threats to national societies, like refugees and immigrants.

Regionalization and localization

Those who see the European Community (EC) as a threat, often compare its future to the past of the Soviet Union¹. The eastern European countries have just abandoned a centralized system not so different from the one that old capitalist countries are now building in the integration process of western Europe. This view is presented in order to point out that power slides further and further away from people and is centered in undemocratic expert bodies and top executives. At the same time power is transferred away from unified states which posed as sovereign actors. This is indisputably one of possible models of the future EU, but it is not the only one. Inside the European Community and more commonly in Europe there exists a strong development trend towards regionalization which strengthens democracy inside the community (Kirkinen 1991, Mennola 1991).

Integration demolishes borders and creates opportunities for the development of regional cross-border communities. Even this alone reshapes the economic geography of Europe and changes the status of centers and peripheries in relation to one another. The weakening role of unified states also creates possibilities within states for regional and even local actors to strengthen their position with regard to previous administrative and economic capitals. Scotland, where national awareness has increased during the 1980s, looks forward to the change-over from EC to EU. The creation of

¹ For example in Finnish debates on the EC or the future EU the opponents of Finnish membership often equate the old "stagnated" Soviet Union and the EC. Then they question the need to participate in constructing a system which has already been proved inappropriate.

a new power center in Brussels weakens the status of London and strengthens the independence of Scotland, because Brussels is further away than London (Ahonen 1992).

The policy adopted by the EC also creates opportunities for regionalization and thus for the emergence of new entities as political actors. The EC has already introduced the so-called subsidiarity principle. The community uses it to support autonomous development policies of regional entities and to transfer decision making to as low levels as possible. The North Calotte region would have good chances of being accepted in the regional programs of the EU and thus of building its own economy as a unified region, not as a tripartite periphery of three different unified states. Strengthening of regionalization promotes the decentralization of power and economy in the future EU. There is thus no reason to see the EU deterministically as a centralized power system. How it will turn out depends on the political choices realized within it.

The deepening integration of the EC reduces the political and economic significance of the capitals. They will be accompanied by other regional centers. The second biggest cities of the EC member states have already formed their own organization. Its members include e.g. Milan, Marseilles and Glasgow. By means of cooperation they attempt to develop into major economic and cultural centers. Co-operation also produces cross-border networks which take the role of international actors. The development emphasizes the significance of cities instead of states. Cities did play an important role in the Middle Ages, but the rise of unified states shunted them to a sidetrack. Now we seem to witness opposite development.

In addition to big cities and their cooperation in nearly all fields of life, the development of networks also creates possibilities for smaller actors to participate in international cooperation. This offers a way to bypass the prism-like capitals and their bureaucracy. The functionality of the networks, however, presupposes direct service and communication links. It is thus necessary to stress the long term effects of the decisions on where to build infrastructure: they either strengthen or change the traditional center versus periphery structure. Through network contacts to Central Europe the community of Inari, for example, could belong to the center, even if from a Helsinki-centered point of view it is located in the northern periphery of Finland. The network could be used for creating markets for reindeer meat on the one hand, and for attracting tourists to the exotic Lapland on the other hand.

The new actors created by regionalization are by no means similar to one another. Some of the regions quite naturally possess the qualifications for transforming from peripheries to centers. This seems likely for example in the case of Öresund region. At present it is divided by a state border, and the Swedish part of it remains outside the EC. As these factors change, the economic potential of the area will make it a serious rival of both Copenhagen and Stockholm regions. The peripheral border region of two states then becomes a new center. (Eklund 1991, 34-37.) Even though the North Calotte region, for example, does not have similar natural prerequisites for becoming a center, its position after unification would in any case be different from what it can achieve while divided by three sovereign unified states.

This development evidently presupposes conscious policy, which will most likely also lead to conflicts. The policy of regionalization is unavoidably directed towards traditional power centers and weakens the status of power elites. At the same time, it creates new power centers and rival

power elites. It is not only a question of those political or economic forces which have exercised power through unified states by promoting the so-called national interest. It is also a question of profound changes in various traditional organizations. In a unified state of Finland the power centers of both farmers' and workers' trade organizations are located in Helsinki.

As the regionalization process continues both the above-mentioned organizations will have to abandon their centralized structure and to create local centers which are better aware of the local interests and features of different regions and thus better capable of attending to their members' interests within networks. More generally it can be stated that the disintegration process presupposes disintegration of expertise. In this respect one has to be critical of such educational "re- forms" which still emphasize the centralization of various fields in only one or two educational institutes. Solutions like these shape the future social policy, support obsolete centralized systems and hamper the regionalization process.

Regionalization will have a great impact on international relations. In post-war Finland the foreign policy has been in the hands of few. During Kekkonen's presidency the importance of foreign policy was even overemphasized. The Ministry of Foreign Affairs has thus for long enjoyed a privileged position in the Finnish system. In principle the ministries of foreign affairs have had the same status everywhere. The mainstream of state external activities has been channeled through them. They have even negotiated the rules of international trade. Via regionalization and the birth of networks new actors are taken duties which this far have belonged exclusively to foreign ministries whose mission has been to fulfil national interests. This results in a conflict between traditional power holders and new decision makers.

The North Calotte and the integration of Europe

The policy of regionalization adopted by the EC is further strengthened by the outcome of the Danish referendum. It is evident that in order to promote the integration process the Brussels bureaucrats have to give away some of their power to the lower levels and also to develop the parliamentary mechanisms for decision making. This development creates possibilities for e.g. Finnish provinces or the North Calotte to build direct connections with other regions of the community or provinces in other countries. As new connections bypass the traditional state-centered political and economic relations, new smaller and even mutually distant integration communities are created within the community. This affects the old center-periphery relations.

For regions like the province of Oulu in northern Finland, or the North Calotte area it is easy to imagine cooperation projects in production or marketing with some region in central Europe or for example with one of the Länder of Germany. The enterprises could direct their production to limited central European markets and so participate in international cooperation. Reciprocally, these northern areas could form markets for the enterprises of central Europe. The northern Finland might for example export bio-dynamic products to the more polluted central Europe.

In the field of tourism the markets could also be redivided within the framework of limited cooperation. The Calotte region is ecologically too fragile to cope with massive tourism; unlimited tourism might destroy the whole region. Specialized tourism and regionally concentrated marketing, however, might lay the ground for sustainable tourism. This could be realized by regional cooperation.

Regional cooperation also includes possibilities to support internationalization in the field of education. Common education strengthens the feeling of regional togetherness and increases mutual understanding and knowledge among the cooperating regions. Regional educational cooperation would encompass the whole community. In all levels of education it is possible to agree on exchange allocations so as to create possibilities for studying abroad. Training courses can be organized for entrepreneurs, employees, civil servants, agricultural producers etc. The various member regions could take turns in organizing the courses. Simultaneously, knowledge and awareness of the partners' needs and offerings can be obtained.

Regional cooperation should even include the level of finance so that the resources invested in cooperation are primarily raised from the region itself in order to avoid the steering effect of the centers. Developing cooperation of a new kind is not, however, a simple task. In addition to contradictions between centers and peripheries there also exist contradictions between various peripheral regions. As for international networks in northern Finland, there is easily perceivable tension between the provinces of Oulu and Lapland about the leadership in the Calotte region cooperation. In addition to their capitals, Oulu and Rovaniemi respectively, Swedish and Norwegian cities are surely also willing to achieve the status of the center of the area. International cooperation of regions however presupposes overcoming internal disputes. Disintegrated, the North Calotte area is easily peripherized into a position of a producer of raw materials, like timber and agricultural products, and leisure time activities to fulfil the needs of central Europe. In this aspect the regional cooperation involves dangers which are familiar from unified states and traditional state-centered international system.

The integrating western Europe offers a way out of state regional policy thus creating possibilities for independent regional policy where the regions, according to their own resources and decisions, create their own future in the system of interdepending world society. One has to bear in mind, however that the new system will only be born with the help of state power. Without regional education system the regions will not acquire the expertise necessary for new international cooperation. Similarly, direct contacts between regions require infrastructure which makes direct connections economical.

The present state policy in Finland indicates that the unified state has already begun fighting against the change. The state still is the financier and constructor of various essential prerequisites. At present, in the midst of recession the state cuts down its expenditures and justifies all its actions by the financial situation. Research institutes, university departments and even complete faculties are planned to be closed. This development may easily centralize the education, which renders it impossible to train people with versatile and relevant expertise for the needs of the regions. In this respect, the centralization of the educational system is not only a financial decision but also a political one. Centralized education strengthens the status of the centers.

The same problems are visible in the case of infrastructure, the disintegrated construction of which is badly affected by the recession. Financial arguments are handy for reasoning why airports are not built in peripheral regions or why the development of information services is slowed down. National interests in the traditional sense are best served by concentrating on developing the centers. It is just in order to avoid pitfalls like these that conscious policy for promoting the regional interests is needed.

The Arctic Cooperation Area

When considering the possibilities for independent regional policy in the North Calotte within the integrating Europe, the area should not only be viewed as an independent entity. Its position in European cooperation is strengthened by the Arctic dimension. The Calotte area can be a bridge or an intersection between Europe and the Arctic. These intersection areas have historically had a tendency to change from peripheries into centers. The role of a bridge might also increase the weight of the Calotte with regard to Europe.

I would like to put forward a vision of utopia. It may not necessarily come true but outlining it might strengthen the identity of the North Calotte and provide an alternative where the Calotte can act as an independent subject in the international community. One element of the alternative is independent Calotte area which would take the historical rights of the native peoples into consideration. The other element is the Arctic Cooperation Area (for more information see Heininen & Käkönen 1992), whose members would consist of areas separated from the existing unified states.² The primary function of this vision is to point out new possibilities and to indicate that structures which are believed to be eternal and never-changing truths can in fact be altered. If nothing else, this may improve the bargaining position of peripheries; at best it may even lead to new state formations and their cooperation.

In addition to the North Calotte, which would also encompass the Kola region, for example Komi, Greenland, Nunavut and a loose alliance of Siberian small nations are potential independent communities in the Arctic. Their cooperation area would control a large part of the future gas and oil resources. It also has uranium and other minerals which have not been exploited this far. The North-East Passage, which most likely will in the future be the main sea route between Europe and Japan and other economic powers in Asia and the Pacific, runs through the area. Unless the international community or its members resort to force, as in the case of Yugoslavia, the aspirations may well bring about rapid changes in political and economic geography.

In such case the Republic of North Calotte might be an important actor in the international community. It has exploitable gas and oil resources. The most serious obstacle for exploitation still is the fragility of the Arctic nature. The to-be state of the North Calotte presently has maybe world's second largest naval force, not to mention that it is armed with strategic nuclear missiles. The Calotte air force would also belong to the top ten, not only quantitatively but largely also qualitatively. Keeping these aspects in mind, one can conclude that detachment from traditional state philosophy might easily turn traditional power relations upside down.

The reversal of the traditional point of view leads to questioning why would it be in the interests of the Calotte region, for example, to act in the framework of a traditional unified state. One might answer that it is sensible at least in order to avoid conflicts like in Yugoslavia. This may be the case, because the centers are not ready to give up any of the benefits the unified state system has brought

² In August 1992 six American political geographers indicated that in 10 - 20 years there will be several new states in the Arctic rim. These states were supposed to form an Arctic Confederation. This vision goes even further than the vision of Arctic Cooperating Region.

them ever since the 15th century. On the other hand one may ask how long the unified state can answer to the changes by using military force. The Soviet Union could not prevent its disintegration, and it does not seem probable that Russia can do that either. It does not have preconditions for using force as long as it needs western aid. But does this reasoning apply for democratic and modern western states as well? Can the rules of the game continue to change as peacefully as the Cold War system was dismantled?

The questions are hard to answer. But even if the final results are unknown, there is no need for hold to the structures created by unified states. National structures and the whole international system is undergoing a more profound change than just the end of the Cold War and thus the end of one social experiment and the resulted westernization. The end of history as predicted by Fukuyama is obviously not too close. The Cold War paralyzed the constant change of social systems also in the West. Peripheries like the North Calotte therefore now face completely new opportunities.

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Some Observations on the International Regulation of Offshore Mineral Activities in the Arctic

Kari Hakapää

1. Factual and legal developments

Offshore mineral activities are of a rather late origin. Earliest oil-drilling seems to have taken place at the end of the 19th century, but commercial production, in its proper sense, was not initiated until the 1940 's¹. As new technology was developed, offshore oil, however, soon grew an internationally important energy source. At the end of the 1980's, about one-fourth of the world's oil production and about one-seventh of the natural gas production originated from the sea-bed².

The most important drilling sites locate in the Persian (Arabian) and Mexican Gulfs, in the North Sea and the waters of the Far East. Recently, there has also been growing interest in mineral

¹ In shallow inland waters, like Lake Maracaibo in Venezuela, production started somewhat earlier. See [Hakapää \(I\)](#) p. 55.

² See [Ocean Yearbook 9](#), pp. 504, 507.

activities in the Arctic waters. For some time, drilling has been under way off the Alaskan coast, and exploratory activities have also been conducted in the Barents Sea.

Available information indicates that rich deposits have been located especially in the Russian part of the Barents Sea, while the Norwegian state oil company - Statoil - has also given promising estimates of the presence of oil elsewhere in the area. The largest deposits presently known locate in the oil and gas fields off the Novaya Zemlya³.

Traditional law of the sea hardly recognized sea-bed activities. The bottom of the territorial waters⁴ was - as it still is – part of the coastal domain. Other states and their nationals had no access thereto without a coastal consent. Beyond the territorial waters, sea-bed could be equated with the water column of the high seas as an area accessible to all states and their nationals⁵. As, however, the depth of the high of the high seas effectively prevented sea-bed activities, there was little need for their regulation.

Considerable developments have since taken place both in sea-bed technology and in the international law of the sea. As ever deeper depths were reached by human activities, the previous "vacuum" in sea-bed regulation started to fill up. A forerunner of later developments was the Truman declaration of 1945 in which the United States claimed sovereignty over the natural resources of the continental shelf adjacent to the areas of its territorial sea⁶. Thereafter it was, in particular, several Latin American states that presented comprehensive claims for the exercise of coastal protection and control not only over the continental shelf but also over waters of large sea areas extending up to 200 nautical miles from the coast.

As to the sea bottom, state practice soon confirmed such claims. At the First United Nations Conference on the Law of the Sea, in Geneva in 1958, the thesis of a coastal state's sovereign rights over the natural resources of its continental shelf was embodied in one of the resultant Conventions⁷, and in 1969 it was also declared customary law by the (UN) International Court of Justice in the North Sea Continental Shelf cases.⁸

The determination of the maximum breadth of the continental shelf, however, caused some difficulty. Continental shelf was distinguished from the geographical concept of the shelf denoting "the zone around the continent extending from the low water line to the depth at which there is usually a marked increase of declivity to greater depth".⁹ According to the 1958 Continental Shelf Convention, the legal continental shelf extends "outside the area of the territorial sea, to a depth of 200 meters or, beyond that limit, to where the depth of the superjacent waters admits of the exploitation of the natural resources of the said areas".¹⁰

³ See Brubaxer pp. 1-15.

⁴ "Territorial waters" denotes here the maritime zones of "internal waters" and the "territorial sea" combined.

⁵ In fact, some suggested it to be *res nullius* subject to appropriation by states. See Hakapää (I) p. 281.

⁶ Presidential Proclamation No. 2667, Concerning United States with Respect to the Natural Resources and Sea-Bed of the Continental Shelf of 28 September in UN Legislative Series, ST/LEG/SER .B/ 1, p. 38 .

⁷ Convention on the Continental Shelf, SopS 6-7/1965.

⁸ ICJ Reports 1969, p. 3.

⁹ Friedmann p. 10, quoting a definition by a group of geologists who assembled in 1969 in Rome for a symposium on the "International Regime of the Seabed" (Accademia Nazionale dei Lincei: The Symposium on the International Regime of the Sea-bed, Rome 1970). See Hakapää (I ■) p. 275.

¹⁰ Article 1

Thus the 1958 Convention (which is still formally in force) provides for a combination of a depth limit and a test of the exploitability of the sea-bed resources, for the determination of a coastal state's continental shelf. The obvious weakness of this definition is the "exploitability criterion": although not intended- to authorize complete "partition" of the ocean-bed by coastal states,¹¹ it left the international community uncertain about the exact geographical limit of coastal jurisdiction in sea-bed areas.

In the more recent UN Law of the Sea Convention of 1982,¹² the exploitability test has been abandoned. Instead, as the main rule, the continental shelf has been equated with the reach of the new exclusive economic zone sanctioned by the Convention. Accordingly, the continental shelf may (whether or not forming part of an exclusive economic zone,¹³ and the zonal rights of the other states in the area permitting) extend to 200 nautical miles. The shelf may, however, also reach beyond the 200-mile limit where the so-called geographical continental margin¹⁴ extends beyond that distance. In such cases, the legal continental shelf would extend to the outer edge of the margin, to be determined in accordance with specific criteria laid down in the Convention, and subject to certain maximum limits specified for the purpose.¹⁵

Beyond the continental shelf opens the deep sea-bed. In the latest (Third) UN Law of the Sea Conference (1973-82), regulation of mineral activities in this area proved of particular difficulty. While previously remaining beyond human access, the deep seabed was brought to international attention by discovery of its mineral wealth: the masses of the so-called mineral nodules lying on the deep ocean floor.

At the UN Conference, the main battle on this issue was fought between the developing states insisting on the elaboration of an internationally administered system of exploitation, and the bulk of industrialized states persistent on securing more freedom of national access to the sea - bed resources.

In the end, the position of the developing states prevailed with the result that certain leading industrialized states - the United States, Great Britain and the Federal Republic of Germany¹⁶ - never signed the Convention, and still remain opposed to its deep sea - bed provisions. Under the circumstances, also other industrialized states have refrained from ratifying the Convention which has not yet entered into force.¹⁷ Apart from the deep sea-bed dilemma, the document has met with

¹¹ See Hakapää (II) p.49.

¹² The United Nations Convention on the Law of the Sea, as reproduced e . g . in *The Law of the Sea: United Nations Convention on the Law of the Sea with Index and Final Act of the Third United Nations Conference on the Law of the Sea*. United Nations, New York 1983. United Nations Publications, Sales No. E.83.V.5; 21 ILM 1982, p. 1261.

¹³ While the rights of a coastal state over the continental shelf do not depend on any act of occupation or any express proclamation, it would seem that an exclusive economic zone may not exist ipso facto but requires some manifestation of coastal will. See Hakapää (I) p. 239.

¹⁴ in geographical description, the "continental margin" is composed of three consecutive "zones": the continental shelf, the continental slope and the continental rise beyond which lies the deep ocean-floor (the abyssal plain).

¹⁵ The convention will enter into force "12 months after the date of deposit of the sixtieth instrument of ratification or accession" (Article 308 (1)). As of the end of April 1993, there were 55 ratifications or accessions. Time-consuming discussions have been under way – so far without success – to settle the deep sea-bed issue.

¹⁶ It may be noted that the former German Democratic Republic signed the Convention.

¹⁷ The Convention will enter into force "12 months after the date of deposit of the sixtieth instrument of ratification or accession" (Article 308 (1)). As of the end of April 1993, there were 55 ratifications or accessions

general acceptance, and to a large extent may be found today to pronounce rules of customary law. Among other things, this applies to the concepts of the Continental shelf and the exclusive economic zone. However, all the details of the two regimes may not, as yet, have gained the status of customary law.

Both the 1958 Conventions and the 1982 Convention (which upon its entry into force will prevail over the 1958 regime) are of a global nature covering sea areas in any part of the world. As such, they are also applicable to Arctic waters. As specifically regards the 1958 Shelf Convention, its parties include all the Arctic states except Iceland. In the case of the 1982 Convention, the opposite applies: of the Arctic states only, Iceland has ratified it. This is not, however, to result from problems of offshore activities on the continental shelf but from those relating to the exploration and exploitation of the deep sea-bed resources. In fact, the Arctic states seem quite prepared to adjust their offshore activities according to the provisions of the 1982 Convention.

2. Coastal resource jurisdiction

The zonal approach of the "new" law of the sea has notably modified the jurisdictional pattern of marine activities. Some eighty states have so far established an exclusive economic zone, where - according to the 1982 Convention - they are entitled i.a. to exercise "sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the sea-bed and of the sea-bed and its subsoil".¹⁸ Some others - like Finland - have not established economic zones but have a fishery zone of exclusive fishing rights which, in combination with the coastal state's rights over its continental shelf, comes close to the economic zone arrangement.¹⁹

The zonal developments have also reached the Arctic waters where much of what was earlier high seas is now within the zonal regimes of the coastal states. Furthermore, the Siberian coast, in particular, features an extensive continental margin, readily to justify the extension of the coastal state's resource jurisdiction in accordance with the 1982 Convention.

The jurisdictional regime of offshore activities under the new law of the sea strongly favors the coastal state. Resource activities in the economic zone or on the continental shelf may only be conducted with its consent. Even if the coastal state were not willing - or able - to undertake resource activities of its own, it assumes the power to exclude others from doing so. In this respect, however, certain efforts are taken in the 1982 Convention to guard the interests of such states - land-locked and others - that are geographically disadvantaged in their enjoyment of the various uses of the sea. Upon protracted negotiations, the "land-locked and geographically disadvantaged states" (LL-GD states) were admitted a qualified right to participate in the exploitation of the surplus of fish in a foreign economic zone. However, as the availability of such a surplus is left to the coastal state to determine, the right awarded may remain of a symbolic value only.²⁰

¹⁸ see Article 56 (1a). Note also that according to Article 81,

¹⁹ in Finland possible establishment of an exclusive economic zone is presently under consideration by a governmental working group. P'/t/ne coastal State snail have the exclusive right to authorize and I regulate drilling on the continental shelf for all purposes".

²⁰ See Articles 69-7 2.

In the case of sea-bed activities, the efforts of the LL-GD states proved even less successful. The coastal states were not prepared to admit any right of outside participation in the sea-bed activities off their coasts. Accordingly, the 1982 Convention contains no provision to that effect but it is fully at the discretion of the coastal state e.g. to let a foreign company drill oil in its economic zone. Likewise, in the Arctic scene, offshore activities in the coastal zones are subject to coastal consent.

On the other hand, even if extensive, the coastal jurisdiction in the exclusive economic zone is not all-exhaustive as foreign shipping continues to enjoy a freedom of navigation similar (although not quite identical) to that of the high seas. It is also provided in the 1982 Convention that if a state has a continental shelf extending beyond the 200-nautical-mile limit it has to make "payments or contributions in kind" in respect of the exploitation of the non-living resources of this extended part of its shelf.²¹ Such payments or contributions shall be made annually - according to a fixed scale of rates - after the first five years of production at the site. With a view to the concerns of the developing LL-GD states, the Convention determines the payments or contributions to be distributed to the parties of the Convention "on the basis of equitable sharing criteria, taking into account the interests and needs of developing states, particularly the least developed and the land-locked among them".²²

3. The Svalbard case

In the arctic waters, a special regime already of some duration applies to the Svalbard (Spitsbergen) Islands in the Barents Sea. In 1920, a Treaty was concluded on the legal status of Svalbard,²³ having presently as parties such interested states as the territorial state, Norway, the United States, the Russian Federation (as successor to the Soviet Union, Great Britain, France, Denmark, Sweden and Finland. What is particularly interesting in this Treaty is that, while it determines Svalbard to fall under Norwegian sovereignty, it also proclaims it to be open, on equal basis, to the economic activities of all the contracting parties. Such economic access is further specified to cover both the Svalbard land area and its territorial waters. Accordingly, any party to the Treaty is entitled, for instance, to take up mining activities in the islands or oil drilling in their territorial waters (although certain power to regulate such measures - with equal effect on all the parties - is vested with Norway).

Different interpretations have been presented of these provisions by the former Soviet Union, on the one hand, and Norway, on the other hand.

The Soviet view (which may have support in the current Russian thinking, as well) considered the Svalbard continental shelf a part of the Treaty regime. According to the Soviet interpretation, the economic rights afforded to the parties of the Treaty should also apply to continental shelf (or, apparently, even to other similar zonal arrangements in the area²⁴). The argument would seem to

²¹ See Article 82.

²² Article 82 (4).

²³ SopS 15/1925. See also Ostreng pp. 150-154; Broms.

²⁴ Norway has established in the area a fishery protection zone but not a full-fledged exclusive economic zone. According to Ostreng, p. 151, "the zone is non-discriminatory in the sense that foreign fishermen are allowed to fish there provided they comply with the regulatory measures enacted and the catch quotas agreed upon". The Soviet Union refused to recognize the legal validity of the zone. Ibi

call for a recognition of the intervening developments in the law of the sea: while continental shelf, as a legal concept, was unknown to the drafters of the Svalbard Treaty, it is now a well-established element of the coastal state's zonal jurisdiction and should be taken into account even in the application of earlier regulations.

The Norwegian position, on the contrary, insists on a literal reading of the 1920 Treaty. The Norwegians point out that the Treaty speaks solely of land territory and territorial waters: no reference is made to areas beyond the Svalbard territorial waters. The right of economic access provided for in the Treaty does not extend to such areas but resource activities on the Svalbard continental shelf are exclusively subject to Norwegian jurisdiction.

It may be submitted that -the Soviet position stretched too far not only the intention of 'the drafters of the 1920 Treaty but also the very effect of a treaty obligation. The relevant formulation of the Svalbard Treaty is straightforward: it refers only to territorial waters and not to any other sea areas. Conceptually, there is no way to equate "territorial waters" with the "continental shelf". They mark different maritime zones and different jurisdictional powers. To link the one with the other, in the way suggested by the former Soviet Union, would seem to require an amendment to the Treaty (or at least the acceptance of the territorial state, Norway).

4. Jurisdiction over installations and structures

Employment of marine based installations and structures constitute an integral part of offshore resource activities. The coastal state's jurisdiction extends to the installations and structures whose construction and use in the economic zone or on the continental shelf is subject to coastal consent. The 1982 Convention awards the coastal state "exclusive jurisdiction" over such installations and structures "including jurisdiction with regard to customs, fiscal, health, safety and immigration laws and regulations"²⁵. This confirms that the coastal state is not only entitled to exclude other states and their nationals from its economic zone or continental shelf, but it is also free to set virtually whatever conditions it wishes on the conduct of the suggested activities, if permitted.

It may be questioned whether the coastal jurisdiction extend even to such internal " housekeeping " of a drilling craft that would not have any effects beyond the craft. The overruling principle of exclusive coastal jurisdiction would, however, make it difficult to avert coastal intervention even in such cases. On the other hand, certain qualification is imposed by the 1982 Convention on the construction and use of offshore installations and structures whether operated by coastal or foreign subjects. It is provided that due notice must be given of their construction, and permanent means must be maintained for giving warning of the presence of the installations and structures in the offshore areas.²⁶ As the main rule, abandoned and disused installations and structures shall be removed "to ensure safety of navigation".²⁷ Safety zones may be established by the coastal states around the installations and structures to ensure their safety as well as that of navigation. It would seem that ships in transit could be totally excluded from such zones.²⁸

²⁵ Article 60 (2), in reference also to Article 80.

²⁶ Article 60 (3).

²⁷ Ibid.

²⁸ Article 60 (4-6). However, interference may not be caused by installations or structures "to the use of recognized sea lanes essential to international navigation". Ibid . para.

5. Environmental protection

One of the main concerns of offshore resource activities relates to their environmental effects. While operational discharges are frequent, the most visible damage has been caused by "blow-outs" here masses of oil have gushed to sea in drilling accidents. Examples of such incidents include the Santa Barbara blow-out off the Californian coast in 1969, the Ekofisk accident in the Norwegian sector of the North Sea in 1977, and the most extensive spillage so far, resulting from a blow-out in the Gulf of Mexico in 1979 . Past years have also revealed a new risk for offshore activities: in armed conflicts drilling craft have been attacked with the result of extensive damage caused by the released oil. During the Iran-Iraq war in the 1980's, Iraq bombed drilling platforms in the Persian Gulf, and in the more recent Gulf war, oil wells in Kuwait were exploded by the Iraqi forces.

In general, however, it would seem that offshore oil has not emerged as a principal source of marine pollution. Regarding the intensity of oil drilling in different parts of the world, serious accidents have occurred quite rarely. Yet, the risk for a massive oil spill is constantly present, and not least felt in the Arctic waters where the marine environment is particularly sensitive to harmful releases. It is well known that in cold climatic conditions the biochemical decomposition of oil in water (or on ice) is notably slow, and consequently oil released to sea may persist in the water for long periods of time.

In international law, protection of the marine environment against any type of pollution basically takes a two-fold appearance. On the one hand, there are the general principles of state responsibility applicable to the infliction of environmental harm, and, on the other hand, there are rules of more specific content dealing with the respective sources of pollution.

The core of a state's environmental responsibility lies in the command for all states to prevent the spread of pollution beyond the limits of the areas, under their jurisdiction. This rule is pronounced, for instance, in the 1982 Convention on the Law of the Sea, although its exact formulation remains subject to interpretation. What is clear is that the postulate does not only state a prohibition for the governments themselves to refrain from polluting activities but also an obligation for them to exercise due diligence in the control of any activities within their jurisdiction.

Apart from the basic rules of environmental responsibility, the 1982 Convention - like many regional agreements - contains various provisions on the co-operation of states in pollution abatement, monitoring activities, preparation of contingency plans and environmental impact assessments etc . which may all' apply also to offshore activities, including those conducted in Arctic waters.

More particular rules of a multilateral application to offshore pollution have, however, been slow to materialize. The; conventional regimes of 1958 and 1982 contain only general provisions on the environmental control of offshore activities. For instance, the 1982 Convention essentially confines itself to providing that further rules in the field shall be established by states in the future.

A few agreements address offshore activities in more detail. In particular, offshore pollution is covered by the 1974 Paris Convention on land-based pollution applying to the North-East Atlantic

(including the Barents Sea).²⁹ A new Convention, not yet in force, was adopted in 1992 to replace the Paris Convention (as well as the Oslo Dumping Convention of 1972³⁰), including an Annex on "the prevention and elimination of pollution from offshore sources".³¹ Also the 1973/78 MARPOL regime on vessel-source pollution³² applies to drilling platforms but only as far as "ship-like" releases, such as discharge of balast and bilge waters but not actual drilling spills, are concerned. Bilateral agreements have been concluded, for instance, between Norway and Great Britain as regards drilling activities in the North Sea. Moreover, the subject of offshore pollution has been studied under the United Nations Environment Programme (UNEP) with a number of conclusions presented in 1981.

Some regimes have also been established to regulate the liability to result from damage caused by offshore activities. In 1976 a Convention was adopted by states in the North Sea area providing for the offshore operator's objective (non-fault) liability to pay compensation for pollution damage caused by the use of an oil platform or similar installation.³³ The Convention did not, however, raise adequate support and has failed to enter into force. Instead, a private agreement between a number of oil companies has been available for the settlement of liability issues in relation to offshore activities.³⁴

As a whole, the environmental effects of offshore activities have invited fairly little international regulation. This also concerns the Arctic waters which, in spite of their environmental vulnerability, have been usually dealt with in no distinction with other sea areas. International attention was, however, effectively drawn to Arctic concerns by the Canadian legislation, in 1970, to establish a 100-nautical mile pollution protection zone off the country's coasts north of the 60th parallel.³⁵ In the zone, Canada claimed the right to impose special environmental requirements on foreign shipping. While the Canadian measure was first met with international objections labelling it a flagrant violation of the established freedoms of the high seas, it has since been recognized by the 1982 Law of the Sea Convention which contains a provision (Article 234) granting coastal states wide powers to control vessel-source pollution within the limits of their Arctic economic zones.

As indicated, control of offshore activities has more typically fallen subject to coastal jurisdiction which also tends to emphasize the role of national (and bilateral) regulation in the field of environmental protection. Moreover, traditional notions of national sovereignty may have deterred coastal states from entering far-reaching international arrangements on offshore (as well as land-based) pollution.

²⁹ Convention for the Prevention of Marine Pollution from Land-based Sources, see 13 ILM 1974, p. 352. (amendments).

³⁰ Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft, SopS 35-36/1979 (amendments).

³¹ Convention for the Protection of the Marine Environment of the North-East Atlantic, see 32 ILM 1 993, s. 1 069 ; in general, Hey, IJlstra & Nollkaemper.

³² Protocol Relating to the International Convention for the Prevention of Pollution from Ships, SopS 51/1983 (amendments)

³³ Convention on Civil Liability for Oil Pollution Damage resulting from Exploration for and Exploitation of Seabed Mineral Resources, see 16 ILM 1977, p. 1451.

³⁴ Offshore Pollution Liability Agreement (OPOL), see 13 ILM 1974, p. 1409 (amendments).

³⁵ Arctic Waters Pollution Prevention Act, 18-19 Eliz. II, c. 47 (1969-70), R.S.C., 1970, c. 2 (1st Supo.); also Hakapää (I) pp. 215— 2 29.

Recently, further concerns have been voiced for the protection of the Arctic environment. This has been the case, in particular, within the so-called Rovaniemi process initiated by the Government of Finland some years ago. The Arctic Environmental Protection Strategy adopted in 1991³⁶ sets out an action program including measures to protect the Arctic marine environment. In the forthcoming work of the process, prevention of pollution resulting from offshore activities should obviously have a prominent place.

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Abbreviations

ICJ = International Court of Justice

ILM = International Legal Materials

SopS = Suomen säädöskokoelman (asetuskokoelman) sopimussarja

(Finnish Treaty Series)

UN - United Nations

³⁶ See 30 ILM 1991, p. 1624.

The Arctic Today: New Thinking, New Visions, Old Power Structures”

Sanjay Chaturvedi

Introduction

Throughout the Cold War, discourses on national security, Arctic Rim States being no exception, were obsessed by and large with the threat of military aggressions across borders and equally convinced about the success of the military means to meet such threats. In the perceived anarchy of international politics, Realism dominated understanding of national interests (understood in terms of power) was intimately related to the concept of security, which in turn was understood in the sense of preventing the potential adversary from invading one's (territorially understood) space. Security so defined became primarily and exclusively the concern for States and their strategic communities and was largely pursued through military alliances.

Once subjected to the Cold War geopolitical discourse of mutual suspicion, rivalry, ceaseless pursuit of power politics and deterrence, the Arctic was to experience an unprecedented militarization and nuclearization. After the doldrums of the post-war period, when the Arctic appeared as though frozen into Cold War psychosis, from the mid-1980s new thinking has begun

to move policy makers in the Arctic Rim States in a more humanist direction. This new thinking is based upon the premise that ideologies, organizations and systems must never be regarded as being autonomous and independent of human beings themselves, especially the indigenous peoples, for whom the Arctic is their homeland. Moreover, the arrogance of having 'conquered' the nature must now be humbled by an acknowledgement of the finite capacity of natural environment to endure and assimilate human-induced changes. In other words, it calls for a multifaceted and multidimensional definition of security in which socio-economic and environmental components share a place with political and military ones (Barnett1986).

That said, it is equally difficult to deny that whereas the old geopolitical 'order' created by the Cold War -characterized by a 'stability' that was based on a very strict adherence to an antagonistic alliance system' (Taylor 1993: 38)- is on the decline, the new one is yet to emerge in concrete terms. What we witness in other words is a geopolitical transition. The question then becomes, whether, despite quite obvious perceptual and behavioural indicators of change in the post-Cold War Arctic, the old power structures, attitudes and patterns of behaviour still remain embedded. In other words, is there still an opposition to meaningful change in the Arctic from both East and West? Transition is apparent, but will uncertainty be the major feature of the geopolitical and geostrategic landscape of the Arctic in the years to come?

The paper is organized into four broad parts. Since my approach in this paper is inspired by critical geopolitics, part one briefly outlines the key assumptions and arguments of the latter. Part two critically examines the nature of the Cold War geopolitical discourse and its implications for the Arctic in general, and the Barents Region in particular. Whereas part three highlights the nature and scope of new thinking in geopolitics and international relations, part four examines its promise and future prospects in regard to the matters Arctic.

Critical Geopolitics: Challenging the Discourse of the 'Other'

Ever since first coined by the Swedish Political Scientist Rudolf Kjellen in 1889 (Holdar 1992: 319), the term geopolitics has been used and abused in a variety of contexts (Osterud 1988; Brunn and Mingst 1985). In recent times, however, its use has varied from being employed as an aid to statecraft (for example, Gray, 1976; 1977; 1979; 1988 and other members of the "Committee on the Present Danger") to the creation of critical works (Dalby 1988; 1989; 1991; 1992; O' Tuathail 1989; O' Tuathail and Agnew 1992; Dodds 1993; Ashley 1987; Shapiro; Der Derian and Shapiro 1989) which aim at exposing the constructed nature of geopolitical 'orders'. The latter, often drawing on insights from poststructuralism (Sharp 1994: 492; Macdonell1986) challenge the sort of naive realism or crude reductionism that characterized Cold War American geopolitics. As Dodds puts it,

Perhaps one of the most important steps critical geopolitics has taken has been to challenge the epistemological foundations for that realist drama. Instead of seeing the realist stage as pre-discursive being, recent writers have sought to show how this stage was (is) constituted by dimensions other than some external anarchy. One of the most important elements of critical geopolitics has been to suggest that the relationship between writing and reality is far more problematic than geopolitical and realist writers allowed. By redefining geopolitics as a discursive practice, recent writers have sought to draw attention to how language and rhetoric engage in the construction of 'worlds' or

'dramas'. By drawing upon French theorist such as Foucault and/or literary theory, critical geopolitics has attempted to highlight how geopolitics as a form of knowledge has been constituted and how authorial (or individual) statements are a part of a wider regularizing collectivity called a discourse (1993: 363)

Discourses can be conceptualized sets of socio-cultural resources used by people in the construction of meaning about their world and activities (O' Tuathail and Agnew 1992: 192). In other words discourse is a set of rules or perspectives for the acquisition and organization of knowledge with its own dominant metaphors that facilitate further knowledge and insights, but simultaneously limit it (Barnes and Duncan 1992: 8). In a broad general sense, a discourse constitutes the limits within which ideas and practices are considered to be natural; that is they set the bounds on what questions are considered relevant or even intelligible. Discourses, therefore, are practices of significance, thereby providing a framework for understanding the world. As such, discourses are both enabling as well as constraining, since they determine answers to questions, as well as the questions that can be asked. Finally, discourses are not static but constantly mutating; being modified through human practices.

The texts of geopolitical discourse, it should be noted, are not free-floating, innocent contributions to an 'objective' knowledge, but are rooted in 'power/knowledge' serving the interests of particular groups in society and helping to sustain and legitimate certain perspectives and interpretations. As O' Tuathail and Agnew put it, "The study of geopolitics in discursive terms, therefore, is the study of the socio-cultural resources and rules by which geographies of international politics get written. Correspondingly,

The challenge for the student of geopolitics is to understand how geographical knowledge is transformed into the reductive geopolitical reasoning of intellectuals of statecraft [a whole community of state bureaucrats, leaders, foreign-policy experts and advisors who comment upon, influence and conduct the activities of statecraft]. How are places reduced to security commodities, to geographical abstractions which need to 'domesticated', controlled, invaded or bombed rather than understood in their complex reality? (1992: 195)

The Cold War Geopolitical Discourse: Security Through Exclusion, Reductionism and Containment

A detailed analysis of a dominant geopolitical discourse of the post second world war period has come from Dalby (1990a). He explains with an exceptional clarity how a group of high profile foreign policy experts in the new right political movement in the USA of the mid-1970s attempted to render their particular set of security discourses hegemonic. While the focus of Dalby's attention is on the structure and practices of discourses as revealed in the writings of the Washington-based, and the so called, Committee on the Present Danger (CPD), he does see those discourses as emerging from the post World War II U.S. global hegemony --economically, politically and militarily. Drawing theoretical inspiration from Agnew and O' Tuathail (1987), he shows how the members of the Committee drew on a series of "Security Discourses", namely sovietology, the realist literature in international relations, nuclear strategy, and geopolitics to ideologically construct the Soviet Union as dangerous "Other" (1988: 415). Each of these discourses reinforced the others and served to perpetuate support for existing institutional

arrangements and the geostrategic practices that led to further militarization of politics in the late 1970s and early 1980s. To quote Dalby,

The discourse of the Other is geopolitical in the sense that it creates an external antagonism in a particular way vis-a-vis domestic political concerns. It is also geopolitical in that it is a particular exercise in geopolitical "scripting" which draws on the traditional texts of Mackinder and Spykman to explicate a particular geography of the Other, a geography which is interpreted in deterministic terms. The discourse of the Other is also geopolitical in the sense that it accepts the reification of political power in the particular relation of the power and space of territorially defined states. The interplay of each of these themes reinforces the whole text of the Other.

In addition to this, each of the security discourses is structured in terms of powerful ideological moves of exclusion...the totalitarian interpretation of sovietology relies on a determinist interpretation of Russian history to preclude the possibility of peaceful coexistence with the Soviet regime. Realism assumes that conflict in pursuit of interest is what is ultimately important in political matters, providing for the deferment of the political objectives of development, environment and justice, giving primacy to "power politics". Strategy moves consideration of security out of the realm of politics to technical considerations of weaponry and scenarios for their use. Geopolitics reduces matters to the military control of territory and operates to reduce political matters to zero sum game between the superpowers squeezing out the concerns and aspirations of the peoples whose territory becomes a section of cartographic space in which each superpower's "projected power" seeks spatially to contain that of the other. (1988: 423)

Cast in such excessively narrow terms of the nation-state paradigm, the drama of national security focused on the construction of identities 'under threat' (who or what identity is being threatened by whom or what) and prescribing the ways and means of providing protection against such threats to 'territorial integrity' and 'social order'. Correspondingly, a case was prepared and prescribed for spatial containment of the 'otherness' and for its eventual reduction to an extension of the 'sameness'. This way alone, it was thought, security could be granted through a rigorous implementation of strategies of deterrence that would also eventually ensure reduction of difference: by making 'their' space look just like 'ours' (Dalby 1990: 172).

It is important to bear in mind that such geopolitical discourses do not remain confined to the elite geopolitical texts, they also get interpreted in the terms of popular culture through media, thereby contributing to the proliferation and perpetuation of enemy images across wide spectrum of society. Sharp has shown, through his critical examination of the American edition of the popular magazine the *Reader's Digest* (1993: 496), how 'the Self-Other dualism of the USA-USSR structured all articles concerning the former Soviet Union in the period 1980-1990, so that 'a description of events in, or characteristics of, the USSR (totalitarianism, expansionism and so one) automatically implies that the opposite applies to the US (in this case: democracy, freedom...). The Soviet Union becomes a negative space into which *The Reader's Digest* projects all those values which are antithetical to its own ('American') values' (Ibid.).

As we would observe below, the implications of adopting such a narrow and reductionist geostrategic approach to the question of security do not remain confined to the domain of military.

They lead to what Østreng calls, the 'formation of a fully integrated, multi-dimensional security policy line where the boundaries between military and non-military issues nearly disappeared' (1992:14). Worst of all, such a narrow view of security, in the name of the so called 'national interests', makes it extremely difficult to resolve the conflict between the 'unified state actors' and 'civil society based actors' (Käkönen 1994).

Arctic in the Cold War Psychosis

Once subjected to the hegemonic conflict between the two superpowers, hooked on to the Cold War geopolitical discourse and entangled in its containment militarism the Arctic were to experience an unprecedented militarization and nuclearization. Its physical as well as human geography came to be dominated by a militarized geography; characterized by confrontation, arms race, divided security and conflict lines. Correspondingly, various features of its physical environment were perceived as strategically significant, in the sense of being 'likely to be involved in a major way in an armed conflict between the great powers' (Jalonen 1988: 157). The Barents Sea was seen to be the most strategic in the entire Arctic region by both the sides.

The Second Cold War of early 1980s was characterized both by a much more aggressive containment policy and by a renaissance of geopolitics as the guiding principle of U.S. strategy. In a sharp contrast to the previous period of detente (1967- 79), there was a breakdown of attempts to negotiate, and a serious impasse could readily be seen in American-Soviet relations. As Sharp points out, 'in American geopolitics the division between east and west was so ingrained in the structure of world-scale political narratives that it no longer needed explanation. To a majority of the population it had become a matter of 'common sense' that the USA and USSR were polar opposites' (1993: 495).

The Second Cold War pushed the Arctic into its new and highly vigorous phase of militarization. The aggressive maritime thrust of Mahanism was brought back under Regan's containment strategy and rejuvenated with an emphasis on the buildup of a still more powerful naval capability. This coincided well with a new awareness of the traditional geopolitical conception of the United States as an island power that required naval superiority. The role of the Navy as a flexible and effective instrument in protecting the global interests of the United States was brought to the forefront of strategic planning. Even though the northern areas had remained a maritime theatre for the entire post-war period, it was during the early eighties, that the U.S. maritime interests reached a new peak (see Jalonen 1988: 163-64).

Consequently, the Arctic came to be affected increasingly by the more profound High North features of U.S. nuclear strategy, that was driven by the vision of a solid Hemisphere Defence or strategic defence, and backed up by the much publicised new forward Maritime Strategy with its rigorous thrust of deterrence. Together with further Soviet buildup in its vicinity, the Nordic region assumed an unprecedented geostrategic significance in the U.S. calculations. Some of the objectives of the new Maritime Strategy were to emphasize early forward operations in the Norwegian Sea, so as to forestall Soviet advances from the north and thereby also protecting NATO's Atlantic sea lines of communication, put pressure on Soviet strategic submarines and to 'deny the Soviet "blue water" Navy access to open seas' (Tamnes 1991: 296; Tunander 1989: 65-69). By early 1986, the Maritime Strategy had been fully embraced by the U.S. Navy. In this way,

the Arctic was gradually transformed 'from a *military vacuum* prior to World War II, to a *military flank* in the 1950-70 period, and a *military front* in the 1980s' (Østreng 1992: 30).

In retrospect, the most interesting feature of these strategies and counter strategies appears to be that they were formulated in response to hypothetical situations, in anticipation of possibilities that never materialized. Regardless of whether there actually were plans of an armed conflict, or whether it was ever thought to be as necessary or desirable by the two superpowers, the mere fact that threats were being perceived as real and technically possible made them tenable political issues. The Cold War geopolitical discourse with the underlying enemy images also helped remain in business huge military-industrial complexes whose very survival and profits depended upon further perpetuation of imaginary boundaries and threat perceptions -described at great lengths and with a remarkable sophistication in the so called strategic studies.

Even though the Arctic Rim States responded with national variations to the Cold War and its hegemonic discourse -which essentially reflected the combination of their perceived core security problems and the individually specific circumstances of geographic location and national politics— they found it hard, however, to escape the trappings of a conflict in which the two imperial systems were bent upon establishing hegemonies within their respective areas. At the same time, the Cold War created a structure of thought and behaviour which excluded organization of regional co-operation in the Arctic, especially among civil society based actors.

Correspondingly, the meanings of both peace and national security were reduced to their respective bare minimum of absence of conflict and geostrategic deterrence. The potential and promise of co-operative actions at the multinational level were confined by and large to military arena and alliances, barring the period of detente during 1970s, when some convergence of national interests could well be observed beyond the local issue areas. Yet, there is no denying the fact that for most of the Cold War period the Arctic States found little common in their perceived interests and thus felt only marginally motivated to cooperate in the non-military realms, such as science and environmental -protection. Science that could assist military operations in overcoming the restrictiveness of harsh Arctic conditions received top priority in matters of research and funding. Also, given that military is neither much bound to market conditions nor that affected by the social priorities in general, the Arctic came to witness long run capital intensive research projects in certain specific fields such as ice-behaviour and meteorology, couched and conducted in secrecy typical of army operations.

During the Cold War ecological concerns were most conspicuous by either total absence or relative neglect in the definition of national security as well as the policy making calculations of the Arctic States. By mid 1970s, it had become sufficiently obvious that dramatic environmental changes were taking place in some parts of the Arctic. For example, by mid-1980s the scale and extent of ecological disasters in many parts of the former Soviet Union had been exposed publicly in the spirit of openness. It was revealed that gigantic projects had proceeded in Siberia and Far East without any concern for either the environment, or the indigenous peoples whose livelihood could be destroyed by them. Not only had the Khantys and Nenets of Western Siberia, for example, been ousted from their devastated homeland, they had been paid no compensation by the oil and gas industry for this 'development'. Some of the worst industrial damage to nature and native economy had occurred in the tundra, where large areas of reindeer pastures were turned into

wastelands, and the number of reindeer was reduced to a lower level than at any previous time during the 20th century. On Sakhalin Island today more than half of the spawning grounds for Salmon have become too toxic or choked with plant life to return; the timber lumber industry observes no form of reforestation, which has led to widespread desertification in the northern territories of once remote and exceptionally beautiful island; and antediluvian pulp and paper plants continue to release catastrophic levels of dioxin into the island's largest fresh water rivers (Grant 1992: 73).

As the Cold War progressed, the nuclear arms race and the development of nuclear power raised the problem of handling large quantities of RW Radioactive waste (RW). In the highly charged atmosphere of the Cold War, this problem was not given priority and the simplest solution perceived was to dispose of RW directly in the sea (Gizewski 1993-94: 18-21). This was a common practice followed by most countries with developed nuclear industries. It was probably thought that once 'safely' dumped in deep water, far away from the environment of the humans, the wastes would slowly undergo radioactive decay and eventually be rendered harmless. Any leaks, it must have been reasoned, would be diluted into near nothingness by the seemingly limitless waters of the world's oceans. In the scientific evidence that was being collected, garnered or perhaps even manipulated to demonstrate the harmless nature of such activities the elements of uncertainty - which probably far outnumbered those to the contrary- were deliberately downplayed.

Whereas it is equally true that others (USA, Great Britain, Belgium, Germany, Korea, Italy, the Netherlands, New Zealand, France, Switzerland, Sweden) too have disposed their radioactive waste at sea, at one time or the other, the most blatant violations of international law are on the Soviet/Russian account till date. According to the Yablokov report, the Soviet Union dumped 2.5 million curies of radioactive wastes, including 18 nuclear reactors from submarines and an icebreaker. Sixteen of these power plants were cast into the shallow waters of the Kara Sea, six of them heavy with radioactive fuel, turning this Arctic site near major northern fisheries into the world's largest known nuclear dump (*The New York Times* 27 April 1993). This is almost exactly twice the total of 1.24 million curies of radioactive refuse dumped by a dozen odd nuclear States from 1946 to 1982 into the oceans according to the International Atomic Energy Agency.

In a recent report submitted by the 'Government Commission on Matters Related to Radioactive Waste Disposal at Sea' (created by Decree No. 613 of the Russian Federation President, October 24, 1992), entitled "Facts and Problems Related to Radioactive Waste Disposal in Seas Adjacent to the Territory of the Russian Federation" (Yablokov 1993) there are at least some honest confessions. Produced by a team of 46 experts, headed by Dr. Aleksei V. Yablokov, the chief adviser to the Russian President, Boris N. Yelstin, on environmental matters, the report acknowledges that the Russian Navy is still dumping minor amounts of radioactive waste because it lacks processing and storage plants.

An urgent task is the organization of reliable monitoring (observation, tracking and analysis) of the release of radionuclides from dumped SRW. (41)

Since all dumpings of SRW in northern seas (and most dumpings in far eastern seas) were made in gross violation of international standards, and considering their potential radioecological hazard, the only reliable solution to the problem can be to raise large high-

level SRW from shallow disposal sites and reinter it in specially equipped repositories on land. However, this solution must be adopted after comprehensive studies to assess the radiation risk of such SRW dumpings. (Ibid.)

The most unsettling thing about the whole issue, therefore, is the element of uncertainty. As the Yablokov report points out, "as yet, even an approximate estimate of the amount of radioactive contamination that could have have entered the ecosystems of the Barents and Kara Sea has not been made" nor is there any "information on radionuclides that have entered the marine environment due to accidents or disasters" (Yablokov 1993) That noted, the crucial issue remains in that due international attention is given to the radionuclide contamination of the Barents and Kara seas as an ecological problem worthy of most urgent international action. As concluded in a recent study on this problem by Lt. Cdr. J.S. Ash of Royal Navy:

Although measures are in hand in Russia to deal with this situation, the West has an opportunity to demonstrate by example the standards appropriate to collective ecological security. This could be achieved by agreeing to collaborate in the salvage of the largest portion of the source term --the submarine and other marine reactors disposed of with nuclear fuel still on board. Such a scheme could be financed by the Global Environment Facility at the World Bank. Thereafter, the storage on land and inspection of the waste would be the exclusive responsibility of Russia.

Failure to make such a demonstration of intent could easily be interpreted as indifference, or worse, as a tacit acknowledgement that the material disposed of so far have resulted in minimal injury, and that further sea disposal would be both cheap and without political disadvantage. (1994: 47).

The debate that has followed in regard to the potential health risks of radionuclide contamination of the Barents and the Kara Seas, and what, if anything, should be done about it, is likely to grow, and acquire serious political significance, in the times to come. Whereas this episode brings out to the forefront the need for maintaining a clear distinction between the civil security and the military security, it also shows that the two are mutually exclusive in the sense that what is being followed in the name of military security in the short term may eventually go against the civil security. And this is where lies the contradiction in the term 'comprehensive security'.

New Geopolitics and the Arctic

Indeed, new thinking in geopolitics which is developing, in the East and the West, has the potential to penetrate both *below* and *beyond* conventional state-centric preoccupations while addressing the questions relating to ecological and economic security. It poses a direct challenge to the power-politics driven and excessively state-centred geostrategic discourse of the Cold War and its contention that territory and territorial control always necessarily implied more power and capability. A central task of new thinking is to address the question of securing a peaceful, just and environmentally sustainable order at local, regional and global levels through patient negotiations and consent, rather than by domination or use of force. The thrust of new geopolitics is of, and for peace, since it supplants the obsession with national security by the concept of comprehensive security, and stresses that a sustainable and equitable management of space and resources, rather

than their acquisition and physical control holds the key to national power and security in the long run. The task new geopolitics faces therefore lies as much in challenging the hegemonic security discourse as in offering alternative discourses, using ecological themes to rethink security and development.

Today, it is increasingly realized that the definition of security called for is a multifaceted and multidimensional one in which socio-economic and environmental components share a place with political and military ones (Barnett 1986), in which rights and entitlements of individuals, minorities and indigenous communities are respected and concern shown for their psychological, cultural and spiritual values, while not denying to them the access to the means of social and economic development.

As the world becomes more and more interdependent and complex, as transportation and communication innovations promote time-space convergence and allow opportunities for fundamental changes in the ways people perceive, organise and use both physical and human resources (Janelle 1991: 49-50), enlightened self interest demands a shift from the security of the State to the security of the 'people'. This brings us to the domestic aspects of new thinking in the Arctic.

The continuing struggles of the indigenous peoples for grassroot democracy and 'self-government' shows that stable peace as well as comprehensive security for the Arctic can only result from people reaching out to co-operate with one another across political divides, and ability of the domestic politics to create and sustain a civil society. Whatever be their final outcome, these movements offer new perspectives on the issue of sustainable development, constitute a radical critique of the past and present of their dominant societies, and propose some radical alternatives opposing many fundamental features of the modern, western life (Jull 1985: 11).

In the post-Cold War Arctic there are obvious indicators of change in favour of the themes and thrust of new thinking both *below* and *beyond* the nation-state level. In the context of the emerging 'Barents Region', the last ten years have been truly momentous for the Sami divided into four countries: Finland, Norway, Sweden and Russia. Whereas in the Fennoscandian countries, democratically elected representative institutions have been established, and significant steps taken to harmonize Sami policies within the Nordic framework, for the Sami of Kola Peninsula the collapse of the Soviet Union has brought both new opportunities as well as crises. What all the Sami appear to be sharing in common, however, is the persisting uncertainty over their territorial rights and threats to their cultural survival (Beach 1994: 203-205).

There are several other encouraging trends in the Arctic today in support of new thinking. The establishment of the International Arctic Science Committee (IASC) in 1991 to encourage and to facilitate consultation and co-operation among scientific research concerned with the Arctic should go a long way in building the bridges between the scientific communities between the East and the West (Rogne 1993). Since 1991, when the *Arctic Protection Strategy* was agreed upon, considerable progress seems to have been made in the direction of realizing ecological security for the Arctic as a whole (Prokosch 1994: 4-5). It is hoped that the result of this pan-Arctic cooperation shall be that concrete action is taken by several governmental working groups, of which the Arctic Monitoring and Assessment Programme (AMAP) is reported to have achieved the

most so far. A proposal for establishing a Barents Sea International Park has been forwarded by the World Wildlife Fund (WWF) and some other NGOs (*WWF Arctic Bulletin* 1994: 1(1): 17). The objective behind the park, that would extend from the summer limits of Arctic pack-ice in the north to the winter pack-ice limits in the south (including the islands of Svalbard, Bear Island, Frantz Joseph Land, part of Novaja Semlija, and the marine areas surrounding them), is to include both marine and terrestrial ecosystems since they are mutually interdependent.

However, most of these initiatives, based upon new thinking, continue to have serious limitations and are yet to advance beyond declarations and pledgings. This, then, gives some reason for scepticism on account of the continuing resilience of the Arctic Rim States to accept conditions on their sovereignty as well as opposition from what Stokke would term 'the ideological hegemony of economic and security concerns' in the Arctic (Stokke 1992)10). For example, the Canadian NGO proposal for establishing an intergovernmental Arctic Council to promote cooperation in the Circumpolar North has also received a cool reception so far. Under this proposal, the Council could in principle be open to discussions on any topic, including security and sovereignty issues, although negotiations on collective undertakings would be done by consensus. So far, the idea of the Arctic Council has received a cool response from most of the Arctic Rim States, and the U.S. navy is said to be having serious reservations in this regard. The reasons are perhaps quite obvious in that such a transnational institution could pose a direct challenge to those who continue to be the prisoners of the old paradigm of national security and cling to the conventional notion of State sovereignty. Serious differences therefore persist on the need for this body, and what should be included in their discussion and who should be represented. And as far as the idea of Barents Sea Park is concerned, whereas it appears to have gained some support both within Norway and Russia, the Norwegian government's response to the proposal so far has been reported to be both slow and cautious (*WWF Arctic Bulletin* 1994: 17). Given that Svalbard falls within the scope of the Barents Sea Park, Norwegian hesitation is perhaps understandable.

The new thinking in the Arctic has also gone *beyond* the nation-state level, (towards regionalization. Most noteworthy in this respect is the initiative taken by Norway for the realization of Euro-Arctic Barents Cooperation region --comprising the Nordic counties of Nordland, Troms, Finnmark, Norbotten, Lappland, and the Russian counties of Murmansk and Archangel and the Republic of Karelia. It has been described [in terms of its key features] by its architects as,

“a mixture of vision and realpolitik. The vision was of peacepromoting, confidence-building cooperation in the north, to be achieved by linking the northern parts of the Nordic area with northwestern Russia. The realpolitik (meaning a policy aiming at pursuing national interest and firmly anchored in political realities) from a Norwegian perspective consisted of making this multilateral cooperation forum involving other Nordic and European countries.

The Barents cooperation is a true child of the revolution that took place in Europe in 1989 with the abrupt end of the Cold War... In 1992 this was a bold political vision. At that time the Norwegian foreign policy establishment was still influenced by the Cold War thinking, and it would be an exaggeration to say that new ideas were greeted with enthusiasm. Those who were reserved pointed out that the military disarmament on the Continent was not

being followed up on the Kola Peninsula. It was claimed that during its first, bilateral phase, the Barents project constituted a breach of one of the axioms of Norwegian foreign policy: the avoidance of any bilateral arrangement or condominium with the Russians in the North. (Jervell 1994: 6)

The establishment of the Barents cooperation provides a basis for north European dimension to the common foreign and security policy that Nordic countries will encounter as members of the EU. The Barents cooperation could become a northern extension of a Moscow- Brussels dialogue, and could also make a specific contribution to future cooperation based on a partnership agreement between the EU and Russia. It is therefore no coincidence that the European Commission has shown a strong interest in being kept informed of cooperation in the North. It is worth noting here that the Barents cooperation may constitute a model for East-West cooperation at regional level that can be used in other regions crossing the former East/West border. From this point of view the Barents project can be regarded as a laboratory in which to test various cooperation measures, for example in the economic sphere, for subsequent use elsewhere. (Ibid. 11)

Much more innovative in terms of new thinking in geopolitics and international relations, and with tremendous potential for realizing the objective of equitable and sustainable development and management of Arctic environment is, in my view, what Käkönen would describe as 'regionalization from below' with its emphasis on changing the 'essence of politics' and 'creating new forums for politics' (1994: 4). It is important to bear in mind that no far reaching change in the post-Cold War Arctic is likely unless and until the very context of international politics is transformed by bringing into eminence a new category of issues. In other words what is needed first and foremost is the change of the context itself. It is for this reason that the idea of regionalization from below, currently being expressed through the Calotte cooperation, points at new directions that are worthy of serious consideration. According to Käkönen,

Calotte cooperation though started in 1977 in the frames of state centrist Nordic Council represents currently more the interests of the region itself. Therefore this alternative reflects regionalization where civil society is an active actor. This alternative would also change radically structures of the unified states and finally lead to a new international actor in the Northern Europe. Regionalization from below leads to new administrative organizations which will decrease the power of the national capitals in the decision making... In the Calotte area regionalization would transfer the cooperation from the offices of the ministries of foreign affairs into the local level. This reflects the principle of subsidiarity which is adapted by the EC. Regionalization would also strengthen the development of common economy in the Calotte area, i.e. economy for the region itself instead of being a periphery in four different national economies. (1994:12-13).

As noted above, the Cold War with its hegemonic geopolitical discourse did not allow *convergence of interests* to take place among the Arctic Rim States, which in my view is one of the prerequisites for regionalization, along with geographical proximity and significant political-economic interaction (Stokke and Castberg 1992: 21). With the end of the Cold War, however, it has become politically feasible to theorize and practice regionalization at *county* and *municipal* levels in the North Calotte or the Barents area.

Old Power Structures: Legacies of the Old Geopolitics

What we witness today is indeed a time of manifold change. Established structures of international politics are crumbling and collapsing, while within and between nations and group of nations there are tensions between old and new ways of thought and action. Even though there exist very many morbid symptoms in this period of transition, there are sound reasons to hope that new thinking will persist --if not prevail over— with the old while continuing to provide alternative visions. But it is not certain. Given the resilience of the nation-state system, it may well be expected that whereas State-centred geopolitics in practice will continue to respond reactively to various demands arising from environmental change and the increasingly felt need for comprehensive security, traditional methods and tactics will be employed in the pursuit of the so called state interests as much as possible. Also, even during rapid change some things show insistence to change, and among these are the way people as well as the policy makers think. To watch therefore are the morbid symptoms amid hopes in the contemporary situation. Because, if these symptoms multiply out of control, the outcome could well be a perpetuation of the traditional vicious circles of the past. It is to some of these symptoms that I turn next, with the submission that while recording these symptoms it is important to look for the factors and forces that are responsible for their occurrence. Failure to do so can lead to the emergence of new threat perceptions, imaginary boundaries and enemy images at the cost of understanding the complexity of a given situation.

With the demise of the USSR, there is a political power vacuum, from the possible implications of which Arctic related developments are not immune. The rise of the far-right Russian politician Vladimir Zhirinovsky and his alarmingly fascist rhetoric has generated a wide-ranging concern, while forcing many to fear that 'the old spectre of fascism is rising again in the east: the evil empire revived, led by a Hitler with H-bombs' (Stone and Campbell, *The Sunday Times* (London) 19 December 1993: 14-15). It has been argued, rather quite forcefully, that the points of similarity between fascism's past and Russia's present are indisputable: the boring liberal politicians, the inflation, the dangers of separatism, the unemployment, the erosion of small property, the alienation of youth, the discontent of the army, the scapegoat minority, the goofy provocativeness of the left, the attitudinizing first-class writers and the behaviour of the West (*Ibid*). Comments such as these deserve, in my opinion, a serious scrutiny before they are accepted or rejected as worthy of attention.

From all that Zhirinovsky has uttered so far -a new Russian empire stretching from Murmansk to Madras- it is difficult to overlook the obvious traces of old geopolitical thinking of territorial conquest and domination that seems to underline his and his so called Liberal Democratic Party's world view. In an interview given to the Swedish TV-journalist Robert Aschberg of TV3, before the Russian election, in Moscow, Zhirinovsky is reported to have said,

The best border for a state is the sea. Here is Sweden [while pointing on the map] and here is the sea. It is surrounded by two weak countries which have never attacked Sweden: Norway and Finland. We want a weak Finland, a weak Poland, which Russia divided with Germany [His favourite geopolitical idea is the one of eternal bond between the German and Russian peoples, according to him 'two greatest nations of the Western world']. Slovakia is weak, Romania...If Sweden attempts to influence Finland in the same direction we can

with the aid of right wing forces in Sweden take a part of Finland and will never have to feel the threat....! have contacts with right-wing forces in France and Germany. I started in Austria but it is a weak country...It is better if Finland is divided between Sweden and Russia...It is much better for the stability in Europe. Here are [points to the map] five large national states: Greater Russia with its natural borders. ..Germany wants Prussia (presumably he means East Prussia). It is a part of Germany and Königsberg. If we divide Poland we can still satisfy Germany's interests. They receive a little of Moravia, Czechia, a little of Poland and Königsberg. If we have a Greater Sweden here (he points on the map), like for a hundred years ago, and a greater Germany (he points on the map) here, with Denmark, the Netherlands and a part of Belgium, a part of Switzerland and Austria. Everybody speaks German and it is a strong people. France remains intact like Spain and Italy, (cited in Haggman 1994: 3-4).

And so he went on. When asked about a picture on the wall behind his desk showing Alaska as a part of Russia, his reply was that whereas he did not want Alaska, "they are the natural borders of our country....It [Alaska] was civilized by Russians (Ibid.). He is also reported to have said that, with the necessary political power, "in two days, I would do away with such countries as Kazakhstan or Kirghzia, because never ever, there is not a single scholar in the USA or elsewhere...who would be able to locate such entities as Kazakhstan or Kirghzia on the map of the world" (quoted in Dawisha and Parrott 1994: 49). It is to state the obvious perhaps that Zirinovsky's imaginary maps underline his preference for the 19th century great power politics and imperialism. It has also been pointed out that most worrying is the thought that he has not only won support among many Russias nostalgic for the old days of order and empire (The Sunday Times, London, 3 April 1994), he probably has substantial support from the old power structures like KGB and military as well.

It can be argued perhaps that if it was the evolution and imposition of the post War peace settlement that stirred the frothing European cauldron further to throw up the phenomenon of an obnoxious, aggrandising geopolitics in the service of a racist German State, then there is plenty of potential in post-Cold War Russia of today to tempt the fascist forces ride the popular discontent and graft on to it a geopolitical rationale to 'vindicate the honour and aspiration of Russia'.

However, one must be careful not to use historical analogies too uncritically. Even though Russia is passing through a period of grave uncertainty new geopolitical thinking also prevails among many Russian intellectuals and academics. Moreover, while juxtaposing Weimer Germany with post-Soviet Russia some important distinctions must be borne in mind. It must not be forgotten that in Russia, in a sharp contrast to the German situation, the attempt to democratize the political order comes in the aftermath of Stalinism and its terrors, and the withering away of a closed communist regime. Ofcourse, memories of the terrors of Stalinism are no guarantee against the resurgence of authoritarianism in Russia, so far most citizens of Russia and a number of the other new States have neither given up the hope for a better future nor have they surrendered to the sort of messianic nationalism that arose in Georgia after the USSR's collapse. There are very many among intellectuals as well as members of the academia in Russia who would support various facets of new geopolitical thinking, despite the rise of organized crime and brooding political uncertainty.

There is no denying the fact that a very large section of the Russian military today is hungry, homeless, and orphaned by and large, and is suffering from the loss its parent Soviet state. Although the party and the KGB no longer control the military, the question of who does remains a matter of fierce dispute. What, then, is the future of the Russian military? As Dawisha and Parrott put it,

Even in the Soviet period, however, elite consensus on the centrality of military power was sometimes strained by disagreements over the relative emphasis to be given to military versus political and economic instruments of policy. Not surprisingly perhaps, such disagreements have been carried over into the internal deliberations of the now sovereign Russia, although in many cases the specific issues at stake differ fundamentally from those of the Soviet era. Among the issues at stake are the role of force in the Russian foreign policy, especially toward neighbouring countries, and the content of a military doctrine...Also under discussion are military withdrawals from the "near abroad" and the role of military in regional conflicts, including the role of paramilitary groups like the Cossacks. All of these debates take place against the backdrop...of a decline in military cohesion and morale, and of a socio-economic environment incapable of supporting the large outlays necessary to maintain Russia's traditional military industrial base. (1994: 234-235).

It is also difficult to deny that there are many within the Russian military who continue to see the west as a threat on a number of grounds. If some are concerned because the West has continued with the modernization of strategic systems that remain targeted on Russia, others take objection to what they see as America's unilateral assumption of the role of the world's policeman, seeking militarily to impose its interests on areas of the world where Russia's own ties and interests could be diminished.

As O' Tuathail and Agnew point out, "The Cold War as a discourse may have lost its credibility and meaning as a consequence of the events of 1989 but it is clear from the Gulf crisis that intellectuals of statecraft in the West at least, and the military-industrial complex behind them, will try to create a new set of enemies (the irrational Third-World despot) in a re-structured world 'order' (1992: 190-204). The factories, reactors, laboratories and bases used to develop, maintain and deploy nuclear weapons have a global distribution and constitute a major sector of industrial and military activity; they will not stop working overnight. One should not, therefore, expect that new thinking will have an immediate effect on this infrastructure.

In a recent meeting of the ambassadors of 16 NATO countries, it was resolved that Russia is after all to have a 'special' status in NATO's Partnership for Peace Plan, setting it apart from other former Warsaw Pact signatories (The Moscow Times 20 May 1994). Of course, it would have been difficult for the NATO countries to conclude otherwise. The Cold War may be over, but Russia still has its nuclear arsenals. Its armies are in disarray but they, too, remain a formidable force. Russian politicians have reacted cautiously to NATO's offer. Sergei Yushenkov, chairman of the State Duma's Defence Committee, is reported to have said that while the latest NATO offer was welcome, it meant very little if Russia did not win specific levers of influence with the alliance (Ibid). Since it was launched in January 1994, Partnership for Peace has been signed by 18 countries, most of them from the former Soviet block. Russia is to set out soon its own proposals for its

security relationship with NATO. For the time being what seems to be dominating the geostrategic landscape is a high degree of uncertainty. It is unrealistic to assume that Russia will give up its self-image of a major power despite the enormous economic and political crisis that it faces at present.

While the policy makers in the Circumpolar North will have to put up for the time being with the nagging uncertainty of geopolitical transition in and around the Arctic, especially in Russia, they can not afford to miss the opportunities now at hand for bilateral as well as multilateral co-operation. They should also bear in mind that the civil society in Russia is facing the trauma of transition and is in need of understanding and support. The mass media, both in the west and in the east, too has a significant role to play in this regard through the creation and projection of the images of peace and friendship. Such positive images, it will have to be remembered, are among the most effective tools in the hands of a civil society, struggling to beat the undesirable elements of its past and to lay the foundations of a comprehensive security for its present and future generations.

A dynamic conception of geopolitics recognises that throughout modern history there have been distinctive geopolitical orders, characterised by specific patterns of geopolitical rivalries between world powers, and punctuated by transitional periods of geopolitical disorder (Agnew and Corbridge 1988). Associated with each geopolitical order is a dominant discourse about the spatial division of the world and its geographical orientation and a set of geopolitical practices to maintain the viability of that discourse. During periods of transition, it is quite unclear what new geopolitical order will emerge; hence, the dominant discourse of the previous geopolitical order tends to persist. As far as East-West geopolitical equation in the post Cold War period is concerned, the principal difference in the present situation however is that there are alternative discourses. The need of the hour is to strengthen these discourses. As far as the Arctic is concerned it cannot afford to be subjected to yet another geopolitical discourse of domination, fragmentation and militarization.

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The legal status of international Arctic cooperation

Timo Koivurova

This article aims to show that the rules of the customary law of treaties govern the international Arctic cooperation process (hereinafter arctic cooperation). The choice of subject is motivated by the fact that there exists great confusion as to the legal status of this cooperation process.

To date, I have encountered only two kinds of scholarly opinions on the question: cooperation is either governed by international soft law or it is simply non-binding in international law.¹ At the center of this confusion is the increasingly successful practice of recording varying kinds of norms in informal written instruments (hereinafter informal instruments) which do not look like conventional international treaties. It is precisely such informal instruments that the Arctic states

¹ The following scholarly opinions can be presented as examples. Samson, P (1997) p. 77: 'The AEPS is "soft law", and it specifically mentions the importance of other such instruments, namely, the Brundtland Report (1987)'. Franckx, E (1993) p. 247: 'Strictly legally speaking, a non-binding declaration was signed on 14 June in which the parties agreed to cooperate in monitoring pollution of the Arctic environment and to protect the region's fauna and flora'. Rothwell, D (1996) p. 240: "...even if the AEPS is properly classified as an example of soft law, this does not mean an absence of legal rights and obligations for the parties to it, but rather different consequences for the enforcement of those soft law rights and obligations". Caron, D (1993) p. 379: "Though the strategy is 'soft' in that its nature as a plan of action is aspirational, it represents the most far-reaching effort to date by the Arctic countries to protect the Arctic environment". See also Heininen, L (1999) s. 220.

have used to codify the rules and principles of that cooperation.

Firstly, this article determines the prevailing rules of the customary law of treaties in regard to the concept of international treaty. An important role in clarifying this concept has been played by the International Court of Justice (ICJ), whose conception has been further refined by Jan Klabbers in his seminal thesis *The Concept of Treaty in International Law* (Klabbers 1996a). In the second section, the prevailing rules of the customary law of treaties are applied to the informal instruments of Arctic cooperation, and the legally binding character of these instruments is demonstrated with reference to the present agreements on the forms of arctic cooperation. Finally, the future of arctic cooperation is studied in light of the applicable rules of the customary law of treaties.²

The Concept of International Treaty in the Customary law of Treaties

Although most scholars have taken the position that Arctic cooperation is governed by international soft law, the concept of international soft law is an untenable one (see note 1). The following will show this on the theoretical level; Klabbers has also proven that this concept has no support in state practice (Klabbers 1996, 167-182).³

The concept of international soft law is a problematic one since it is very rarely specified by those who argue for it. Certain norms or instruments are simply deemed international soft law norms or soft law instruments without any specification by the scholar studying these of what he or she means by the concept of soft law in the first place. It is thus first important to clarify whether the term soft law has any content.

In order for the thesis that international soft law exists to have a content independent of the traditional binary conception of international law, a presumption of two separate levels of international law must be made. Without such a presumption, international soft law would comprise norms which are in the process of becoming rules of international law; i.e., it would only be a new name for the traditional conception.⁴ This seems to be the most usual way of using the concept of international soft law.

Yet, there exist insurmountable theoretical problems in postulating two separate levels of international law. Although one might categorise certain norms as international soft law and others as international hard law, the theoretical nature of norms as linguistic entities makes such a categorization impossible. Norms do not allow for three levels of judgment of behaviour (observance of, soft observance of, and non-observance of the norm). Even if states explicitly decided that a certain written instrument or oral agreement were to be governed by international soft law, in reality they would need to decide whether to apply these norms; they could not decide to apply these soft norms in a soft manner since norms as linguistic entities always operate in a binary manner. The state representatives could thus speak in negotiations of having a soft norm or instrument governing a certain issue or issue area, but if the question arose of how to implement

² The Vienna Convention's rules are seen in this article as being also presumptively rules of customary law. As noted by Brownlie: "...a good number of articles are essentially declaratory of existing law and certainly those provisions which are not constitute presumptive evidence of emergent rules of general international law". (Brownlie 1998, 608).

³ Klabbers has also argued that the concept is undesirable from the viewpoint of policy. (Klabbers 1998, 381-391).

⁴ In the traditional conception, if certain norm is very near at becoming a legal norm, it has been referred to as, for instance, an emerging norm of international law.

the norm, apply it, or sanction a breach by one of the parties, the states in question would be forced to decide whether to execute the described pattern of behaviour or not.⁵

The Prevailing Concept of International Treaty in the Customary Law of Treaties

The concept of an international treaty can only be regulated by the customary law of treaties. The influence of the ICJ in the development of the rules governing the creation of contractual obligations is greater than its influence on the formation of most of customary law rules. Although the pronouncements of the ICJ are only a subsidiary source of international law according to the doctrine of the sources of international law, their relevance is pivotal not so much for the so-called primary rules, which prescribe rules of behaviour for states as for the so-called secondary rules, which define how primary rules are developed (Hart 1961, 77-97).⁶ The rules which define how contractual obligations are created are just such secondary rules of international law on which the ICJ can have much influence.

“One of the basic principles governing the creation and performance of legal obligations, whatever their source, is the principle of good faith.” (ICJ reports 1974, 268 and 473).

It is this principle of good faith, which itself is not a legal obligation, that also is the foundation of the concept of international treaty in the customary law of treaties. The Permanent Court of International Justice and the ICJ have consistently upheld this principle in the creation of international legal obligations in general, and the creation of contractual obligations in particular (Klabbers 1996a, 165-219). Yet, it was not until the 1994 judgment in *Qatar v. Bahrain* that the ICJ was able to conclusively determine the concept of international treaty.⁷ Below, the conception of the Court as interpreted by Klabbers is first presented on a general level and then further refined.

⁵ Although it is true that the concept of soft law is theoretically impossible legal concept, its use in meetings and negotiations does have real sociological consequences. For instance, the consequence that if the written instrument is deemed as a soft law instrument, the domestic treaty acceptance procedures are not applicable.

⁶ The accepted formulation of the sources of international law are contained in Article 38 of the Statute of the ICJ. According to this Article, ‘...judicial decisions and the teachings of the most highly qualified publicists of the various nations, as subsidiary means for the determination of rules of law.

⁷ ICJ reports 1994. In the *Qatar v. Bahrain* cases the Court was confronted with two alleged agreements relating to the resolution of a longstanding territorial dispute between the two states. Since both of the parties agreed that the first of the agreements was legally binding, no problem related to this issue. However, the second alleged agreement was drawn up and signed during a meeting of the Gulf Cooperation Council, i.e., it was a signed minutes over negotiations. In this alleged agreement, the parties agreed to submit the dispute to the ICJ if by May 1991 no solution had been reached. When Qatar submitted the dispute by virtue of this provision to the ICJ, the Foreign Minister of Bahrain, who had signed the minutes, stated that he had been under the impression that he was concluding a ‘political understanding’, not an international agreement binding in international law. The Court did not accept this argument stating that it: ‘does not find it necessary to consider what might have been the intentions of the Foreign Minister of Bahrain or, for that matter, those of the Foreign Minister of Qatar... Having signed such a text, the Foreign Minister of Bahrain is not in a position subsequently to say that he intended to subscribe only to “a statement recording a political understanding”, and not to an international agreement. Significant is that this decision was made by fifteen judges only one judge dissenting. Important is also to realise that the Court did not place emphasis on the formalities of the instrument, a signed minutes over negotiations, or on the real intent of the parties. Contrast the conception of the ICJ to the opinion of a proponent of a school of thought which makes the intentions of states the most important factor in deciding the concept of international treaty. (Rosenne 1989, 87).

The general principle of good faith requires that states mean what they say. The concept of international agreement is also based on this principle. If states agree to behave in a certain way in the future, the form of such an agreement does not matter. Whether or not it is recorded in oral or written form, it is an international agreement binding on the contracting states.⁸ It is important to realise that it is not the real intention of states that international law - in contrast to the tradition of international relations - looks for in deciding whether an agreement has been reached;⁹ it is the manifest intent of states, an outward expression of this intent. Here the difference between oral and written form becomes obvious. In a written agreement, manifest intent is easily proven because of the continued existence of the text, whereas in an oral agreement the problem lies in proving what the other state promised in state negotiations. Because it is the agreement between states that is important, not the form in which it is recorded, it is also obvious that the number of formalities found in a written instrument (e.g., provisions on entry into force, judicial settlement of disputes, international registration) is not decisive in determining whether agreement has been reached.¹⁰ Such formalities may be significant but only in some very limited cases.¹¹

As was shown above, the form in which an agreement between states has been recorded, either oral or written, does not have any principled significance in the creation of contractual obligations. This is due to the fact that states very rarely negotiate about bindingness or include a provision concerning bindingness in a written instrument when they do broach the issue. If states want, they can either make it clear that the entire instrument is binding or that it is non-binding.¹² Because there rarely are negotiations on this issue, the legal status of most informal instruments is decided on the basis of whether an agreement has been reached, not on the basis of the formalities included. However, there do exist some categories of instruments to which a presumption of non-bindingness applies.¹³

According to the ICJ as interpreted by Klabbers, there exists a presumption that an informal instrument also is an international treaty, unless shown otherwise. This presumption means that international law favors the conclusion that an informal instrument is an international treaty but allows the other party an opportunity of showing that the reverse is true; i.e., the party denying the

⁸ In this article, an agreement recorded in written form is called an international treaty. For instance, the rules of the Vienna Convention on the Law of the Treaties apply only to agreements recorded in written form, not agreements in oral form.

⁹ In *Qatar v. Bahrain*, the ICJ did not even bother to study the real intention of the parties since it 'does not find it necessary to consider what might have been the intentions of the Foreign Minister of Bahrain or, for that matter, those of the Foreign Minister of Qatar'. See on the importance of formalities Klabbers 1996a, 72-87.

¹⁰ In *Qatar v. Bahrain*, the ICJ determined that a very informal instrument, a signed minutes, was an international treaty.

¹¹ Klabbers refers to categories of instruments the designation of which customarily denotes non-bindingness, the so called gentlemen's agreements.

¹² As shown by Klabbers, states can only decide that certain instrument is binding in international law, or that it is non-binding; they have no power to make politically binding agreements, morally binding agreements etc. (See Klabbers 1996a, 121-157).

¹³ According to Klabbers, there are three groups of written instruments which can be presumed to be non-binding: informal written instruments accepted by an organ of an international organisation not possessing, according to its constitutive treaty, binding decision-making power; informal written instruments which regulate issues of a household nature; informal written instruments called "gentlemen's agreements. Of course, the other party can rebut also this presumption of non-bindingness. (See Klabbers 1994, 382-383).

legal status of the instrument has the burden of proof. Consequently, what becomes important is not deciding the legal status of the whole instrument but studying provision by provision whether the contracting states have agreed on a certain issue or not. Neither the ICJ nor Klabbers has specified the method for deciding whether the text of a certain norm reflects agreement or not. Klabbers only refers to the importance of 'the actual words used in the document' (Klabbers 1994, 384). Two indicators are proposed here as the most important ones.

The first one is the use of conditional or unconditional language. Here, the most important question is whether the language used conveys the idea that the parties have agreed to behave in a certain way in the future, or whether they will only try to behave in a certain way. If the parties use expressions such as 'shall', 'will', 'agree', or 'must', it is clear that an unconditional legal obligation is established. However, if they use expressions such as 'should', 'seek', 'endeavor', or 'desire', it is clear that no legal obligation is established because the parties are not committing themselves to certain future behavior.

The second one is the accuracy of the language used in describing the obligation to be observed by the parties. This means two things. First, if the obligation is described in very general language, this can be grounds for rebutting the presumption of bindingness. Here we approach the dividing line between legal obligation and the description of a social value. If the language used is very general, this does not mean that the provision in question has no legal relevance. According to Article 31 of the Vienna Convention on Treaties, and the identical norm of the customary law of treaties, such provisions form the object and purpose of the treaty and can thus be used in the interpretation of the content of the legal provisions of the treaty. Another important indicator here is the level of determinacy of the language used. If the text in question expresses the norm in language which indicates that no agreement has been reached by the parties, this can also rebut the presumption of bindingness.

A Brief History of Arctic Cooperation

The starting-point of Arctic cooperation can be traced back to a speech made by the President Mikhail Gorbachev in Murmansk 1987. The Soviet leader proposed that Arctic could initiate cooperation in many various fields, one of these being protection of the Arctic environment.

This initial idea was concretized in part when Finland convened a preparatory meeting of the eight arctic states - Canada, Denmark, Finland, Iceland, Norway, Sweden, the Soviet Union and the US - in Rovaniemi in 1989 to discuss the issue of protecting the arctic environment. After two additional preparatory meetings in Yellowknife, Canada, and Kiruna, Sweden, the eight arctic states, and other participants (see below), met again in Rovaniemi in 1991 to sign the Declaration for the Arctic Environment Protection Strategy (AEPS), through which they adopted the Arctic Environmental Protection Strategy.

The first ministerial level follow-up meeting was held in 1993 in Nuuk, Greenland, where a declaration was signed by the eight arctic states (see Rothwell 1996, 229-238). The second follow-up meeting took place in Inuvik, Canada, in March 1996.

The Arctic Council was established through a declaration in August 1996. In this way, Arctic cooperation, previously confined to protecting the arctic environment, was to enter into a wide field of international policy issues, as I will show. Environmental cooperation has continued under the umbrella of the Arctic Council. Since the Arctic Council has had problems in defining the content of its other fields of action, for instance the pillar of sustainable development, Arctic cooperation still focuses mainly on protecting the arctic environment, a priority which is reflected in the declaration adopted by the eight Arctic states in Alta, Norway, in 1998.¹⁴ 1 4

The Prevailing Concept of International Treaty as Applied to the Arctic Cooperation Process

To my knowledge, all the scholars who have commented on the legal status of arctic cooperation have been of the opinion that it is either softly binding on states or non-binding (see note 1). If this is true, Arctic cooperation does not exist in international law. Hence, it is important to study whether the normative instruments concluded in the Arctic cooperation process are binding or non-binding from the viewpoint of general international law. As shown above, the concept of international soft law does not exist.

The starting-point of this section is the fact that international law does not contain any general obligation on the part of states to co-operate. There exist certain areas of international law which provide for such a legal obligation. In the arctic context, there have been proposals that the Arctic Ocean could be classified as a semi-enclosed sea, which would mean that the littoral states are required by virtue of the law of the sea to co-operate in environmental protection of that ocean. Yet, the Arctic Ocean clearly does not fulfill the requirements of the legal concept of a semi enclosed sea, and no obligation to co-operate exists (Franckx 1993, 240- 243).

Arctic Environmental Cooperation

The Declaration of the AEPS was signed by the eight Arctic states in 1991 in Rovaniemi, Finland (Declaration 1991)¹⁵ Through this declaration, these states adopt the Arctic Environmental Protection Strategy (AEPS 1991) and commit ourselves to take steps towards its implementation and consider its further elaboration. Hence, the declaration, and the AEPS, form a whole as a single normative instrument (hereinafter these two instruments together are referred to as the framework document). The framework document does not look like a conventional international treaty. The names of the two instruments of the framework document, ‘declaration’ and ‘strategy’, are not usual names of international treaties. In addition, the instrument is only signed and does not contain the other formalities of normal international treaties.¹⁶

¹⁴ The analysis of the meeting in Iqaluit, Canada, is not included in this article.

¹⁵ The history of the negotiation process is described in Rothwell 1996, 229-242.

¹⁶ The AEPS has been organised like a goal-oriented policy, not according to principles, rules, and articles, like a conventional international treaty. First, there are objectives that “establish the broad direction in which the eight Arctic countries are intending to move”, and principles which “are designed to guide the actions of Arctic countries individually and collectively, as they move toward achievement of the objectives”. Six prioritised pollution problems are identified, and the actions to combat them enumerated. The last chapters of the Strategy contemplate different forms of future environmental cooperation.

The first question is whether the framework document is non-binding or binding in law, i.e., whether any explicit provision to this effect exists in the Declaration or in the AEPS. No such provision exists. Consequently, the presumption of bindingness applies here because the contracting parties have not used their power to make the framework document non-binding in international law.

Can this presumption be rebutted? Here, it must be again noted that if there exists clear norm text, or texts, in the framework document reflecting agreement between the parties, it is quite hard to show that the instrument is intended to be non-binding since this would mean that the parties did not mean what they said in the written instrument as required by the good faith principle. It is thus first important to study whether there exists any provisions in the framework document indicating that agreement was reached between the Arctic states on a certain issue or issues.

As will be shown below, since the rules regulating the forms of cooperation are written in unconditional language and are specific enough, the framework document can, without any doubt, be considered an international treaty.

The Declaration provides for a general legal obligation to continue arctic environmental cooperation:

“We agree to hold regular meetings to assess the progress made and to coordinate actions which will implement and further develop the Arctic Environmental Protection Strategy” (see also Chapter 10, paragraph 1 of the AEPS)

The forms of this environmental cooperation are specified in the AEPS instrument.¹⁷ In Chapter 10, paragraph 5, the terms of reference of this international environmental cooperation are enumerated. This paragraph provides the cooperation process with a broad mandate for protecting the arctic environment¹⁸ In paragraphs 3 and 4, the participation of other than Arctic states is regulated. The three international non-governmental (NGO) organisations of the Arctic indigenous people are accorded the legal status of observers,¹⁹ and the criteria for observer status in the cooperation process are proposed.²⁰ The decision-making procedure is not made explicit in the framework document. It is only agreed that ‘the date and venue of the next meeting will be

¹⁷ AEPS is reprinted in 30 I.L.M. 1624 (1991).

¹⁸ Chapter 10, paragraph 5 of the AEPS: “The Meetings on the Arctic Environment shall serve to: i) identify and coordinate actions to implement and further develop the Arctic Environmental Protection Strategy; ii) initiate cooperation in new fields relevant to the environmental protection of the Arctic; iii) make necessary recommendations in order to protect the Arctic environment; iv) improve existing environmental regimes relevant to the Arctic; and v) assess and report on progress on actions agreed upon.”

¹⁹ Chapter 10, paragraph 4 of the AEPS reads: “In order to facilitate the participation of Arctic indigenous peoples the following organisations will be invited as observers: the Inuit Circumpolar Conference, the Nordic Saarni Council and the U.S.S.R. Association of Small Peoples of the North.”

²⁰ Chapter 10, paragraph 3 of the AEPS reads: “The decision to invite observers should be based on a pragmatic and functional evaluation of their involvement in and contribution to Arctic environmental questions.” It should be noted here because of the conditional form that this is not a legal obligation because of the conditional form, and thus only establishes a recommendation.

agreed upon at the preceding meeting'.²¹ In accordance with general international law, only the Arctic states have formal decision-making power in this cooperation since only they have exclusive decision-making power over the physical space of the Arctic.

The decision-making procedure of Arctic environmental cooperation has developed in time. The preparation of the international arctic cooperation rules and recommendations has been channeled into two separate procedures.

First, through the Declaration (1991), four task forces were established to implement the goal of protecting the Arctic environment:

- the Arctic Monitoring and Assessment Programme (AMAP), the task of which is “to monitor the levels of, and assess the effects of, anthropogenic pollutants in all components of the Arctic environment”;
- Protection of the Marine Environment in the Arctic (PAME) “to take preventive and other measures directly or through competent international organisations regarding marine pollution in the Arctic irrespective of origin”;
- Emergency Prevention, Preparedness and Response in the Arctic (EPPR) “to provide a framework for future cooperation in responding to the threat of environmental emergencies”; and
- Conservation of Arctic Flora and Fauna (CAFF) “to facilitate the exchange of information and coordination of research on species and habitats of flora and fauna”.

Later on, through the Nuuk Declaration (1993), the Arctic states “reaffirming the commitment to sustainable development” ... “agreeing to establish a Task Force for this purpose”, thus establishing the fifth task force in environmental cooperation, Sustainable Development and Utilization (SDU). These joint organs are represented mainly by the officials of the Arctic states, mainly from various governmental branches, as well as representatives of the indigenous people’s international non-governmental organizations (NGO).

Second, since no agreement was made in the framework document on when the meetings of the Arctic states would be convened, meetings have taken place quite infrequently (Nuuk 1993, Inuvik 1996 and Alta 1998). As a consequence, there developed an informal procedure of regular contact between the so-called Senior Arctic Officials (SAO), who represent the central governments of the Arctic states and meet between the meetings proper.

The meetings of the Arctic states have made decisions and agreed on norms and recommendations for the future of environmental cooperation in the form of signed declarations. To date, the Arctic states have met in Greenland, Canada and Norway. On all of these occasions, both legal obligations and recommendations have been established, in the form of signed written declarations.²²

²¹ This was agreed upon in the declaration: “We agree to meet in 1993 and accept the kind invitation of the Government of Denmark and the Home Rule Government of Greenland to hold the next meeting in Greenland”.

²² Three examples can be mentioned here. Paragraph 6 of the Nuuk Declaration establishes a legal obligation: “We believe that decisions relating to Arctic activities must be made in a transparent fashion and therefore undertake to facilitate, through national rules and legislation, appropriate access to information concerning such decisions, to participation in such decisions and to judicial and administrative proceedings.” (emphasis mine) Paragraph 12 of the Inuvik Declaration establishes a legal obligation: “We endorse the EPPR recommendation that where significant

The Broadened Arctic International Cooperation under the Arctic Council

The Arctic Council was established in an unusually informal manner considering that the process entailed the creation of an inter-governmental organisation. First, the instrument is a declaration. Second, there was no ratification procedure; the declaration (hereinafter constitutive instrument) was only signed by the eight Arctic states (Declaration 1996).²³ Yet, the presumption of bindingness applies here since no explicit agreement exists that the instrument is non-binding. The majority of the provisions contained in the constitutive instrument are written in an unconditional language and are specific enough to be considered legal obligations. There exists some minor issues which are written in conditional language, and thus do not legally obligate the states.²⁴

The establishment of the Arctic Council amended the forms of arctic cooperation previously based on the framework document (the Declaration and AEPS). The framework document and the treaty establishing the Arctic Council overlap in scope and neither provides explicit rules on which is to prevail should provisions of the two treaties conflict. However, the customary law of treaties provides rules for the resolution of such conflict. The central rule here is that the later treaty prevails, whereby the constitutive instrument replaces some of the rules of the framework document, in particular the rules relating to the forms of cooperation.²⁵

However, the rules relating to environmental protection, as well as the forms of environmental cooperation, that are contained in the framework document and the later instruments, continue to obligate the Arctic states. This was formally acknowledged in the constitutive instrument by the inclusion of environmental cooperation as one specific area of action for the Arctic Council.

The rules on participation were amended and elaborated in a much more detailed form in the constitutive instrument. The instrument provides for three categories of participants: members, permanent participants and observers. The eight Arctic states are members; the three international NGOs which represent the indigenous peoples of the Arctic are permanent participants; and the criteria for observers are laid down.²⁶ In addition, the instrument specifies the criteria for the status of permanent participants and the decision-making procedure for determining that status.²⁷

accidents occur which directly or indirectly cause, or threaten to cause, environmental or health effects in the Arctic, all Arctic Countries shall, through their National Contact Points, be notified promptly and receive further information as appropriate." (emphasis mine) Paragraph 3 of the Alta Declaration also establishes a legal obligation: "We receive with appreciation the 'Guidelines for Environmental Impact Assessment (EIA) in the Arctic' and the 'Arctic Offshore Oil and Gas Guidelines' developed under the AEPS, and agree that these Guidelines be applied."

²³ The Declaration is reprinted in 35 I.L.M. 1385-1390 (1996).

²⁴ For instance, Article 6 of the Constitutive instrument reads: "The Arctic Council, as its first order of business, should adopt rules of procedure for its meetings and those of its working groups."

²⁵ Article 30 of the Vienna Convention on the Law of Treaties.

²⁶ Article 3 of the constitutive instrument reads: "Observer status in the Arctic Council is open to: a) non-Arctic states; b) inter-governmental and inter-parliamentary organisations, global and regional; and c) non-governmental organisations that the Council determines can contribute to its work."

²⁷ Article 2 (2) reads: "...Permanent participation is equally open to other Arctic organisations of indigenous peoples with majority Arctic indigenous constituency, representing: a. a single indigenous people resident in more than one Arctic State; or b. More than one Arctic indigenous people resident in a single Arctic state". The arctic states only can only decide the fulfillment of this criteria through a unanimous decision. Also, "the number of Permanent Participants should at any time be less than the number of members".

The constitutive instrument substantially extended the terms of reference of Arctic cooperation. As was shown above, the Arctic cooperation based on the framework document concentrated only on protecting the arctic environment. Now, “common Arctic issues, in particular issues of sustainable development and environmental protection in the Arctic” were defined as the terms of reference of the Arctic Council (Article 1 a. of the Declaration 1996). Hence, in principle, all issues which are defined as ‘common’ can be dealt with by the Arctic Council. This yields a very large mandate for the Council since the ‘common issues’ can cover almost any international policy issue raised. Yet, in a footnote the instrument provides that “The Arctic Council should not deal with matters related to military security”. It is important to note here that because of the use of conditional language this does not establish a legal obligation, but only a recommendation. In the final analysis, then, from the viewpoint of international law even military issues can be dealt with by the Council.

The environmental cooperation is now included as one part of the mandate of the Council (Article 1b of the Declaration 1996). The four joint organs of Arctic environmental cooperation continue under the umbrella of the Arctic Council. The cooperation on sustainable development under the AEPS cooperation merges into this new area of cooperation, sustainable development, the terms of reference of which are not defined in the constitutive instrument (Article 1 c of the Declaration 1996).

The decision-making procedure which has developed over time in Arctic environmental cooperation is made explicit in the constitutive instrument. In Article 7 it is said that: “Decisions of the Arctic Council are to be by consensus of the Members”. In Article 2, the concept of ‘member’ is defined to include only the eight Arctic states. This binding decision making by consensus is to be undertaken only after “full consultation” with the permanent participants, i.e., the international NGOs of the Arctic indigenous peoples. Hence, the Arctic states are obligated to not only hear the comments of these organisations but place an emphasis on them in decision-making. The right given here to international NGOs in an inter-governmental organisation is to my knowledge an unprecedented one. Although the NGOs do not have formal decision-making power, they evidently have much influence in practice on the decision-making of the Council.

What is important to realise is that all decisions taken through the decision-making procedure of the Arctic Council, i.e., consensus between the arctic states, are binding on the Arctic states if these decisions manifest agreement between all eight Arctic states according to the rules examined above. Of course, the states are perfectly entitled to indicate that a decision is non-binding, but this must be done expressly.

The Future of Arctic Cooperation in Light of the Customary Law of Treaties

From the viewpoint of international law, Arctic cooperation became based on the consensus of all eight Arctic states the moment the framework document was concluded. Before that, all eight Arctic states were free to decide whether to participate in Arctic cooperation or not or under what terms; since the conclusion of the framework document, the future of Arctic cooperation has depended on the common will of the Arctic states. From the viewpoint of the customary law of treaties, the Arctic states have considerable discretion in directing the future of Arctic cooperation, but only if there is unanimous agreement among them.

Ending Arctic Cooperation

The customary law of treaties tries to protect the continuance of treaty regimes by making it hard to terminate, denounce or withdraw from them, or suspend their operation. A distinction must be drawn between the right to terminate a treaty, the right to denunciate or withdraw from it as a whole, and the right to suspend the operation of a treaty as a whole.

The term ‘termination’ is used only for the final ending of the treaty as a whole; the treaty is removed altogether from the international legal system. Only the consent of all states parties after consultation with the other contracting states can terminate an entire treaty if the treaty itself does not contain an express provision to that end (Article 54 of the Vienna Convention on the Law of Treaties). The constitutive instrument does not provide any express provision to this effect, and thus the consent of all eight arctic states is required to terminate the cooperation process. In other words, it is illegal to terminate the treaty without the consent of all eight states.

The terms ‘denunciation’ and ‘withdrawal’ refer to procedures by which the parties of the treaty can end their treaty relationship, but the treaty as a whole continues to exist. The basic rule here is that no such right exists if it is not expressly provided for in the treaty. Only if it can be established that the parties intended such a possibility, or it can be inferred from the nature of the treaty, do the rights to denunciation or withdrawal exist (Article 56 of the Vienna Convention). It must be noted here that these are exceptions to the main rule and thus must be interpreted strictly. The constitutive instrument makes no provision for denunciation or withdrawal, and thus none presumably exists. It does not seem that the Arctic states intended such a possibility, and certainly the nature of the treaty does not suggest one, because the treaty is a constitutive treaty in nature. Hence, no unilateral right to denounce or withdraw from the treaty exists. In other words, it is illegal for any Arctic state to stop participating in the Arctic cooperation unilaterally without the consent of all other Arctic states.

The term ‘suspension’ means a freezing of the application of the treaty with the intention of continuing application of the treaty at some point in the future. Clearly, the right to suspend treaty obligations is more easily justified than the above-mentioned rights. Again, the ultimate power rests with the contracting states as a whole: if they provide for suspension in the treaty or agree on it after the conclusion of the treaty, it is their common will that decides the time-frame for suspension (Article 57 of the Vienna Convention).

Since there exists no express provision on suspension in the constitutive instrument, again the consent of all the arctic states must be obtained to suspend Arctic Council cooperation. Yet, there is an additional rule relating to the right of suspension. The agreement between certain of the parties to suspend the treaty ‘temporarily and as between themselves alone’ is justified even without any express provisions if:

“...the suspension in question is not prohibited by the treaty and

(i) does not affect the enjoyment by the other Parties of their rights under the treaty or the performance of their obligations;

(ii) is not incompatible with the object and purpose of the treaty (Article 58 of the Vienna Convention).”

It seems, however, that the constitutive instrument providing for regular cooperation between the states does not allow for suspension; if some of the arctic states suspended the application of their cooperation duties, this would prevent the others from enjoying their rights of cooperation as guaranteed in the instrument.²⁸

In conclusion, it can be said that the customary law of treaties requires the Arctic states to continue cooperation unless they agree unanimously to end it. Since the Arctic states have not agreed on any rules providing for termination of cooperation, denunciation or withdrawal from the treaty or suspension of the treaty obligations in the constitutive instrument, it is the common will of these states that must decide these issues. In other words, it is illegal for anyone or some of the states to make decisions in this respect without obtaining the consent of others.

Amending the Rules Relating to the Forms of Arctic Cooperation

How are the rules creating the Arctic Council itself to be amended according to the customary law of treaties? It is important to realise that by adopting the forms of Arctic cooperation embodied in the constitutive instrument, the customary law of treaties protects exactly this form of cooperation. All issues that have been agreed upon in the constitutive instrument, e.g., the participants and their status, the rules on decision making, the acceptance of new participants, the terms of reference of the Council, are hard to amend: it requires the consent of all eight states on each of the issues since all states parties to the treaty ‘shall also be entitled to become a party to the treaty as amended’.

Is it then possible for certain of the Arctic states to amend these rules when others do not want to change them? Article 41 of the Vienna Convention, and the corresponding norm of the customary law of treaties, provides that if no express provision to this effect is contained in the treaty, and the modification in question is not prohibited by the treaty, certain of the parties can make an amendment if it “does not affect the enjoyment by the other parties of their rights under the treaty or the performance of their obligations”.

Clearly, any modifications of the constitutional rules on participation, decision-making or terms of reference by certain of the Arctic states would affect the enjoyment of rights by the other Arctic states and are thus prohibited. Hence, the amendment of these rules requires the consensus of all eight Arctic states. It can be concluded that the constitutional rules of Arctic cooperation are not easily changed and are thus likely to prevail in the foreseeable future.

Concluding Remarks

The Arctic cooperation process has produced normative instruments which do not look like conventional international treaties. As was shown above, the scholarly world has taken this to mean that these instruments are non-binding in international law, or that they are at most governed by international soft law. It is quite likely that if scholars of international law and international relations

²⁸ Good example is the decision-making procedure since the other Arctic states could not make decisions within the Arctic Council during the time of suspension. This alone excludes the possibility of using this right since the right of suspension must pertain to whole of the instrument as provided in Article 44 of the Vienna Convention on the Law of Treaties.

are of the opinion that the cooperation process is operating outside of international law, this reflects the general feeling among those who take part in this cooperation.

Yet, although in the past there have existed differing conceptions of what an international treaty is, it is very hard to convincingly argue after the ICJ's decision in *Qatar v. Bahrain* that the concept of international treaty is not the one outlined above; so clearly was the concept of international treaty clarified by the ICJ. As argued by Vierdag, this decision:

“...will soon appear to have a decisive impact on inter alia the prevalent practice of drawing up all sorts of informal arrangements between states, governments, ministries, state agencies and the like, the possible legal significance of which is commonly ignored or left ambiguous. It is to be hoped that the Court's dicta will heighten the awareness of the legal consequences that this practice may have” (Vierdag 1996, 165-166).

From the viewpoint of general international law, it is beyond any doubt that the arctic cooperation process is governed by the customary law of treaties in general, and the Vienna Convention of Treaties in particular. This means first and foremost that the forms of arctic-wide international cooperation have been ‘frozen’ into the forms adopted through the constitutive instrument of the Arctic Council since it requires consensus of the Arctic states to amend these rules. Perhaps the biggest question now is whether the values and interests of the participants of this cooperation can find common ground to make use of these forms.

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Women leave, men remain... Issues of Gender, Welfare and Labour Markets in the Nordic Periphery.

Anna Karin Berglund

Introduction

The primary aim of the project is to study the structural transformation of the labour market during the 1990s, the organisation of welfare¹ and its effects on the “Nordic welfare model” and gender relations in all the Nordic countries. The first question that presents itself is whether a Nordic welfare model actually exists and whether there has been a common evolution with regard to welfare in the Nordic countries.² A study done on the mid-90s in four Nordic countries shows that despite substantial variations, the welfare state adaptations was a matter of stability more than

¹ This refers to the division of labour that applies to welfare-related services among the state, family, market and civil society

² Furthermore the Nordic model is often erroneously equated with the Scandinavian welfare model. Erroneously, since the Nordic countries are Denmark (including the Faeroe Islands and Greenland), Finland (including Åland), Iceland, Norway and Sweden, whereas Scandinavia comprises only Denmark, Norway and Sweden.

change in relation to economic and employment situation (Kautto et al.1999). Reason statistics done by NORUT Finnmark indicates that this is changing. There is reason to see these processes in relation to pressure for convergence in European social politics, where this has to be seen in relation to globalization processes as well as European countries adapting to the Nordic models (Kautto et al 2001). Indeed, one factor usually stressed in comparisons between the Nordic regions and the EU countries is the high labour force participation. This high level of employment compared with many other European countries is due to the fact that rate of employment for women are much higher. This could be understood to imply that women are keeping the employment statistics up, whereas the rate of employment for men has fallen during the past twenty years. Here we shall content ourselves with pointing out that in comparisons among various welfare states, the Nordic countries usually emerge as a single group regarding certain welfare and equality criteria. These are, among others, a high rate of employment, not least for women, a high proportion of women in politics and a well-developed public sector providing general public social services such as child care and care for the elderly (Bergqvist 1999). However, in the project as a whole, there will be a more systematic inquiry into the differences and similarities among the Nordic welfare systems.

Common to the Nordic countries is that the welfare state is undergoing a modernisation process in which new models are taking shape, and it is of interest to compare objectives as well as means in these various welfare models. Since it is important to pursue these statistically demonstrable characteristics, a systematisation of development trends *for all the selected regions of the Nordic countries* is one of the objectives of this project.

In welfare research it appears to be rather common to refer to the Nordic countries sharing the Nordic welfare model, as Norway, Sweden, Denmark and Finland. Several researchers have pointed out that it has been difficult till now to perform comparisons among the Nordic countries, not least because of the lack of comparable statistics, common definitions of the rate of employment, unemployment etc. This has led to studies of the Nordic welfare model consisting of comparing only a few countries, with the conclusions based on their shared features³. This project considers it an important task to close this knowledge gap by collating existing national statistics in the Nordic region, but also, where it proves necessary, collecting complementary statistical material. For the purpose of this research programme, the Nordic region is the focus, which means that Iceland, the Faeroe Islands and Greenland should be included.

Moving towards structural homogeneity and cultural differentiation?

In the northern parts of Sweden, Norway and Finland and in Denmark, Iceland and the Faeroe Islands generally, structural changes in the labour market and welfare systems are taking place. At the same time new patterns in the relation between the sexes are emerging. The connection between these processes and the ways in which they frame one another, will be the focus of this project. Up until the present time, the economic activity in these areas have been characterised by a high percentage of persons employed in primary and basic industries. Gender relations have been marked by women having low levels of education, and usually only part-time employment in the labour market, which could be combined with tasks in the primary industry economy. Whereas the

³ Programme plan for the Nordic Council of Ministers' Welfare Research Programme, January 2001

men had the overall economic responsibility, the women had the social and moral responsibility (Kramvig 1999, Holtedahl 1986, Munk-Madsen 1995, Rudie 1984, Rossvser 1998).

Postwar modernisation led to the adoption of fordistic production methods in industries where they were possible, focusing on large-scale production and an orientation towards technological development. On the one hand, the periphery has been vital to the various Nordic countries as an identity-producing factor, at the same time as the periphery has been considered backward and in need of development. One is still able to identify this paradoxical situation, which structures many of the political discourses and concrete actions vis-à-vis peripheral areas. The small communities became "emptied" of meaning. At the same time it was vital for sustaining the discourse of the national state, since life on the periphery was the sort of life that was described as meaningful, when they entered into national symbolic processes. There are however, many factors that may indicate that the symbolic centre of national identity is in the process of being displaced from the geographic periphery to the centre in many of the areas forming part of this study. These cultural processes are important to bear in mind when explaining the tendencies inherent in structural changes.

In most of the Nordic countries, in the end of the twentieth-century the condition in relation to economy and labour market changed from depression and mass unemployment to rapid growth and shrinking unemployment levels. But the economic growth was uneven distributed over the nations. It was a development that can be described in terms of regional differentiation and social polarization. Regional differentiation because the companies connected to the so-called "new economy" were highly concentrated to the metropolitan areas and social polarization due to the fact that mainly high educated (men) benefited from the new economy. A major part of the labour force is excluded in the analysis because of the highlight on the knowledge-based service-sector. The knowledge-based service sector was growing fast during the 1990s but is still of less importance concerning employment levels especially in the periphery areas. The major part of the labour force is employed in the local consumer-service sector, a sector that is characterized by low skilled, low paid workforce, employed on temporary basis, and consists to a high degree of women and immigrants. It's a common development in the whole of Europe that women's participation in the labour force increases mainly because of the job-opportunities in the growing consumer-service sector. But the working-conditions are bad both in terms of wage-levels, terms of employment and working hours. In many aspects women employed in the local consumer sector can be considered as the "new" proletariat.

The struggle for the future

As a consequence of structural joblessness and low rates of employment in combination with a growing service industry in central regions, depopulation has been continuous, though accelerating at the end of the 1990s. People at the periphery throughout the Nordic region are voicing their perception of the situation as *critical*. Our thesis is that the term *critical* refers to a pervasive anxiety and inability to see and be able to formulate the path that can provide future generations on the periphery favourable basic economic and social conditions, and, not least, meet the needs that different people attribute to the concept of the good life. This lack of clarity in respect of developmental paradigms means that the ongoing transformations in welfare arrangements are perceived as threatening. This leads to very different local reactions and mobilisations: in the various contexts different responses are being formulated to those challenges that, in people's perception these structural changes pose. At the same time it seems to us that this creates conditions

for new local antagonisms to arise. New political units and commonalities of interest spring up, articulating contradictory models of what the future holds and of which alternative path is the correct response to the insecurity existing today. These may be seen in creative initiatives from the numerous small localities. The recently launched Folkeopproret i Finnmark (Finnmark People's Revolt) {*Dagbladet* 5 February 2001} (see case 2) is an example of the local mobilisation serving as a commentary on ongoing development processes.

In "*the struggle for the future*" it is often claimed that women in these areas do not see any future in their local communities, but increasingly choose to move to urban areas. The increasing skills demanded by a growing public sector has been one of the factors that has led to women pursuing higher education, whereas men continues to choose to remain in traditional industries. This trend, of women pursuing higher education, has accelerated over time, while many men still remain in local communities with low education and with jobs in traditional industries. A recent change that we can infer from statistics for Norrbotten and Finnmark⁴ is that women in a growing number of peripheral municipalities have a higher rate of employment than men, which indicates that women are becoming the chief household providers. In other words, women's and men's traditional household roles are in the process of changing dramatically, and this most probably is a consequence of, as well as having consequences in relation to, the way femininity and masculinity are taking shape. It is interesting that, despite the economic, political and cultural differences in these regions, there appears to be some similarities with regard to the ongoing direction of change.

What is happening in the relations between women and men on the Nordic periphery? Our working thesis is that women appear to possess the readiness or flexibility that makes them better able to meet the demands for flexibility and adaptability posed by post-industrial society, whereas men appear to be less able to tackle these challenges. At the same time we see a tendency that it is women who are formulating critical objections to the structural changes taking place, a tendency we seek to confirm, and if it exists, explain. Conflicts over the preferred development in the various regions are emerging on the basis of gender-specific formulations on what are to be the solutions for today's welfare challenges.

Method and dissemination of research results

An aim of the project will be to develop methods that will help linking together research and the dissemination of research results, at the same time as we are all concerned that the various user groups that these projects affect be heard and participate in the dialogue now being established among many Nordic communities. We wish to go beyond set ways of thinking about the dissemination of research results and feedback with regard to the projects' conclusion, and want this to be part of the research process as a whole and the generation of knowledge that is articulated over time. This will be a means of challenging the clear distinction between researchers and researched, between those seen as *objects of* research and those who *conduct* it. This line of reasoning stems from perceptions of the need for a dialogue among researchers, receivers and informants. The challenge lies in creating conditions for a favourable climate of co-operation among all these parties and letting the dissemination of research results be part of the ongoing research process. This implies a reorganisation of research activities in which dissemination and co-operation are

⁴ NORUT Finnmark (previously the Finnmark Research Centre) has recently compiled statistical material that points to these development trends in the region

considered tools of the establishment of knowledge (Altem & Høltedahl 1995). Lisbet Høltedahl (1998) has pointed out the close connection that exists between researcher, receiver and informant and the need to break down the power structures that are re-established by maintaining these as separate categories. Maintaining these categories as discrete units implies thinking of the researcher as someone producing knowledge about informants for various employers or clients, be they research bodies or various political entities. Maintaining the demarcation between these categories, she claims, involves a continued marginalisation not only of people but of forms of knowledge.

Specifically this means that we think it is possible to integrate representatives of the various user groups affected by the different projects into the research process itself. This does not only mean that they will be given a voice and be heard in the design of research projects. In addition, we want them to be represented at various working meetings that will be held in the different countries. This will be an opportunity for all researchers to meet representatives and points of view that we consider valuable for moving the project along. This does not imply that we are abandoning the objective position of research, nor are we naive with regard to the power relations and representativity problems that this may involve. However, through this project we wish to develop perspectives on the form *objectivity* should take in a postcolonial situation (Hastrup 1995, Stordahl 1996). Our experiences with this effort will be part of what we wish to report back at the conclusion of the project.

Field of research, networks and project organisation

This project will be limited geographically to the northern outskirts of the Nordic region, i.e. the northernmost counties of Norway (Finnmark, Troms), Sweden (Norrbotten) and Finland (Lapland), Iceland as a whole, the Faeroe Islands and Greenland. First, we wish to amass a database that has the potential to compare changes in welfare and the models being utilised (see Statistics on the Nordic welfare model and gender-relations in transition⁵). At the same time it is important to be concerned with what is happening as an extension of these structural changes. Second, the projects' various case studies (sub-projects 1-5) will be the necessary supplement to such a survey and comparison, since these studies will refer to the variation existing with regard to changes in the other parameters we are interested in and, in addition, involve a necessary investigation of the contexts of meaning of which this statistical material is part and that will form the basis of general observations of welfare developments in the Nordic countries.

We wish to develop a close collaboration among researchers in Finland, Sweden, Norway, Denmark, Iceland, the Faeroe Islands and Greenland who are concerned with changes in the welfare models and the consequences these have for the relations between centre and periphery and between women and men. The network that has now been formed is a very talented research group⁵ that at the same time represents different perspectives by virtue of discipline, experiences and cultural background. Indeed, the aim of our project is to bring together the expertise in this research area for mutual benefit, reflection and the development of knowledge.

The project has the following organisation: Project management and administration has been assigned to Dr Anna-Karin Berglund of NORUT Finnmark. The project manager, along with Dr Susanne Johansson and Cand. Polit. Britt Kramvig, will function as the editorial board/steering

⁵ Participants and references in enclosures.

committee vis-à-vis the research group. All the countries through their participants in the collaborative network will take part in data gathering for a common Nordic database. Re-evaluation of methodology issues and analyses of statistical results will take place through a common process within the framework of a series of working meetings in the various countries. Participants responsible for sub-projects from Finland, Sweden, Norway, Iceland and the Faeroe Islands will conduct case studies that will elucidate various issues and current trends in and consequences of welfare models and gender relations in transition. *Each of these sub-projects will be reported on in articles in an anthology.* The working meetings in the various countries will be the arena in which methods, theories and results will be discussed as the project progresses. The working meetings will also function as a place for meetings between researchers and local, regional and national user groups (see also “Methods and dissemination of research results”).

Statistics on the Nordic-welfare model and gender-relations in transition

The purpose of this subproject is to build a database, which makes it possible to study statistical changes of the welfare regimes, in a gender perspective, in the specified research area during the last decade. A welfare regime is commonly understood as a constitution of three composite parts: the labour market, the family, and the welfare state (Esping-Andersen 1999:4). The ‘real’ crisis, if there is any, of contemporary welfare regimes, is said to lie in the disjuncture between the existing institutional construction and exogenous change. Contemporary welfare states and labour market regulations have their origin in, and mirror, a society that no longer obtains. Welfare regimes are built around a set of egalitarian ideals and social risk profiles that predominated when our parents and grandparents were young. The risk structure is changing dramatically (ibid). Demographic changes (mostly aging but also new family structures), changes in the gender balance and changes in labour market have altered the needs of people (Kautto et al 1999:9).

The main research questions in this subproject are: A) How has the social structure, in a gender perspective, changed in the study area during the last decade, according to age structure, family structure and the structure of migration? B) How has the labour market, in a gender perspective, changed in the study area during the last decade? C) How has the political structure, in a gender perspective, changed in the study area during the last decade? (Key welfare indicators as expansion of public childcare, local industrial relations, share of women in municipal councils for example.)

The database is meant to form a basis for studies on local, regional as well as inter-regional levels. A particular purpose will be to support the other subprojects with their need for statistical material. The subproject has a descriptive research design. Data from the Central Statistical Offices in the Nordic countries will be the main sources in this subproject. The first work that has to be done is to adjust definitions concerning employment and unemployment levels, branches of business and so on because the different Nordic countries is using different definitions. As told above it’s a necessary condition to have any chance at all to say something about difference and conformity concerning the development of the Nordic countries welfare-systems. However, the Faeroe Islands case study (subproject 5.) in addition to being based on existing statistical sources will serve to build up a new database, as the Faeroes lacks statistical data on municipal elections, on training and educational profiles in the population, on standard of living, and on the availability of welfare institutions. The construction of such a database will be of great value for future comparative welfare research.

Case 1. Sweden

A. Local gender-contracts in transition. This study focuses on the impact of a gender-segregated local labour market on male and female employment levels in the Swedish county of Norrbotten. Furthermore it addresses how changes inherent in a post-industrial labour market structure are effected by and effects local gender-contracts. Thus, this project asks what happens to the local gender-contract when women become the 'bread-winners' (as described in the introduction). Fundamental to women's career opportunities is how a society structures its reproductive work, e.g. with regard to the division between the spheres of family, state and market. This emphasises the importance of a concerted perspective where the so-called Nordic Welfare Model is adopted to provide such a framework. However, as a recent Swedish study noted, deregulation and decentralisation in the public service sector in the 1990s make it no longer possible to speak of *one* welfare model, rather of different *local welfare models*. (Johansson 2000) This also underlines the urgency of a local perspective on studies of design and content of gender contracts. Referring to Hirdman, the negotiation of gender-contracts takes place between women, men and local states (Hirdman 1994). The relation between different local welfare models and different gender contracts may therefore explain the locally varying outcome of the ongoing industrial restructuring. This study examines the development of local welfare models in the three Swedish North Calotte municipalities of Pajala, Arjeplog, and Jokkmokk. This includes the studying of local welfare restructuring, analysing of statistical data (on the local labour market, key welfare indicators, and local industrial relations), as well as interviewing representatives of local authorities. The following Swedish studies also focus the same geographic area, and the interaction between the local gender-contract, the local welfare model, and the local labour market - albeit from different points of departures and from different perspectives.

B. The social economy and gender-relations. A relatively recent phenomenon is the growing political interest in and expectations of the so called *social economy* as a vivid force in the generation of new jobs and in securing levels of welfare in sparsely populated peripheral areas, not least so in northern parts of Sweden. The concept of social economy in the case of Sweden dates back to the mid 1990s and the absorption of a 'European' discourse originating from the French expression *l'économie sociale*. Four different types of organisations make up the social economy according to the European Commission: Co-operatives, Mutuals, Associations, and Foundations. In a Swedish context social economy is often described as 'a third sector' aside, but often overlapping, the private and public sectors (Westlund 2001). There is however limited knowledge of the meaning and importance of the social economy for the local labour market, and for parts of the local welfare system. Recent research suggests that the size and structure of the social economy vary locally (Nordfeldt 2001). Due to scarce research the knowledge on gender relations within the social economy is also limited. The few existing studies suggest however that the conditions under which men and women are represented in the social economy vary dramatically; e.g. with regards to the organisation of work, the type of work undertaken, and the level at which they work. (Jeppson Grassman & Svedberg 1999, Stark & Hamren 2000). Another recent study however shows that the co-operative movement in sparsely populated areas has developed in traditionally female professions and spheres of interest (Såtre Åhlander 2001). This part of the project aims at providing a complementary perspective on the issues of local gender relations in transition - a perspective of the discourse as well as the concrete implications of the social economy in the three case study areas.

C. Everyday practice and employment from a gender- and household perspective. As a consequence of the downward trend in male employment and the upward trend in female employment, gender relations are undergoing changes at the level of the household, as well as of the local community or society levels. This part of the project will examine the everyday practice among households in four localities in the North Calotte/Arctic area of Sweden. How do changes in the Nordic welfare model affect households and the immediate arenas linked to the household sphere? Will the results be an even more distinct division between men and women's activities in daily life, or will these divisions on the contrary be dissolved? Such questions are addressed and answered by focusing the participation of men and women in the labour market, in the social economy, and in the other household related activities. Sweden's minister for regional policy, Ulrica Messing, has indicated that the social economy will act to vitalize democracy, and enable people to control their circumstances more effectively. In this study we will also be able to examine whether increasing activities in the social economy, relative to other parts of the economy, will lead to people feeling increasingly obliged to take over responsibility for services hitherto typically performed by the public sector. If so, questions over the consequences of this feeling, with regards to stress, pressure on the leisure time, and the feeling of less control over their situation will also be raised. A concept of certain meaning is inwardly and outwardly directed actions, from the perspectives of the households. The possibilities for people to take part in different sectors of society as well as peoples intentions concerning arenas will affect both the experiences of individuals and the general development of the society. The local community, nature and the immediate surrounding environment (e.g. 'the home') are examples of different arenas of importance to the individual households (Stenbacka 2001). This study links to study 1 and study 2 and will enhance understanding of the transition of gender relations and the labour market, by addressing questions on relations and dependencies of a qualitative character

Case 2. Norway

A. Analysis on local contracts in relation to ethnicity and gender

The intention of this study is to examine the gendered answers to the resent economic and demographic crisis in three different municipalities in Norway. In this region new patterns are created, in relation to differences between women and men, and between the Sami and Norwegian municipalities. These studies will be twofold; we will focus on the local welfare models and the strategies and solutions of local development. On the same time we will see this in relation to how women and men relate to the changes that are taking place. The municipalities; Hammerfest and Vadso and on the other hand Karasjok in Sapmi is chosen because of their varying conditions to manage the present situation and progress concerning changes of the welfare state, labour market and the economic growth. Specifically; the first municipality; the economical and political elite of Hammerfest is mobilizing the community towards the gas-project of "Snohvit". The second, the municipality and leadership of Karasjok hostages the Sami government; "Samediggi" and represents the Sami people, which in local society basically is organized out of kinship and traditional ways of manual labour. The third, the municipality of Vadso is a centre of public service i.e. regional departments of the Norwegian state in Finnmark County and has recently appeared to be the local base of the Finnmark People's Revolt (Folkeopproret i Finnmark). The study will be conducted through interviews with male and female politicians, administrative leaders and other local authorities in the municipalities. The interviews will be supported by the findings of the

projects statistical database. These will set the frame for qualitative studies in three different contexts.

B. Finnmark people's Revolt. At the same time as it appears that it is women who leave and men who stay and women who pursue higher education and men who remain in the traditional industries, it is a paradox that it is women who are the principal voices and who are organising against these processes. Finnmark People's Revolt has been propelled forward by women who have also enshrined their aims and scope of their efforts in a memo in which they have formulated the following objective: "Start a debate on the regional policy that has been pursued over many years, and a general debate on a policy based on welfare versus a policy based on profitability". We wish to focus on this popular movement and the mobilisation it expresses, since we do not believe that it is a movement that seeks to sustain and increase specific measures aimed at the periphery, as the Norwegian prime minister, Jens Stoltenberg, (*Dagsavisen*, 28 March 2001) has stated. But here we will work from the thesis that this popular revolt is a social movement that is anchored locally and regionally and that is primarily a commentary on the ongoing changes within the Norwegian welfare state. Public sector restructuring is being formulated from the centre as necessary modernisation, a market-oriented policy and adaptation to what is usually referred to as "our era". Since this is seen from northern regions as a threat to the welfare state, a need for, and attempts to formulate, "this other system", as one of the women in the People's Revolt put it, are inherent in many of the various initiatives that come from the periphery.

C. Non-gendered rooms in Sapmi. Does the experience from the in-between-room give a certain ability of communicating which very well prepare women and men for life in modern institutions? Sapmi houses, in addition to generally a kitchen, a living-room, a bath-room and sleeping rooms, often have a so-called in-between-room. This is a room which can be described as a hall, however the room have functions above being a place between inside and outside of the house. Special tasks as e.g. preparing skins from the reindeers are to be taken care of by both sexes. As a consequence, the room can be gendered neither as female nor male. Furthermore, the room may be seen as an open place between the private sphere inside the house and the public sphere outside; a place where women and men have space to negotiate. Agendas are not for ever set so the dialogue is in this respect driven by arguments. It is of great interest to have a closer look at the way men and women talk, behave and work in this situation. It is also of great interest to make studies in other working places in Sapmi where both sexes are working, e.g. Samediggi.

D. Snøhvit as a symbol of the future. From the perspective of the business and industry and political leadership in those municipalities taking part in the coming expansion and growth in connection with the development of the Snøhvit gas field in the sea off Hammerfest, the popular revolt represents a negative power in Finnmark. It is our hypothesis that Snøhvit has become a symbol of the "future" and has therefore been able to evoke uncertainty and anxiety in connection with the changes people see. The strong, emotional outbursts and antagonisms that have resulted between "Snøhvit supporters" and those who are *opponents of development*⁶ tell us something about how this symbol organises and classifies strong feelings among the populace. Within this discourse, the

⁶ Mens vi venter på snøhvit ("While we wait for Snow White) in Dagens Næringsliv, 8 September 2001

environmental discourse, from which the threat stems that the development may not even be realised, becomes the one people distance themselves from. Snøvit can be seen as “this other system”, a model that brings forward development in the region. This discourse has, as within the People’s Revolt, created new unities and alliances, and it will be our working hypothesis that these are gendered solutions to the same issues. It may thus appear that women and men choose different strategies for development. In Finnmark People’s Revolt women play a prominent role, whereas it is men who are advocates of the Snøhvit development as the best path for the region to follow. We find these differences interesting, and they point to the existence of gendered conflicts in respect of what people consider to be a favourable development for the region

Case 3. Finland

This study examines the welfare models and the impact of gender contract to the production of the welfare services in three different municipalities in the Finnish county of Lapland. These are Muonio, Inari and Utsjoki. The starting point is the activities at the municipal level (Westman 2000, Naegel 1991), which add up the regional model(s) of the welfare stat. The viewpoint that will be taken is to focus on new patterns evolving in relation to gender and the distribution of welfare, and the same time this will be seen in relation to the changes in the Finnish welfare model at the time. This study focuses on the impact of local gender-contract, especially concerning local government and leadership in the context of welfare.

The main research questions in this Finnish case are A) How do male and female politicians as well as chief officers understand the welfare municipality? Are there differences between genders for understanding what the welfare means on the local level? B) How do the municipal politicians and managers see the importance of the welfare services for their residents, when the financial situations of the municipalities may limit production of welfare? C) What does the social economy and gender relations mean for the residents of the municipalities?

By focusing on the “gendered” political and administrative leadership of the municipalities, the differences and similarities in relation to values and strategies will appear. These can concern the local welfare models of practise, "local gender contracts" and gender relations, views on local development, such as market and local business orientated policy, welfare policy or maybe a community-orientated policy (see e.g. Boneparth et. al. 1988, Brown 1995). The study will be based on existing statistical sources, close readings of governmental publications, public planning and decision documents supported by in-depth interviews with local politicians, municipal managers and other chief officers conducted in 3 municipalities in Lapland. This means that quantitative and qualitative methods will be used in an ethnographic framework through the emphasis of gender (Silverman 1997).

Case 4. Iceland

The women leave but the men are staying: The social consequences of internal migration in Iceland Industrialization started relatively late (1890-1910) in Iceland compared to other western countries and was moreover overtly concentrated around fisheries and a building up of the fishing industry (generating a vast majority of the national income) rather than a building up of other industries. A course not to be changed until the late 1960’s by the building of the first aluminium smelter. Yet the effects of this industrialization have in no sense been minor or treated the Icelandic society more gentle than other societies where modernization has taken place. This can especially be

marked when looking at internal migration. Thus the whole 20th century was characterized by a constant migration from rural areas to larger towns and villages and from the smaller towns and villages to larger towns and the capital city. Moreover, even if the modernization process started late in Iceland it had, by the 1990's managed to accumulate about 60% of the total population of Iceland in the capital area (compared to some 17-26% in the other Nordic countries) and leaving only about 9% of the total population in the rural areas (compared to 15-26% in the other Nordic countries) (see Olafsson, 1997). The main trends of this development are on the other hand similar in Iceland and the other Nordic countries, that is; the internal migration is directed from smaller communities and to the larger ones, the majority of those on the move are young people and the majority of them are female.

Several attempts have been made to explain the reasons for internal migration (see for example Larsson 1997; Johannesson 1990; Sigurdsson and Olafsson 1989; Gudmundsson 1973). In all of these, quantitative methods have shown a strong relation between economical factors and the migration pattern. Thus it has been observed that there is a strong relationship between internal migration and development of job opportunities in fishing and agriculture; that is out migration from villages and rural areas is specially marked when these sectors are experiencing difficulties. On the other hand the migration pattern is also linked to the ever-expanding service sector, concentrated to a large extent in the capital area. Changing lifestyles have also, especially in the last decades of the 20th century, been contributing to the internal migration and so it seems that the smaller communities are not adequately fulfilling the people's expectations of culture and service in a modern (or late-modern or even perhaps post-modern) society. The fact that the effects of the internal migration are proportionally larger in Iceland than in any other Nordic country gives room for speculations on whether this is linked to the fact that the Icelandic welfare system has been organized somewhat different than in the other Nordic countries (Olafsson 1999).

This study will be focused on six communities situated well outside the capital area. Three of them will be traditional fishing communities and three will be in agricultural areas. The aim is to look closely at the migration process in these communities in the 20th century with a focus on gender differences and how this might be connected to changes in the labour market, changes in the education system and regional differences. This will be studied through analysis of quantitative data and through interviewing three groups; those who have lived in a particular community all their live, those who have moved but then come back again and those who have moved away and not come back. For purposes of comparison to whole of Iceland and to communities in the Nordic countries it is also necessary to study more generally the migration process in the whole of Iceland with a clear focus on gender differences, a focus somewhat missing in previous studies.

Case 5. Faroe Islands

Changing Gender Relations: Faroese women in new roles, entering the public sphere.

The Nordic welfare model is based on activities at the municipal level (Nagel 1991). Social policy has generally been initiated in local communities, by NGO's or the local councils. Policy studies have shown a general increase in the interest for welfare issues in councils with female representation, as opposed to councils dominated by men (Styrkärdsdottir 1998; Haram 1991). In this picture, the Faroese municipal politics is interesting as a deviant case: Compared to the other Nordic countries, the Faroese welfare system has been less developed; and the Faroese women have only lately 'forced' their way to the national and municipal councils, actually not until the 1970's.

Lately however we have witnessed some female dominated municipal councils, while most are still male dominated. The women are nominated and elected, partly through special womens' lists, partly through ordinary party lists.

This project is focusing on women's citizenship and changing genus contracts in Faroese towns and villages, as manifested in their political participation. Gender studies (Raaum 1995; Bergquist 1999) call attention to structural features of possible importance for mobilisation to active citizenship: A) Age: The younger generation seems to be more open to female political participation than the elder generations. B) Education: There seems to be a tendency that female politicians more often than male politicians have an higher education. C) Employment: Women's entrance into the public sphere as employees has been followed by demands for public social service in order to take care of reproductive tasks traditionally considered the responsibility of women as housewives. What are the characteristics of communities opening for /appealing to women's political engagement? The study will be based on statistics from the joint data base, which will highlight differences in Faroese local communities as to size, age and gender profiles, trade, and geographical mobility. The registration and comparisons of municipal policy performance, like female participation in political processes, is more complicated as there is no statistics on Faroese municipal elections (see however Jäkupsstovu 1996). The results from the municipal elections 1992, 1996 and 2000 will therefore be registrated as part of this project.

The results from this statistical analysis will form the basis for a further study of changes in gender relations and female citizenship in Faroese communities, compared to similar communities in Iceland and Norway. As the Faroes lacks statistics on educational patterns as well as living conditions, such data will be collected in selected towns/villages. A collection of data on the human resources when it comes to political engagement, education, and welfare solutions is of great interest for Faroese welfare research, equality politics, and public administration. The engagement of a research assistant is a further contribution to raise qualifications in this field. Faroese institutions interested in the project are Froöskaparsetur Foroya (the Faroese University), Rektor Malan Mamersdottir; and Institute of History and Social Science, adjunkt Jogvan Morkore; Hagstovan (the Faroese Statistical Office), Director Herman Oskarsson; Granskingardepilin (Regional Research Center), senior researcher Gestur Hovgaard; Javnstoöunevndin (the National Equality Committee), leaded by Turiö Debes Hentze.

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Population Development and Potential on the Nordic North Calotte. Different Governmental Measures for Stimulating Population Growth.

Ivar Lie

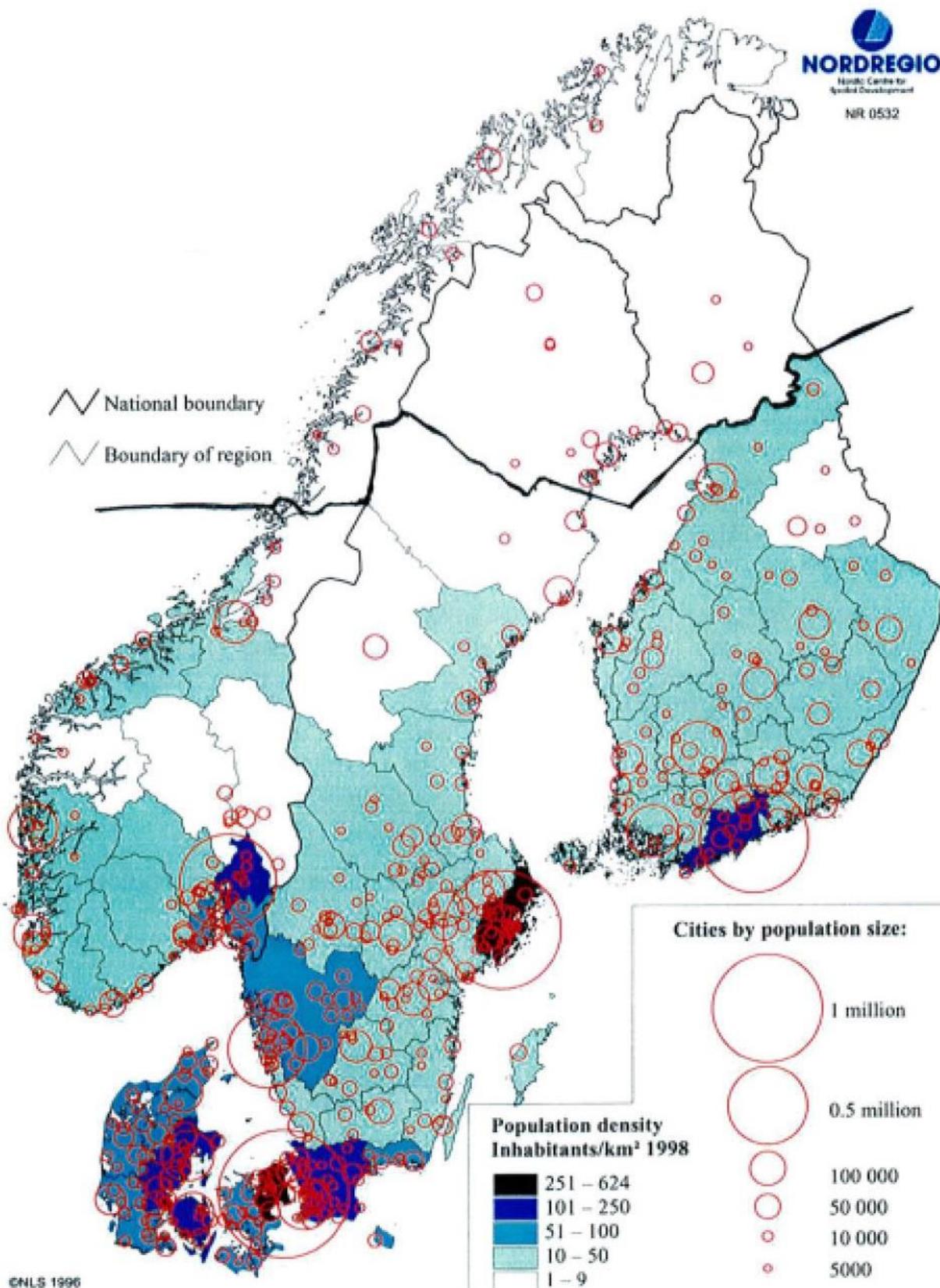
Focus on the Nordic North Calotte

This paper focuses on the population development on the Nordic North Calotte. The population development on the Russian part of the North Calotte is not covered in this paper, but are analysed by other speakers on the Calotte Academy. The Nordic economic context differs a lot from the similar Russian context, so it can be argued that it should be analysed separately. On the other hand, the development on the Russian and Nordic parts of the North Calotte influence each other, as e.g. seen in changes in migration from the Russian to the Nordic part of the Calotte, and the potential for more influence is latent. One should be aware of this, and a total analysis of the population development on the whole North Calotte could be done to clarify this.

In this paper the focus is the population development on the Nordic North Calotte in the nineties, and the potential for population growth the next ten to fifteen years in this area. Even though the picture on the whole is not a very positive or optimistic one when it comes to the future population development, there are differences, both between the countries, counties and regions, which gives us a more complex pattern. And the different governmental measures for stimulating population growth in the three countries, can to some extent be traced in the observed population development in the nineties and differences in natural potential.

We have delimited The Nordic North Calotte to the area of the counties in Norway, Sweden and Finland who are members of the North Calotte Council, i.e. Lapland in Finland, Norrbotten in Sweden and the three northernmost counties Nordland, Troms and Finnmark in Norway. It could be argued that Västerbotten of Sweden and Oulun of Finland also could be included in the area, or that the area should be restricted to the two northernmost counties of Norway, but here we have chosen the delimitation given by the North Calotte Council (Figure 1). The total population in this area is 0.91 mill, or 5% of the total population of the three Nordic countries, while the total area is about 0.3 mill, km², or 27% of the total area of the three countries. Thus the population density is low, about 3 inhabitants pr. km², compared to the average of the three countries of 17 pr. km². Still there are city regions of some size in the area, and the clearly largest is the Luleå-Piteå-Boden region in Norrbotten with nearly 150.000 inhabitants. Tromsø, Kemi-Tomio, Rovaniemi and Bodo are other city regions in the area, with a total population of between 50.000 and 70.000 inhabitants.

Figure 1: The Nordic North Calotte in the Nordic Context



Source: Nordregio.

Historical Population Development on the Nordic North Calotte

The history of the Norwegian, Swedish and Finnish part of the Calotte are different, but at the same time there are similarities. The vast and sparsely populated areas were mainly populated for exploiting natural resources, i.e. forest, arable land, pastures, fish, mining ores, both by the people of the nation states, and the indigenous people of the Calotte, the Saamis. The Saamis have a long history in using vast areas on the Calotte for hunting, fishing and collecting berries, and for several hundred years as pasture for tame reindeers, independent of the borders between the nation states, before the borders were closed in the last part of the nineteenth century.

The real population growth in the area started in the nineteenth century, and particularly the last part of this century, when the migration from south to north expanded, and also an increase in the migration between the countries. This development continued in the first part of the twentieth century, and the population of the northernmost counties in all three countries almost doubled in the first 50 years of the twentieth century, mainly because of growth in forestry, mining, fishery and manufacturing.

The history of the last part of the twentieth century is not a growth story, even though some cities or towns in the area have experienced much population growth, mainly connected to growth in the public sector. In the fifties the population of the whole area was still growing, but in the sixties the southbound net migration increased, and some parts of the North Calotte experienced population decrease. In the seventies there was a slowdown of the net out migration, at least in Norway where there were more focus on regional policy, but in the eighties the out migration increased again. And in the eighties and nineties the lack of natural growth also has been evident in large parts of the area, and further net migration to the south has made the result of population decrease inevitable. The southbound net outmigration are, especially in North Sweden and Finland, but also to some extent in Northern Norway, connected to the "rationalisation" of forestry, agriculture, fishery, mining and manufacturing, making labour redundant and resulting in high unemployment rates. We enter these analyses at this point in history. But firstly a short data comment on "the student problem".

Data Comment on the "Student Problem"

The main problem of data on population is connected to where students studying in another municipality than their home municipality should be registred. In Norway the practice has been that students have been registred on the home municipality, unless they have married, got children or got a full time job (not always then either). It was the same practice in Sweden and Finland in the eighties, but in the nineties this changed with laws stating that students had to register in the municipality they lived when they were studying, normally the municipality where the universities/colleges were located. The laws were effected in 1991 (Sweden) and 1993 (Finland), but were only implemented on the new students, with the implication that the change first was fully implemented on all students at the end of the nineties.

This means that throughout the nineties the municipalities in Sweden and Finland containing universities/colleges has got more inhabitants then they would have had if not the change in student registration had been put into effect. Therefore, some of the growth in the nineties in the

university/college municipalities such as Luleå and Rovaniemi is not real, but only a technical/formal growth due to the change in student registration. And similarly, the loss of population in the municipalities in Norrbotten and Lapland not containing university or college, is partly due to the same change. Thus, to get comparable data with Northern Norway, we have had to estimate¹ what the population in the municipalities in Norrbotten and Lapland would have been if the change in student registration had not been implemented. It is these adjusted figures which have been used in the comparative analyses presented in this paper, both concerning the development in the nineties and the future population potential.

Population Development in the Nineties.

There was a marked difference between the population development of the first and second part of the nineties on the Nordic North Calotte. In the first part there were growth in total population, a considerable natural surplus, and low net out migration. In the last part of the nineties, and the first year of this century, the total population has decreased, the natural surplus has decreased and there has been high net out migration from most of the Nordic North Calotte.

The Period 1990-95

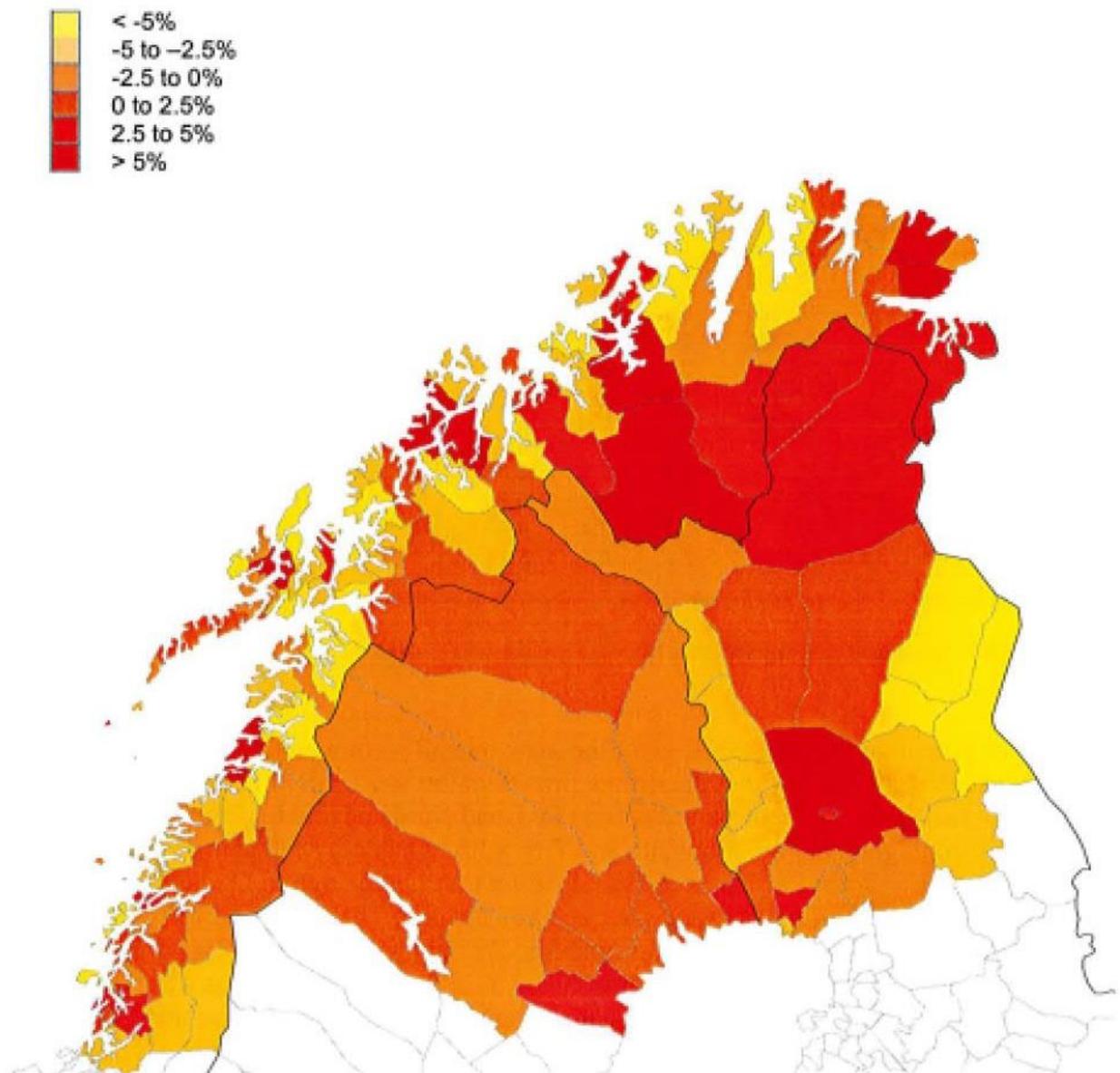
The total population rise in all the five counties by a moderate 1-3% in this five year-period, which means a yearly growth rate of 1-6 pr. 1000 inhabitants. The growth was around 3% (yearly growth rate of 5-6 pr. 1000 inhabitants) in Troms and Finnmark, and below 1% (yearly growth rate of 1-2 pr. 1000 inhabitants) in Nordland and Lapland. All counties and most regions had a natural surplus of births vs. deaths, and this surplus was higher than the net out migration for all the counties, and a lot of the regions. The migration in and out of Troms and Norrbotten were balanced, but the other counties had net out migration. The immigration from abroad were in all the counties larger than the emigration, but the net migration to other parts of each country were negative in all the counties on the Nordic North Calotte.

The regional pattern of the total changes in population in this five-year period shows a multifaceted, though largely positive picture (Figure 2). In all counties there were regions with growth. The growth was largest in the city regions Tromsø, Bodo and Rovaniemi, while the big region in Norrbotten around Luleå had smaller growth, and Kemi-Tornio-region no growth. Some smaller regional centres in Norway, Vadso, Alta, Sortland (Vesterålen), Bronnoysund also grew fast in this period, and the same was the case in Haparanda, the Swedish neighbour of the Kemi-Tornio-

¹ The estimate of the total population is principally made from the official population data, subtracted the number of students studying in the municipality, and added the number of students who are from the municipality. But, both the number of students in the region and from the region, is multiplied with the factor 0.5, based on estimates by Statistics Norway that in Norway about half of the students at any time has registered as inhabitants in the university/college municipality for other reasons than studying (marriage, children, full time job). Since the change has been put into effect gradually with new students through the nineties, the adjustment is done partly on the figures from 1995 (2/3 in Sweden (law effected from 1991) and 1/3 in Finland (law effected from 1993)), and fully on the figures from 2000 and 2001. We have also estimated the number of persons in the age group 21-35, and the number of men and women in this age-group, to get comparable data on future population potential. This estimation is principally done the same way, but since a proportion of the students are over 35 years, we have also multiplied the number of students with the factor 0.8, since about 80% of the students are in the age 21-35 years. Since the number of female students generally are higher than the number and male students, we have also multiplied the number of students with the factors 0.55 and 0.45, to estimate the female respectively male proportion in this age group.

region. Some smaller regions in population, in the inner parts of Finnmark and the northeast of Lapland, which are core areas of the Saamis in Norway and Finland, also had a relatively high growth rate in this period. In many of the other regions of the Nordic North Calotte the total population was relatively stable, and regional centers in Lapland and Northern Norway experienced some growth. Only the eastern parts of Lapland, the Finnish part of the Tome valley and some peripheral regions of Northern Norway experienced a high rate of population decrease in this period.

Figure 2: *Percentage Change in Total population 1990-95 in the Municipalities on the Nordic North Calotte*



Source: NIBR, based on data from Statistics Norway, Sweden and Finland. Map made by PX-Map.

The Period after 1995

The total population decreased in all counties except Troms in the period 1995-2000. In Troms there was a small rise in total population of about 0.5% (yearly growth rate of 1 pr. 1000 inhabitants), while Nordland had a small decrease of 1% (yearly loss of 2 pr. 1000 inhabitants). The decrease in Finnmark and Norrbotten were larger with about 3% total 000 inhabitants), and largest in Lapland with a total reduction of over 4% (yearly loss of 9 pr. 1000 inhabitants) (Table 1). The natural growth was reduction reduced from the five-year period before, especially in Norrbotten where the natural growth turned to be a natural loss, and in Lapland where the natural growth was divided in half. But the main reason for the change in total population was the high increase in net out migration. The net out migration were very high in Finnmark and Lapland, but also high in the other counties. What happened in this period was largely a rise in the economy in all the three countries, with a marked increase in the demand for labour and reduction of unemployment. But this rise was mainly concentrated to the more central parts of the countries, which stimulated migration from north to south. Still, immigration were larger than emigration in all the five counties, most in the Norwegian counties and least in Lapland.

Table 1: Changes in Total Population in the Counties of the Nordic North Calotte

	Status Total population	Yearly changes pr. 1000 inhabitants								
		1991-95, average			1996-2000, average			2001		
		Natural des.01 growth	Net mi- gration	Total change	Natural growth	Net mi- gration	Total change	Natural growth	Net mi- gration	Total change
Finnmark	73700	7,1	-2,2	5,0	6,4	-12,7	-6,3	3,9	-8,7	-4,8
Troms	151800	5,6	0,2	5,8	4,6	-3,8	0,8	3,4	-4,0	-0,6
Nordland	237300	2,9	-1,5	1,5	2,3	-4,6	-2,4	0,5	-3,8	-3,4
Norrbotten	256500	2,4	0,2	2,6	-1,2	-5,8	-7,0	-1,5	-4,4	-5,9
Lapland	190500	3,8	-2,6	1,2	1,7	-10,6	-8,9	0,3	-13,9	-13,7
<i>Nordic North Calotte</i>	<i>909800</i>	<i>3,7</i>	<i>-1,0</i>	<i>2,7</i>	<i>1,9</i>	<i>-6,7</i>	<i>-4,9</i>	<i>0,6</i>	<i>-6,5</i>	<i>-5,9</i>
Norway	4,52 mill.	3,5	2,1	5,6	3,4	2,7	6,1	2,8	1,8	4,5
Sweden	8,91 mill.	2,5	3,2	5,7	-0,4	1,4	1,0	-0,3	3,2	3,0
Finland	5,19 mill.	3,1	1,4	4,5	1,8	0,6	2,4	1,5	0,6	2,1
<i>All three countries</i>	<i>18,62 mill.</i>	<i>2,9</i>	<i>2,4</i>	<i>5,3</i>	<i>1,1</i>	<i>1,5</i>	<i>2,6</i>	<i>1,0</i>	<i>2,1</i>	<i>3,1</i>

The figures of Lapland and Finland for 2001 are estimates based on total population data and birth data from 2001, and other data from 2000

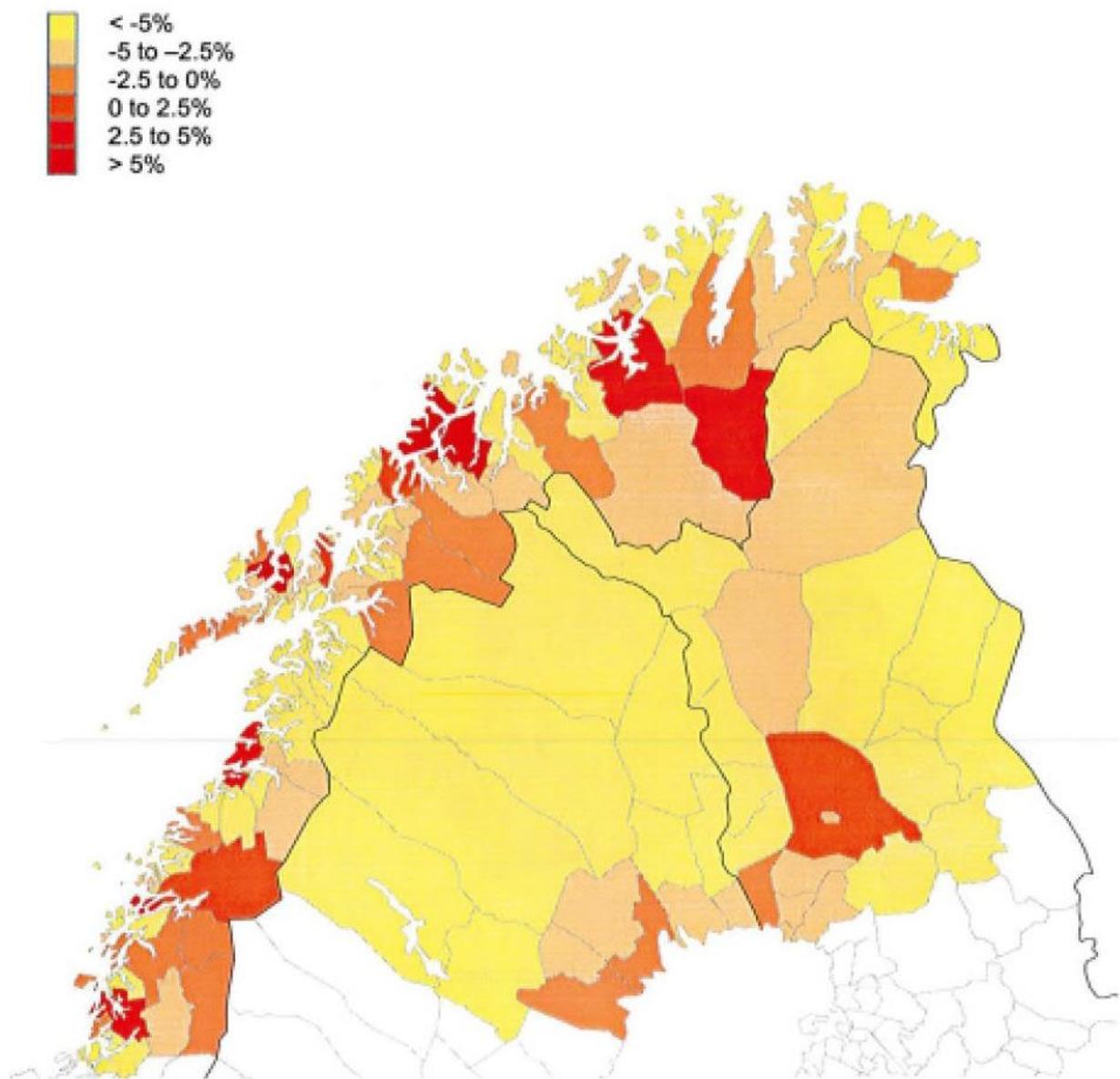
Source: NIBR, based on data from Statistics Norway, Sweden and Finland.

The development during year 2001, gives the same overall picture on the Nordic North Calotte, except from the fact that the natural growth in the area nearly has disappeared. Norrbotten had as the previous period natural loss, and Nordland and Lapland had in 2001 nearly no natural growth. And Finnmark and Troms had a marked decline in the natural growth from the years before. The net out-migration is still very high in Lapland and Finnmark, especially in Lapland where the rate has increased. The net migration is almost the same as the previous period for the other counties. Added this gives a decrease in the total population of about 0.5% (or 5 pr. 1000 inhabitants) for the whole area. This was also the case for the counties Finnmark, Nordland and Norrbotten, but not in Troms where there was no change in total population. Lapland, on the other side, had a dramatic decrease of nearly 1.5% (14 pr. 1000 inhabitants) in one year.

The regional pattern of the changes in the period 1995-2000 is clearly more negative and more unbalanced than the period before (Figure 3). Only the city regions in Norway, Tromsø and Bodø,

had a high growth rate, while the Luleå-region in Norrbotten, and both Kemi- Tomio and Rovaniemi in Lapland had a decrease in total population. And it was only a few regional centres in Northern Norway which had growth, and only Alta had a relatively high growth rate. This means that all regions in Norrbotten and Lapland and most regions in Northern Norway had population decrease. And many regions had a high rate of decrease, and highest it was in coastal Finnmark, coastal Ofoten/Salten in Nordland, western parts of Norrbotten, both the Swedish and Finnish part of the Torne valley, and eastern Lapland, which all had 6-9% reduction during these five years.

Figure 3: Percentage Change in Total population 1995-2000 in the Municipalities on the Nordic North Calotte

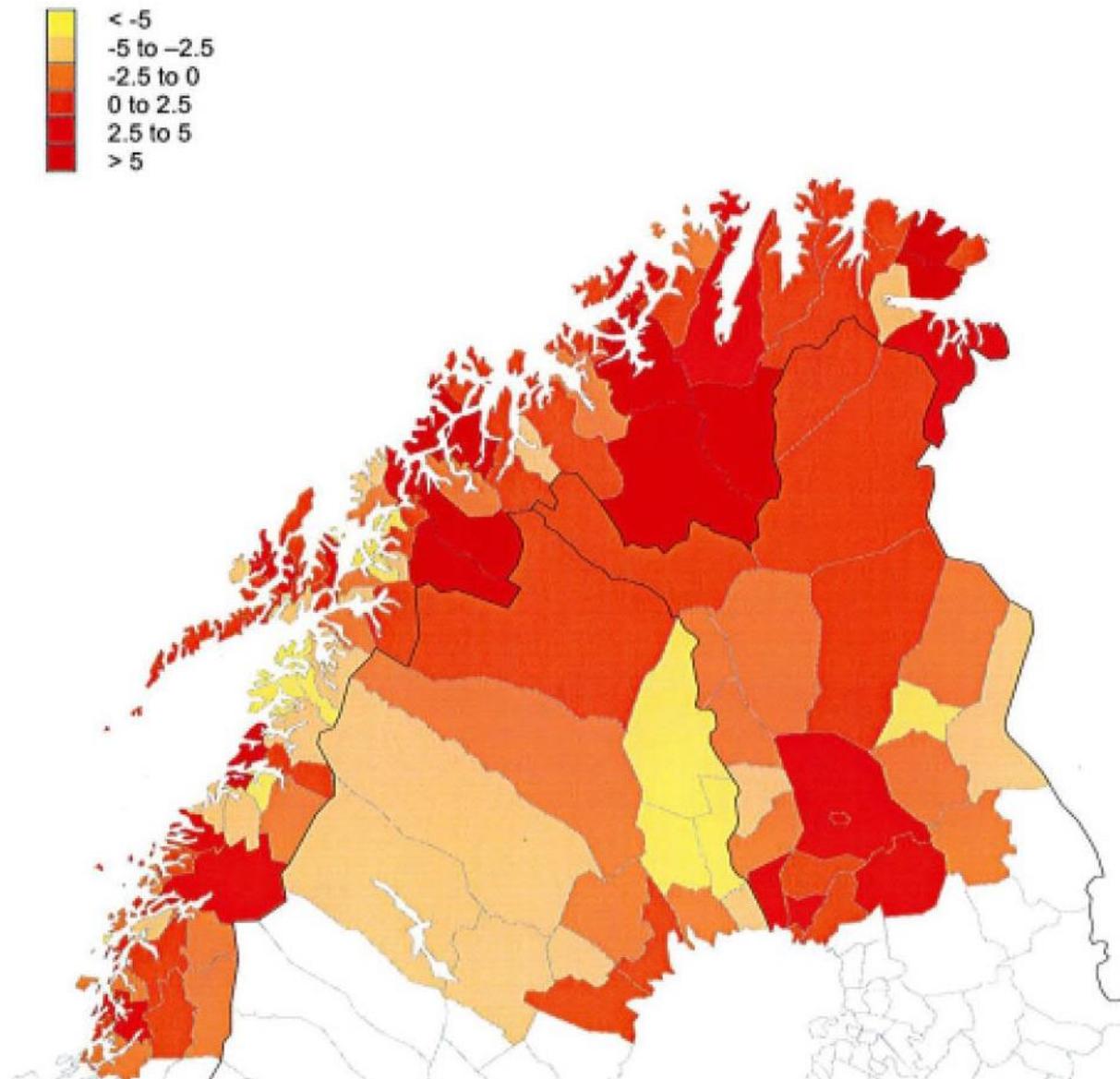


Source: NIBR, based on data from Statistics Norway, Sweden and Finland. Map made by PX-Map.

A look on the similar pattern of the natural growth rate in the same period also shows an interesting picture (Figure 4). While most of Finnmark and Troms had a relatively high natural growth rate, the pattern is more complex in Nordland and Lapland where many of the regions had a natural

loss in this period. And in Norrbotten most of the regions had a natural loss, with fewer births than deaths. This means that in many regions, especially in the southern part of the Nordic North Calotte, there are no longer any natural growth to compensate for the net out migration, but a natural loss instead.

Figure 4: *Natural Growth pr. 1000 inhabitants. Average of 1996 – 2000 in the municipalities on the Nordic North Calotte*

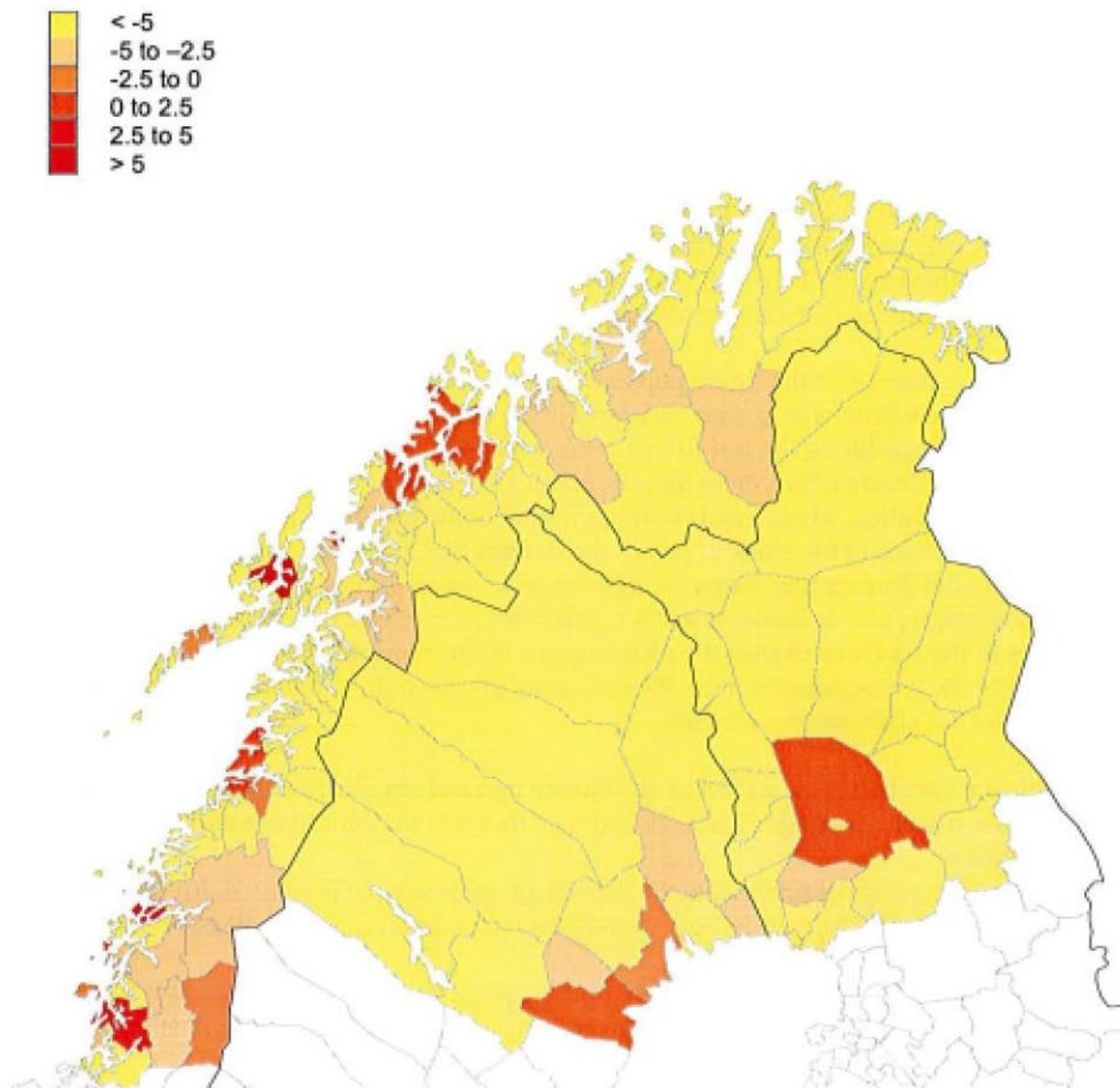


Source: NIBR, based on data from Statistics Norway, Sweden and Finland. Map made by PX-Map.

The picture of the net migration in the area during the same period is very clear, and there are very few exceptions from the overall trend of high out-migration (Figure 5). The only regions with low net in migration was Tromsø and Bodø, while the Luleå-region had relatively low out-migration. Also some of the regional centres in Northern Norway had low net out-migration, especially in

the southern part of Nordland (Helgoland area). But what makes the figures fairly positive in some Norwegian regions, are the net immigration from abroad, which compensate for the national net out-migration. All regions in the whole area had net out-migration on the national level.

Figure 5: Net Migration pr. 1000 inhabitants. Average of 1996-2000 in the Municipalities on the Nordic North Calotte



Source: NIBR, based on data from Statistics Norway, Sweden and Finland. Map made by PX-Map.

Similar maps made on the basis of the last years data (2001) shows an even more negative picture. The migration map have not changed to the better from the negative figures of the previous 5 year-period, and for Lapland the figures are worse than the previous period. In Lapland there are no net immigration to compensate for the national net out-migration. And the map of the natural growth

or loss, shows that the number of regions with a natural loss has increased, especially in Nordland and Lapland.

The Future Population Potential on the Nordic North Calotte

The population development in the nineties can partly be understood in the light of the changes in the economic development during the nineties, but only partly. The changes must also be seen in relation to the population development for decades earlier, which has made the population structure of the region today. This is especially the case with the natural growth, which has been reduced very much through the nineties in the area, and largely can be explained by a reduction in the number of people, and women in particular, in the age between 20 and 40 years. This reduction has happened through net out migration in the cohorts born in the sixties and seventies during the last 20-40 years. The net out migration in the nineties can also be connected to the previous population development, partly because the age structure affects the local economy, and partly because the size of the cohorts of youngsters influence the share of these cohorts which can find opportunities locally. This kind of effects are local and can vary considerably.

To reveal some aspects of the future population development, we will look at some indicators telling about the current age and sex structure in the area, and also on indicators telling about significant changes during the last fifteen years which will affect the future population development in the area. Still these indicators can't tell us what will happen, especially not in the local communities, where major changes in economic development may find place. Major incidents as changes in the stock of cod in the Barents Sea, the starting of oil and gas extraction in the Barents Sea, major changes in prices on important products from the area as fish, timber/paper, ore, or environmental restrictions on extraction, processing or use of nature resources in the area, can change the picture given by the indicators, especially in certain regions. For the whole area we think the indicators gives a right picture of what may happen if the situation not changes considerably.

The indicators are partly indicators on the current age and sex structure, and partly related to the situation fifteen years ago. Three indicators tells about the current age and sex structure in the population:

- The proportion of the total population in the age-groups 6-20 (PROP 6-20) and 21-35 years (PROP21-35), tells us how "young" the population is, which means a lot to the natural potential of the population.
- The number of women pr. 100 men in the age group 21-35 years (WOMEN21-35), gives a picture of the balance between the sexes in this vital age group, and in next turn affect the birth rate.

In addition we have used two other indicators giving a picture of vital changes the last fifteen years, which will influence the future population development. These indicators are developed by the demographer Kjetil Sorlie on NIBR (Sorlie 1995):

- The current number of persons aged 6-20 is divided on the number of persons in the same age group fifteen years earlier, and multiplied by 100 (GROWTH 6-20). This indicator tells us how much this age group has grew (>100) or shrunk (<100) in the fifteen last years, and therefore how the natural potential has changed in this period.

- The current number of persons aged 21-35 is divided on the number of persons aged 6-20 fifteen years earlier, and multiplied by 100 (YOUTHFACE21-35). This indicator tells us how much these cohorts (born 1965-79) has grown (>100) or shrunk (<100) through net migration the last fifteen years, which also gives a general picture of the net result of migration through the youthphase, and suggests what might happen the next fifteen years with the next young generation from the same area.

The overall picture these indicators give of the situation and potential of the population on the Nordic North Calotte, is that the age and sex structure is a bit more negative than in the three Nordic countries in general, and that the changes in potential are clearly more negative in the area than in general. But this varies a lot between the counties, and even more between the regions in the area. On the county level Troms has the highest indicators over all, and Lapland and Norrbotten the lowest indicators (Table 2).

Table 2: Indicators of Future Population Potential in the Counties of the Nordic North Calotte

	Status			Women pr. 100 men 21-35 years (WOMEN_21-35)	Changes	
	Total population des.01	Proportion 6-20 years (PROP_6-20)	Proportion 21-35 years (PROP_21-35)		N age 6-20 today vs. 15 years ago (GROWTH_6-20)	N age 21-35 today vs. age 6-20 15 years ago (YOUTHFACE_21-35)
Finnmark	73700	19,5 %	22,7 %	93	76	89
Troms	151800	19,5 %	21,9 %	94	84	94
Nordland	237300	19,9 %	19,7 %	93	83	83
Norrbotten	256500	18,9 %	18,7 %	88	87	87
Lapland	190500	20,7 %	17,1 %	91	89	74
Nordic North Calotte	909800	19,7 %	19,5 %	91	85	84
Norway	4,52 mill.	19,1 %	21,5 %	96	94	105
Sweden	8,91 mill.	18,8 %	20,2 %	96	100	107
Finland	5,19 mill.	18,9 %	19,1 %	96	100	101
All three countries	18,62 mill.	18,9 %	20,2 %	96	99	105

The figures on Norway are from end of 2000 (status) and 1985 (changes), while the figures on Sweden and Finland are from 1999 and 1984

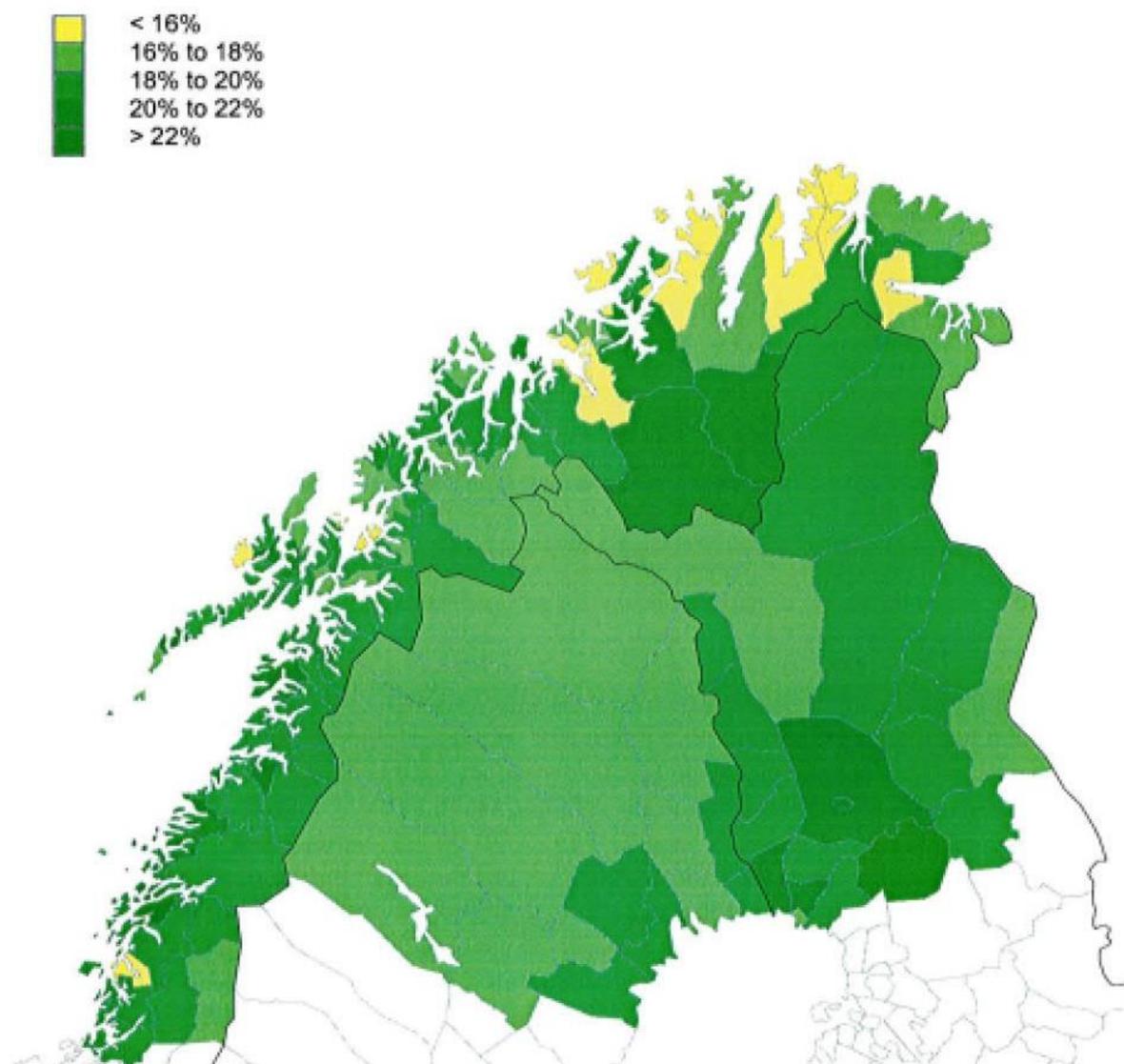
Source: NIBR, based on data from Statistics Norway, Sweden and Finland.

The indicators on the age and sex structure shows the following picture:

- Lapland has a high proportion of children and youngsters aged 6-20 (PROP 6-20), and no counties on the Nordic North Calotte has low values on this indicator. This means this age group is slightly overrepresented in the area compared to the countries.
- The proportion of young adults aged 21-35 (PROP 21-35) varies more, both between the countries and counties on the Calotte. The proportion is high in Finnmark and Troms, and low in Lapland. On the whole this age group is slightly underrepresented in the area.
- The number of women pr. 100 men aged 21-35 (WOMEN 21-35) are low in Norrbotten and Lapland, and higher in the Norwegian counties, but still under the national and Nordic figure of 96 women pr. 100 men in all the counties. On the whole the number is 91 pr. 100 on the Nordic North Calotte.

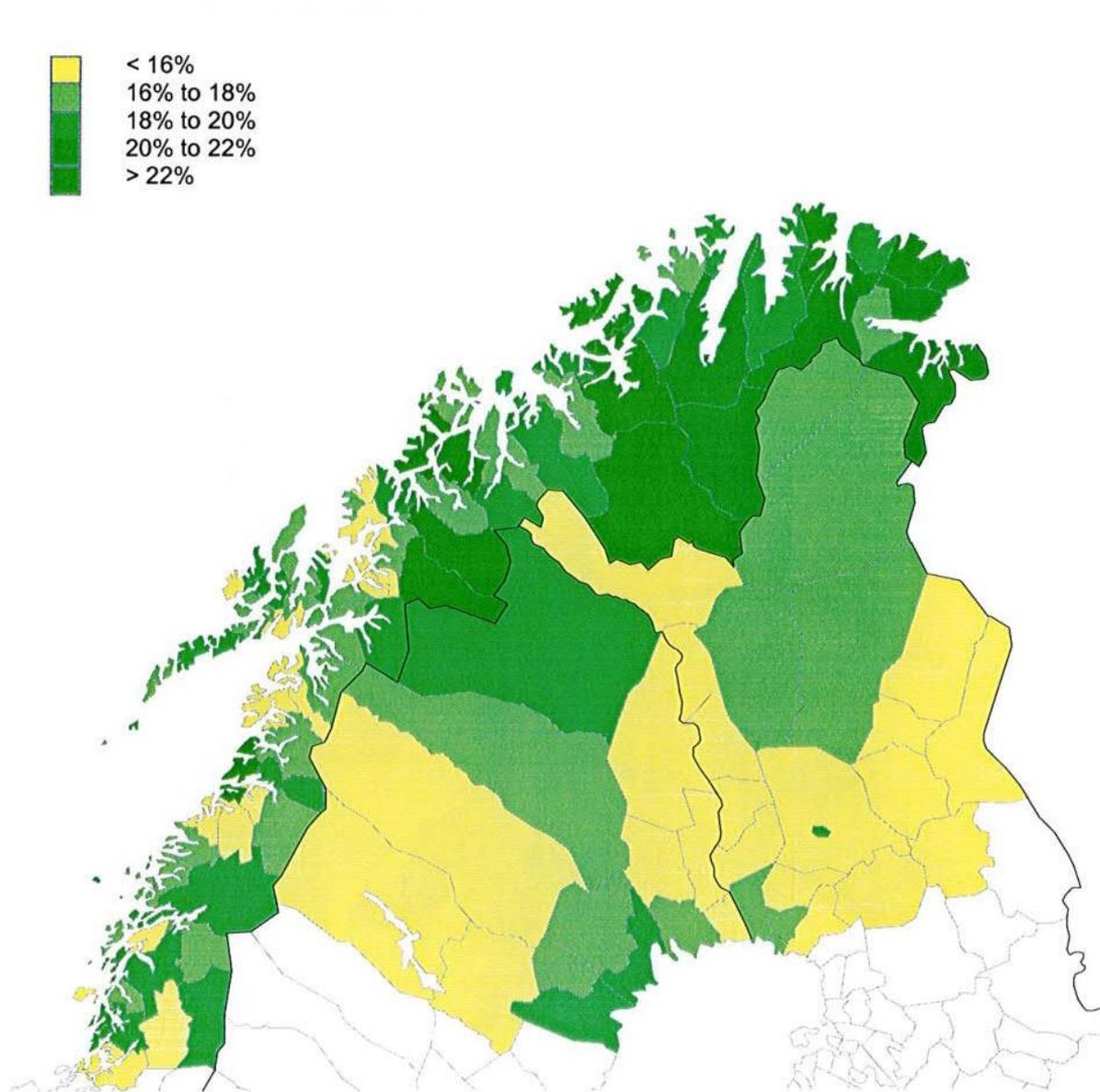
The regional pattern on the current age and sex structure are shown on three maps. The proportion of children and youngsters aged 6-20 are generally high in the area, but low in Coastal Finnmark, Inner Troms and Inner Norrbotten (Figure 6). The proportion of young adults aged 21-35 are generally lower in the area than in the countries, but high in Finnmark and Northern parts of Troms, included Tromsø (Figure 7). In most of Lapland this proportion is low, and also in the Tome valley and western parts of Norrbotten, together with the peripheral regions in Nordland and Troms. The number of women pr. 100 men are also generally low in the area, but the regional pattern of this variable shows a more mosaic pattern than the variables on age structure (Figure 8). The areas with low number of women pr. 100 men 21-35 years are Eastern Lapland, Tome valley, inner parts of Troms, and peripheral parts of Nordland and Finnmark. In total this gives a lack of population potential in many of the regions of the Nordic North Calotte, especially eastern parts of Lapland, the Tome valley, most of Norrbotten, and peripheral parts along all Northern Norway.

Figure 6: *Percent of Total Population in Age Group 6-20 in the Municipalities on the Nordic North Calotte*

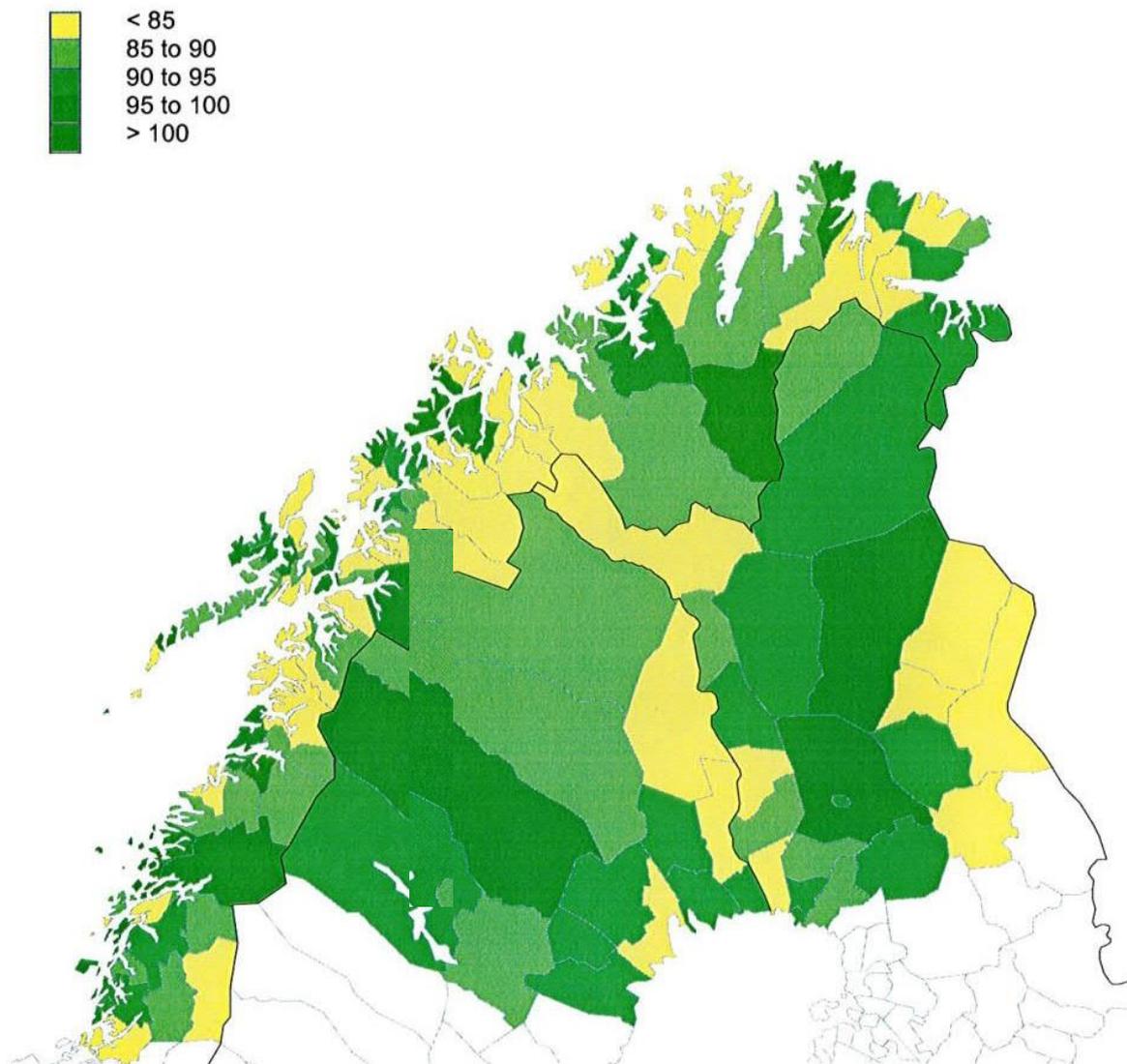


Source: NIBR, based on data from Statistics Norway, Sweden and Finland. Map made by PX-Map.

Figure 7: Percent of Total Population in Age Group 21-35 in the Municipalities on the Nordic North Calotte



Source: NIBR, based on data from Statistics Norway, Sweden and Finland. Map made by PX-Map.

Figure 8: Women pr. 100 Men in Age Group 21-35 in the Municipalities on the Nordic North Calotte

Source: NIBR, based on data from Statistics Norway, Sweden and Finland. Map made by PX-Map.

The indicators on changes the last fifteen years influencing the natural potential shows a more negative picture on the county level (Table 2):

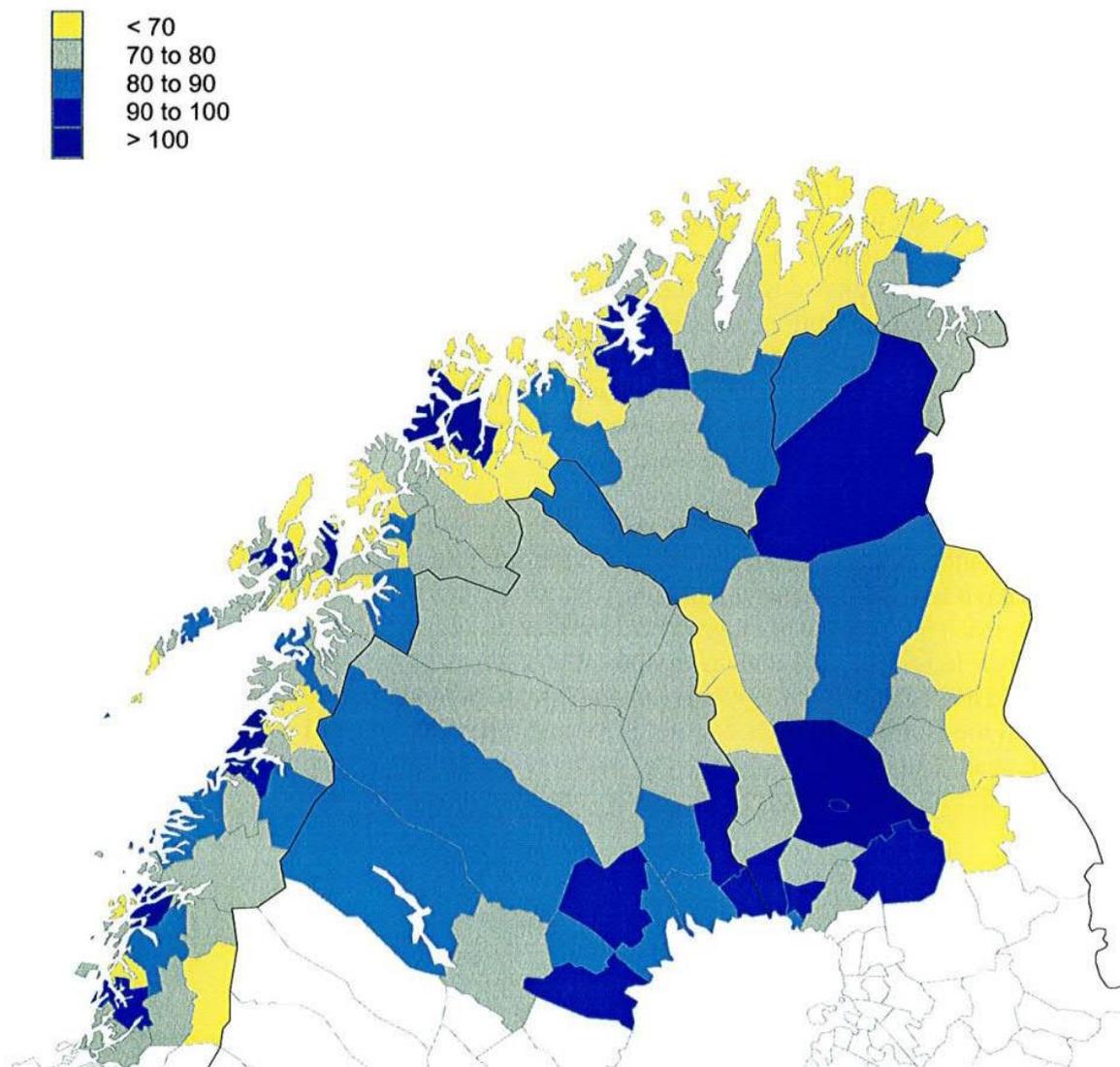
- The number of children and youngsters aged 6-20 have been reduced in all the counties, while on the national level there has only been a decrease in Norway, which mainly is due to different "waves" in size of cohorts born the last three decades in Norway than the other countries. The highest reduction has been in Finnmark (by 24%), while Lapland has had the lowest reduction (by 1%). On the whole Nordic North Calotte there has been a reduction in the number of children and youngsters of about 1.5% in fifteen years.
- The fifteen cohorts born 1964/65-1978/79 have been reduced in all the counties, while they have increased on the national level in Norway and Sweden due to net immigration, but not in Finland where the net immigration has been low. The most dramatic reduction

- is seen in Lapland where about one fourth of this young generation has disappeared
- through net out-migration. Troms has had the least reduction with 6%. On the whole Nordic North Calotte this generation has been reduced with over 15% in fifteen years.

The regional pattern of the changes are shown on the following two maps. The number of children and youngsters have been reduced much in Coastal Finnmark, scattered parts of Troms and Nordland, northern parts of Norrbotten and Tome valley, and in Eastern Lapland (Figure 9). It has also been a reduction elsewhere in the area, except for the regions Rovaniemi, Bodø and Tromsø which have had a small growth in this age group. Also the reduction of the generation bom 1964/65-1978/79 has been severe in most of the area, and the regional pattern shows a quite similar picture as the former figure, with an even more clear center-periphery dimension. Many regions have had high net out-migration in these cohorts, and mainly these regions constitute the peripheral regions of the counties (Figure 10). But there are interesting exceptions in Eastern Finnmark and Inner Finnmark, which not has had the same loss as other peripheral regions. Elsewhere it is mainly the city-regions and some regional centras in Norway which has had net in-migration or small net out-migration in this age group. The Kemi-Tomio-region has had net out-migration in this age group, together with the regional centras in Lapland and Norrbotten.

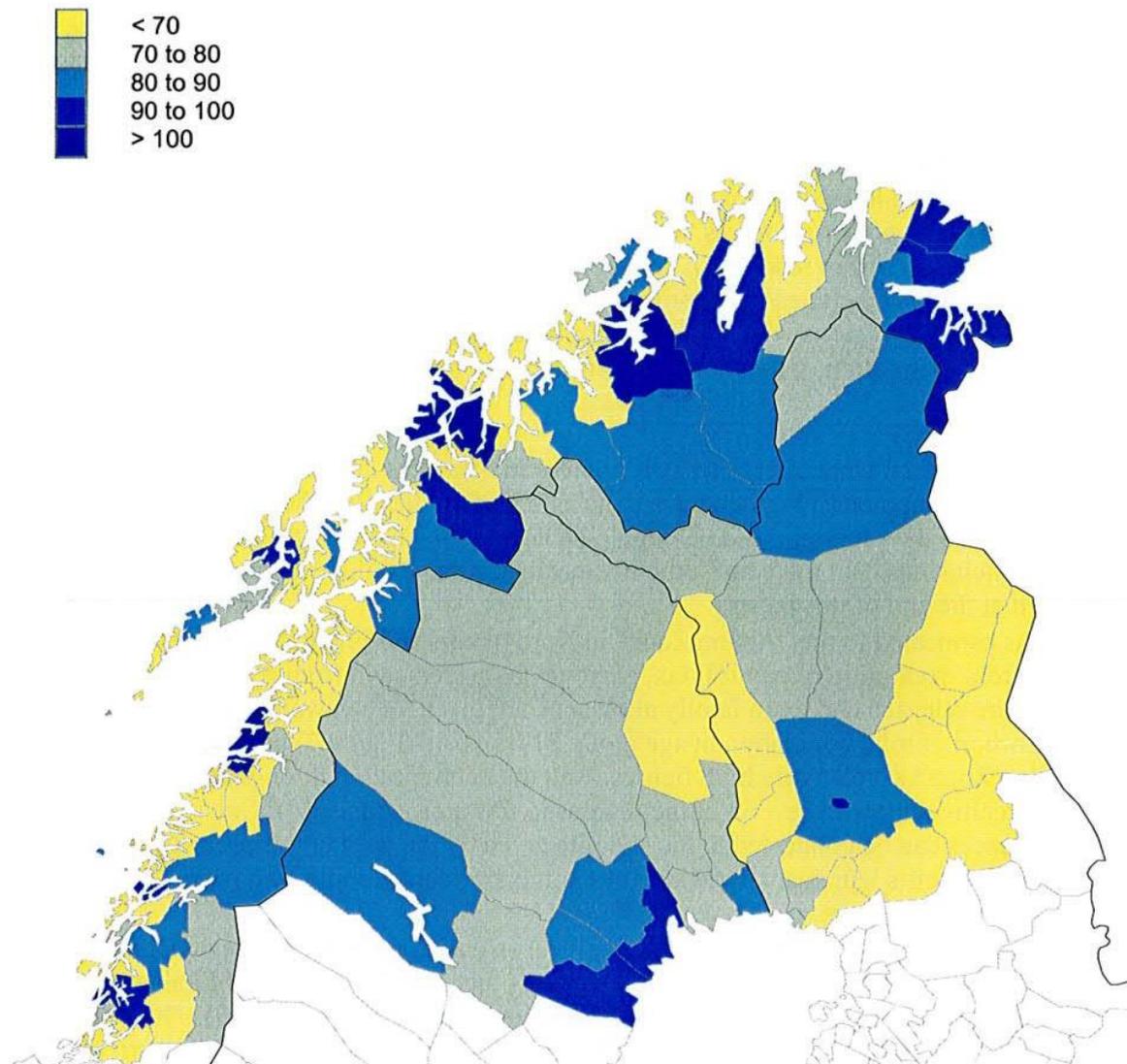
The most important reason for the low score on these indicators, and also the indicators on current age and sex structure, are the high net out-migration from the area for several decades. Thus we have to wiew the current situation and the future potential in such a longitudinal perspective as an historical demographical process, to understand that this is a situation which is made over long time, and that an any possible changes in this situation and potential will take time. The probability of a positive change in the population potential are for most of the regions on the Nordic North Calotte not high, and many regions will probably experience a negative change in potential instead. The main reason for this is that the low current potential will affect the future population development and the future potential.

Figure 9: *Index of Current Number of People in Age Group 6-20 vs. Fifteen Years Ago (no change =100), in the Municipalities on the Nordic North Calotte*



Source: NIBR, based on data from Statistics Norway, Sweden and Finland. Map made by PX-Map.

Figure 10: *Index of Current Number of People in Age Group 21-35 vs. Number of People in Age Group 6-20 Fifteen Years Ago (no change =100), in the Municipalities on the Nordic North Calotte*



Source: NIBR, based on data from Statistics Norway, Sweden and Finland. Map made by PX-Map.

Does Different Regional Policy have an Impact on Population Development?

This is a difficult answer which cannot be answered by the kind of data analysed in this paper, but as I said in the start, we can trace some effects of the different politics in the population development and future potential.

There are two main differences between Norway and the other countries when it comes to regional policy. The first is the fact that Norway use considerable more money on regional policy measures than Sweden and Finland. Only in Northern Norway the amount of money used on the most important regional measures, differentiated pay roll tax and reduction in personal tax in Nord-Troms and Finnmark, is about 700 mill. EURO yearly, which is about 1500 EURO per inhabitant. The most important measure in Northern Sweden is the EU- objective one program for

Norrbotten and Västerbotten counties, where the yearly use of money is about 170 mill. EURO, which is about 350 EURO per inhabitant in these two counties. Added the transport support which yearly costs about 30 mill. EURO in these two counties, the total amount spent yearly per inhabitant rise to nearly 400 EURO. We have not the total overview of the total use of money on different regional policy measures on the Nordic North Calotte in general, but the example over shows the kind of differences in money spent.

The second difference is that the two most important measures in Norway are general in the sense that most employers and tax payers do gain from them. In Sweden and Finland the most important regional policy measures, the EU-programs, are specific in the sense that they are used on projects of different kinds. A consequence of this is that the money in Norway are spread to all regions included in the area covered by the measures, the money in Sweden and Finland goes to the regions which makes the projects getting support from the programs. This gives more concentration of the money to specific regions in Sweden and Finland than in Norway.

The question is then what effect these differences in measures may have on differences in population development? We then have to be aware of all the other factors which have implications on the economic and demographic development, and should be cautious when making conclusions. But there are some interesting traces, and three different traces are presented at the end of this paper:

- One is connected to the "Action Zone" in Nord-Troms and Finnmark, where employers gain from exemption of pay roll tax, personal tax payers gain from reduction in tax, study loans are released and extra family allowance are given. When we look at the map on proportion of total population in age group 21-35 years (Figure 7) all the area in the Action Zone has relatively high figures. And the net migration through the youthphase has been relatively low in several of the regions in this area (Figure 10). One reason for these differences can be connected to the benefits given by the state in this area during the last decade, benefits which are especially attractive for young people who have study loans they have to pay back.
- Another trace is the different and relatively more positive population development and structure in parts of Northern Lapland than the other peripheral areas of Lapland, which can be seen on several of the maps on population indicators (Figures 7-9). This can be connected to the development of the leisure industry in these regions in Northern Lapland, which partly have been supported by regional policy measures, or support from the regional level.
- Another interesting aspect is connected to the Saarni policy which has been developed in all the three countries during the nineties, and the population development in the Saarni areas of the Nordic North Calotte. The Saarni policy is not a regional policy, but it implies use of money in the saarni areas, and can have effects on economic and demographic development. On several of the indicators the core saarni municipalities in Inner Finnmark and Northern Lapland have high scores (Figure 7-10), and on some of the indicators also the municipalities of Western and Northern Norrbotten scores high. Since the saamis are a minority in these municipalities in Norrbotten, it is difficult to observe possible differences in our data. Data on a lower geographical level can reveal such differences.

There are probably other effects which also could be seen in population development and potential if one had analysed this thoroughly, but that has not been the case in this paper.

Section II: Civil Society, Sustainable Development & Governance

Arctic development, environment and Northern natives in the Soviet Union

Alexei Yu Roginko

1. Evolvement of Current Soviet Arctic Policy

For obvious reasons, the Arctic region has always played a special role for the Soviet Union. The USSR is by far the largest of all the Arctic rim nations. Roughly half the land area of the Circumpolar North lies within the Soviet Union, and this land area in turn constitutes half of the territory of the country. Out of 12 million people inhabiting the Circumpolar area, 10 million live in the Soviet Union. Historically, the dominant factors determining the USSR Arctic policy have been the military-strategic and the economic ones. The latter has been tied almost exclusively to the development of abundant mineral and fossil fuel resources in the area. The priority of the military factor in using the spaces of the Arctic can be explained in terms of international relations in the region, which long before the World War 2 (and since the beginning of the Cold War in particular) has become involved into the sphere of military confrontation between the two opposing 'socio-economic systems'. As a result, the Arctic has been viewed in the USSR primarily

in the light of strategic interests, and cooperation in economic, scientific and environmental fields has been accorded secondary, if any priority.

The Murmansk initiative forwarded by President M. Gorbachev in October 1987, marked a turning point in the Soviet Arctic policies. The most striking feature of the initiative was that it represented an authoritative exposition of a unified approach to Arctic policy by the Soviet Union, bringing together security, resource, scientific and environmental issues. It reflected an idea of broadening the concept of international security, of a close interconnection between its civil and military elements, an understanding that economic development and environmental protection are both, in considerable measure, are contingent upon controlling the arms race.

Since the time of Murmansk speech, more has been done by the Soviet Union to develop Arctic cooperation on an international arena than through the previous 70 years. The Arctic region has been accorded one of the highest priorities in the Soviet foreign policy in general. But what is probably even more important, is that the Murmansk initiatives could not but have a profound impact on the domestic dimension of the Soviet Arctic policy, radically changing the order of priorities in the use of Arctic resources and space. What is the essence of these changes? First of all, it is the realization of the need for Arctic policy to serve a variety of interests. If previously it was designed primarily to address strategic, resource and, to a certain extent, scientific concerns, the contemporary approach is marked by a clear-cut trend of a shift of priorities towards social domain. A whole complex of military, environmental, scientific, economic and social factors is taken into account while formulating current Soviet Arctic policies. A drastic increase in the importance of a socio-environmental sphere, accompanied by a relative reduction in the weight of strategic problems/ have resulted in a certain levelling of various policy issues significance. But the existing possibilities of dealing with each of them, the experience already acquired as well as the extent of their neglect vary substantially. Of particular concern today are the environmental issues and the whole complex of problems related to the needs and interests of the northern native peoples (see Vartanov & Roginko, 1990).

2. Conflict between Environment and Economic Development

For decades, Soviet economic policy and practice in the use of Arctic resources and spaces were dominated by the attitude which can be formulated as follows: "the more we take from the Arctic, the better". And when contradictions emerged concerning different uses of the Arctic, or between environmental and social priorities, on the one hand, and resource development, on the other, this issue was, as a rule, resolved to the detriment of the former. For a long time all economic activities in the North have been (and mostly still are) exclusively resource-oriented. Still, the Soviet Union relies heavily on the Arctic for the supply of fossil-fuel resources: the Siberian Arctic accounts for almost two thirds of national oil and more than 60 per cent of natural gas production, and these percentages are bound to increase substantially, especially when Arctic offshore oil and gas development starts.

Such an approach to the development of the Soviet North has resulted in a deep conflict between the economic interests of the industrial civilization and the Arctic ecosystems which are now functioning at critical levels. And what is even more important, it is the interests, the identity, and

the very existence of small northern aboriginal peoples which are now at risk. The few improvements that industrial civilization and technology have brought about into the life of northern natives are far outweighed by the damage inflicted upon the Arctic environment by the ministries, agencies and organizations conducting large-scale, practically unregulated and uncontrolled industrial development.

Reckless, aggressive exploitation of the northern environment by the Soviet industrial ministries undermines the natural basis of small indigenous peoples' existence. Being forcefully resettled into small towns, they are gradually losing their traditions of reindeer, hunting and fishing; as a rule, they occupy the lowest rungs of a social status ladder. Their human environment, material culture and social organization are being changed so drastically, that it is difficult to guarantee their survival in the coming decades. The results of traditional life-style destruction are unemployment, high criminal and suicide rates, alcoholism, etc. Their average life expectancy is comparable only to that in the least developed countries - 43-45 years for men, about 55 years for women. Infant mortality has also been exceptionally high (see Pika & Prokhorov, 1988; Golubchikov, 1989). Several of the 26 small northern aboriginal peoples even decreased in number during the decade of the 1980s. And this is not an effect of a certain universal process dooming any small peoples to extinction, as some would seem to suggest, but rather a direct result of an incompetent social policy. To cite just one fact, while back in the 1960s average life expectancies of North American Inuits and Soviet northern natives were roughly equal (62 years), two decades later the same index has increased by about 10 years on the one side of the Bering Strait, and decreased by 10-15 years on the other one (Sangi, 1990).

What is most important to realize is that no comprehensive solution of any pressing issues concerning the northern aboriginal peoples can be achieved without the active involvement of the Northern natives themselves. Any attempts to implement any, even most helpful, measures from "above" from Moscow or Tyumen, from Magadan or Krasnoyarsk are doomed to failure. The independence of the underdevelopment is the only possible means of their survival, because if the barrier of social passivity and alienation is not broken by the natives themselves, no support from outside would help. What the central authorities should do is to curb the expansion of industrial ministries to the North, to make them respect and consider the needs and interests of aboriginal peoples. It should be for the natives themselves to decide, what is better for them - traditionalism or industrial development, reindeer or oil, privileges from the state or economic prospects (Pika & Prokhorov, 1988).

Until present, the role of the local authorities in the regions of new industrial development has been negligible, and the opinion of native peoples was ignored by the industrial agencies exploiting the northern environment. Now the situation is gradually changing. The new union and republican laws passed have granted the northern communities new rights and they are now able to dispose of cooperative property on their lands and resources more or less independently. But local authorities and executive bodies have little experience of this kind, and they are faced with strong opposition of the industrial circles. Although the latter are now under heavy pressure of public and scientific organizations, the ministries and their enterprises are still trying to mitigate the claims of environmentalists and native peoples. The relations between the local authorities and the industry

should be based on leasing agreements with appropriate payments for territory, natural resources, and reimbursement of environmental damage (Andreyeva, 1991).

In the end of March 1990, the first Congress of peoples of the North was held, and the Association of Small Northern Peoples was established. Its aims are the promotion of political, social and economic rights of the northern natives, preservation of their cultural identity, control over resource exploitation in the territories of their residence, as well as the representation of these peoples' interests at all governmental levels. In the declaration adopted by the Congress, its participants called for a revision of principles of northern territories' industrial development; they demanded, in particular, that any large-scale project concerning utilization of natural resources should undergo the examination of the relevant regional native peoples' associations (*Izvestiya*, 1990, No. 92).

There is now some hope that the demands of the Northern peoples will have better chances of being realized in the coming years than previously. A completely new concept of social and economic development of the Northern peoples themselves (and not just the areas of their habitation) up to 2005 is now being realized. A new structure within the Russian Federation government - State Commission on Socio-Economic Development of the North – has been established in June 1990. According to the current plans, 6.4 billion rubles are to be spent during the five- year period (1991 - 1995) to meet the vital needs of the Northern natives, including their traditional trades ' development, health, education, and housing construction.

At the same time, a significant element of uncertainty into the situation with socio – economic development and environmental protection in the North has been introduced by the call by Soviet republics for increased local control over resources as well as the authority necessary for their management. The parliament of the Russian Federation (RSFSR) has declared its property rights for all the resources found in its territories, and moreover, the same thing has been done by most of the national - territorial formations within the RSFSR (autonomous republics, autonomous districts etc.). Much of the legal responsibility for environmental protection in the USSR (particularly with respect to the North), and perhaps more importantly, the resources for adequate management and enforcement, presently rests with central authorities and not the republics. This presents a dilemma in terms of who would manage environmental protection programs and how effectively management could be accomplished in the event that the republics were able to press their claims. Many of the experts in the country are in doubt whether the autonomous republics like Chukotka or even Yakutia are able to adequately manage their vast territories, to develop natural resources, to protect environment, and to provide huge investments necessary for social programs, infrastructure, etc., independently, without the support of the center. Far North is the territory of national, all - union significance, and to develop it State investments and state programs are required (Krasnopolski, 1991).

3. Possible Solutions

The northern regions of the USSR comprise today the largest remaining territorial and environmental reserve of the country and of the mankind in general. Vast expanses of tundra, forest tundra, and taiga play a prominent role in supplying the mankind with atmospheric oxygen,

in regulating environmental balance in the whole of the Northern hemisphere. Thus the North perhaps is even more important not as a supplier of raw materials and fuel, but as a reserve of unoccupied areas which in the present conditions of increasing explosive hazards of a technosphere becomes particularly necessary. Therefore, at least theoretically, we should be interested in keeping the Northern spaces intact as much as possible. But we have to be realistic. One can hardly speak today of the North's total conservation even though such ideas were widely spread in the USA and Canada some 10-15 years ago. Of course, we need the North's resources and they will have to be developed. At the same time, the need for conservation of these resources, for preserving the Northern environment is becoming ever more obvious. It is even more obvious that there exist alternatives for North's resources, at least for their larger part. Resource-saving measures, reducing raw materials and energy consumption, use of various substitutes will undoubtedly bring about a dramatic decrease in exploitation of many sources of fuel and raw materials, including those available in the North. That is why search for alternatives to the Northern resources can be viewed today as a major way of reducing the anthropogenous and technogenic impact on the North, particularly the Arctic, which is most vulnerable in terms of environmental damage (Agranat & Andreyeva, 1990).

Apart from that, several other measures of a broad economic character can be suggested as a means to restructure the economy of the Soviet North and hence to reduce deleterious human impact on the Arctic environment. Among them are the following:

- re-orientation of the foreign trade structure towards a decrease in unprocessed fuel exports share;
- raising the efficiency of resources and particularly oil extraction (at present the oil stratum output rate does not exceed 40 percent);
- revision of resource prices to include an element covering the 'post-resource' development and environmental damage;
- revision of approaches to the complex industrial development in the northern environmental conditions: is there always a need to build up a superstructure of deep processing of the extracted raw material gradual diversification of economic specialization to include the non-resource types of economic activities: recreation, tourism, transportation and transit (including intercontinental) functions; revival of the traditional industries of the indigenous population (see Shlikhter, 1990).

In addition to economic measures, a whole range of specific legislative and administrative steps is required to resolve complex issues regarding interrelations between economic development and environmental protection in the Arctic.

First, radical modification of production location schemes is necessary: the Northern environment may not sustain such a congestion of industrial enterprises which until recently the mid latitude areas coped with fairly well. Huge enterprises and territorial-industrial complexes prove to be literally ravishing for the environment of the Arctic. For instance, in the Kola Peninsula emissions of sulphur are twice as great as those in the whole of Finland. The so-called industrial desert in this region with practically no living plants covers an area of about 100,000 hectares. The area where

sulphur deposition is estimated to be 1-2 grams per square meter annually, amounts to about 5 mln. hectares, approximately half the size of Finnish Lapland; on that area trees are defoliated and changes in the composition of lichen and moss species are observed (Varmola, 1989). In the regions around Norilsk vegetation cover is virtually destroyed in the areas covering several hundred of square kilometers: within the radius of 100 km from the city, concentrations of copper in snow cover and moss amount to 40-70 mg/kg, and those of nickel - to 400 mg/kg (Nauka i Zh i zn, 1990, No. 10). Hence, ways of maximum possible decentralization of industry in the North, where the assimilative capacity of the environment is subaverage, should be explored.

There are even suggestions to suspend temporarily all the industrial development in the Arctic and to concentrate efforts on central regions development (See Kotlyakov & Agranat, 1989).

Any legislative and administrative instruments regulating economic activities in the North should be specifically suited to the ecological and geographical conditions of this region - low temperatures, permafrost, general instability of geocological systems. For instance, introduction of specific, more stringent as compared., to mid-latitudes emission and pollutants' load standards is urgently required in the Arctic. Penalties and sanctions for the breach of nature protection laws and regulations should also be much stricter bearing in mind that restoration of the disturbed environment here might take centuries. Legal measures aimed at protecting the Arctic environment should provide not only for the compensation of environmental damage costs, but for the prevention of such damage itself.

This, in turn, necessitates the development of a new system for assessing land and natural resources' value in the North, which must take into account potential environmental damage costs. This system should be based not on the use of the resources visible presently or in the nearest future, but on the experts' assessments of the importance of the North's ecosystems and its riches in the long run. Otherwise we would come to the conclusion that, say, dwarf willows or birches are "worth" nothing (Agranat & Andreyeva, 1990). The losses due to one ruined hectare of the tundra and forest-tundra amount to not more than 2-3 thousand rubles if calculated according to the currently accepted methods (mostly the losses of reindeer-breeding and hunting economy). For comparison, similar losses in the developed and populated forest-steppe zones in the South of Russia are estimated at 50-60 thousand rubles. But if we take into account the costs of northern ecosystems' rehabilitation, the damage estimated might increase hundreds of times, or even become infinitely high, since the ruined ecosystems in the Arctic might be lost irrevocably.

One cannot say that nothing is being done in the field of Arctic environmental protection legislation in the Soviet Union. Good laws are being passed, but their provisions remain mainly on paper, not being enforced. For example, in November 1984 the Decree of the Presidium of the Supreme Soviet was passed, named "On the strengthening of nature protection in the regions of High North and sea areas adjacent to the northern coast of the USSR". It envisaged the establishment of a network of natural reserves, placed strict limitations on the use of transport, tourism and industrial development in the Arctic, provided for special design, equipment and manning standards for vessels operating in the Arctic waters, for the establishment of periods of time as well as specific sea areas, closed for navigation, etc. (see *Vedomosti Verkhovnogo Soveta SSSR*, 1984, No. 48). But the problem is that the concrete norms and rules upon which the

implementation and enforcement of the Decree depend were not elaborated for years. It was the ministries and agencies involved that have been blocking the issue. A complex of measures designed to expedite the implementation of the Decree has been provided for by the special Enactment of the USSR Council of Ministers passed in 1990, six years after the Decree itself. According to the text of the Enactment, relevant draft norms and rules should have been prepared by the agencies involved within three months (see *Sobraniye Postanovleniy Pravitel'stva SSSR*, 1990, No. 16). But still, at the time of writing (May 1991), this task remained non-fulfilled.

Finally, one more issue of direct relevance to the effectiveness of Arctic environmental policy in the USSR is that of funding. Seriously addressing environment protection in the High North is expensive. And the Soviet Union, if any is a state, whose Arctic regions are both in very bad condition and need huge financial investments, if the basic needs of the citizens would have been fulfilled. In the current situation of the Soviet Union it is very difficult to have financing for nationally important environmental protection of the Arctic areas. In the country there is a real need for more advanced and environmentally friendly technology, as well as technology for to clean-up polluted areas. Therefore, in the Soviet Union there is growing need for economic support from Western countries, in addition of scientific and technological cooperation between the Arctic states (e.g. Griffiths and Young, 1990).

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Social consequences of the reforms in Russia: toward a human social policy?

Larissa Riabova

The new regional reality is that Russia has become a mostly Northern and, moreover, Arctic state with extremely strong impact of this northernness on all sides of life and she must learn how to respond to this northernness in social life. Another most obvious thing is that large-scale national crises influence social life of society in different ways and on different levels: from the national to the personal, and the responses to the new challenges are affected by extreme and extraordinary situations, and vice versa, the responses themselves creating new and sometimes unpredictable situations. In this respect it is of interest to look at the reflection of global processes in the local Northern mirror and I am going to do this by focusing on the community life in the Murmansk region, situated on the Kola Peninsula.

Social problems: recent trends

"Our country has no future. (from the letter of a friend).

During the pre-reform period the Murmansk region was a territory deprived in some social aspects. For a long time the region occupied the last position in the range of the Soviet Union's regions by the indexes of services provided.

The years before the 90s were marked by the strong state's tendency to compensate bad living conditions by higher wages and special northern benefits. Before the crises people in the Murmansk region had 2-4 times higher incomes in comparison with other Soviet regions.

The 70s and 80s were times of swift industrial growth and together with industrial enterprises so-called departmental (belonging to the enterprises) social infrastructure was increasing. To the beginning of the 90s industrial enterprises were the owners of more than 60% of objects of social infrastructure in the region.

If one would like to examine the social situation in that time in terms of fundamental social divisions such as class, race and gender it could be quite difficult to do it because of almost complete absence of studies related to this subject.

Certainly the occupational division by work in different branches of the regional economy could be observed at that time. Since industrial enterprises were the main guarantors of welfare and main possessors of social infrastructure people working not in industry were actually discriminated against because of essential differences in wages, provision of services, dwelling, health care or recreation facilities. At the same time it was a period when people living in the region found themselves in some sort of privileged position in relation to people living in the other Soviet regions because of extremely high incomes. In my personal opinion, in the two decades before the 90s something resembling the common identity or awareness about people's northernness has been existing: a kind of northern solidarity or spirit of brotherhood. The 90s have opened a new page in the regional life and this page was stamped by the short and sharp word "crises". The sudden destruction of every usual thing has occurred. It was Spring of 1992, on one day, the 2nd of April, when many people found themselves standing below the poverty line.

The period 1992-95 could be described as a period when the state was going away from the social sphere. This process was carried out in a few steps:

- 1992, restriction of subsidies for consumer goods (result: sudden depreciation of all kinds of population incomes);
- 1995, cutting the social expenditures (result: shock of the social and pension security, state system of health care and education);
- 1996, final stage of changing the enterprises' position because of falling production activity (result, growth of unemployment, final destruction of enterprises' social infrastructure).

Nowadays the number of agents of social policy formally includes the federal government, regional and local authorities, enterprises, firms, families and people. But the state has removed itself from the active participation in solving the social problems in the attempt to release the budget from "ineffective" social expenditures. Regional and local authorities proved to be unable to realise their

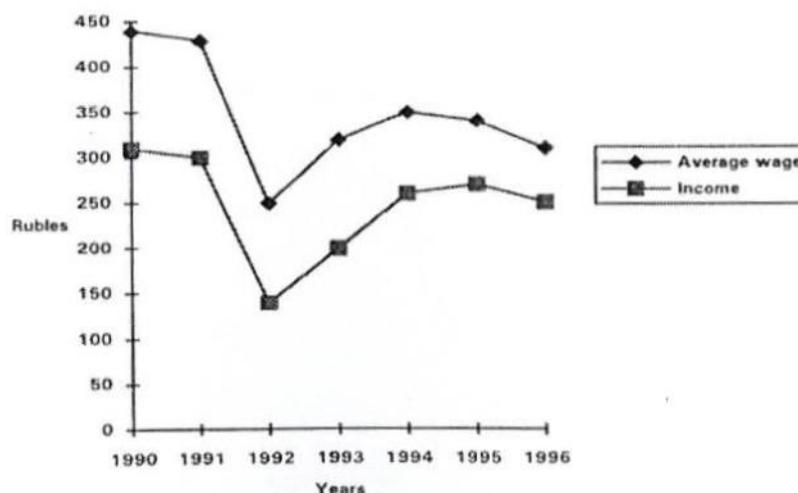
social functions because of a set of the problems. The major one is considered to be that of unregulated financial (especially taxation) relations with the centre. Most enterprises pushed the social functions to the weak local authorities. Thus, all branches of power removed themselves from the social problems and people were given an opportunity to survive independently.

What has the situation resulted in for the local people living in the region?

Briefly the negative results of transformation process for people in the region could be described as following: falling living standards, growing poverty and unemployment, negative demographic trends, split of society, erosion of the former moral values.

Let's take the income trends for Murmansk region. The starting point of declining living standards was 1990. My research has shown that already in 1991 the real values of wages, incomes and pensions in Murmansk region begun to become smaller than in 1990 because the prices started to increase step by step (Figure 1). But in 1992 the picture has become really dramatic: in this year the real incomes of population have fallen more than 2 times (Figure 1).

Figure 1: Average wage and income in the Murmansk Region (deflated values)



For years 1993 – 94 there was small increase of real per capita incomes, but not sufficient to return to the 1990 level. The decreasing tendency has appeared again in 1995 and in 1996 the average per capita income, deflated, became 79% and average salary, deflated, became 71% to the level of 1990.

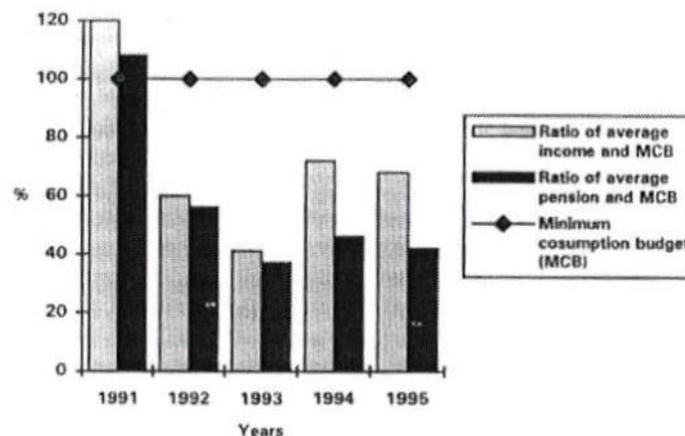
The peculiar feature of the period was increasing poverty. Russian official statistics describe the Murmansk region as a safe territory where the average per capita income is 1.5-2 times more than minimum consumption budget (Popova T., Tekoniemi M., 1996).

My research during last 6 years shows poverty differently than the official one. In accordance with our results the average per capita income in Murmansk region is only 70-80% of minimum consumption budget but not 200% (Figure 2).

There are two doubtful presumptions in the official estimations: first, official statistics do not take into consideration the regional differences in the costs of living and second, they operate with the idea of physiological living budget. But this is restricted social standard which was supposed to be used only for very short and in the most acute period of reforms. Somehow this was forgotten and now it is in use as a basis for income policy formation (Kulytgm V., 1993). Minimum consumption budget includes a set of material and non-material goods and services in physical and monetary terms that are minimally necessary for decent maintenance of an individual's basic functions.

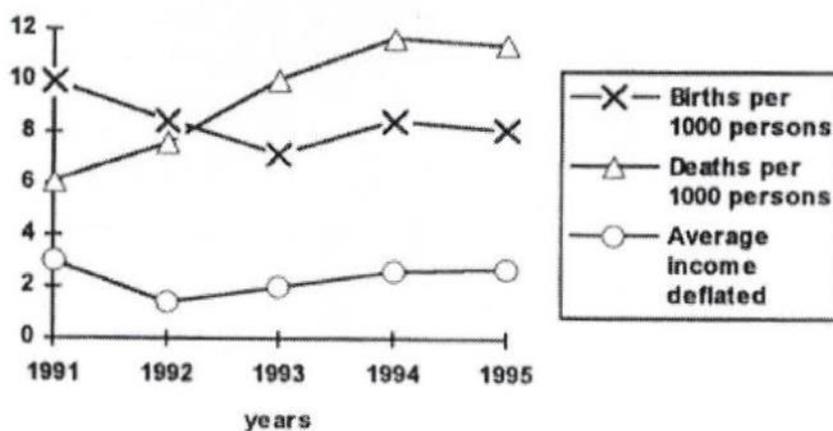
Physiological living budget is a restricted social standard including a set of material goods and services that satisfies the most urgent physiological needs.

Figure 2: Minimum consumption budget and indexes of income and pension in the Murmansk Region



In our calculations we use the results of our own monitoring of prices in the region and the idea of minimum consumption budget. It makes also a difference in estimating the share of population with incomes below the poverty line: in accordance with our results it was 45 % of population in 1995. According to the official statistics in the year of 1995 28% of regional population has being living below the poverty line. For the whole Russia the indicator was 25 % (Popova T. & Tekoniemi M. 1996). It means that even the official statistics give some reasons to think that the falling living standards for Murmansk region was deeper than for other Russian regions.

Demographic trends are dramatically impressive. In the Murmansk region, for just the two years 1992-94, mortality has increased twice. Fertility has decreased twice for years 1980-94 and in 1995 it was 8.1 births per 1000 persons.

Figure 3: Fertility and mortality in the Murmansk Region

Demographers compare the picture of changes with the period of World War II and cannot find such another precedent in our recent history.

Closing this part of my presentation I'd like to cite the phrase from the letter of a friend of mine: "Yesterday I was reading our newspapers and was terrified again. Our country has no future."

Local people: part of the problems or part of the solutions?

...But what are the local people saying to that? I do really want to know what they are saying! (from the discussion at the scientific seminar).

But the future always exists. Another question is: what kind of future we are supposed to have? It is impossible to answer this question without going into the depth of real social life. At a symposium I recently attended, Johan Galtung has said that most research done by social scientists is just a reflection of other books. And it seems to be the truth.

Obviously the first part of my presentation was done in the traditional Russian regional social science way. Partly it was my intention to show what kind of background for social policy-making we mostly have at present, trying to use traditional statistical data as taken for the certain territory as the only tool for making analysis of regional or local social situation.

It is noticeable that nowadays Russian social policy as well as scientific research in this field have an obvious economic bias and neglect the complexity of links and relations forming the regional or local social reality. Such a restricted approach can never help us to answer the questions "who?", "how?" and "why?"

Trying to describe the social situation in the Murmansk region in a way different from the statistical one I would give a picture of social problems with regard to the different areas of relations.

Legislative relations: increasing gap between the growing number of the different laws and their execution, decreasing the possibility for most of the people to solve the conflicts in court.

Economic relations: the way of self-survival for any price for more and more social stratum, using the illegal sources (including criminal ones) of incomes, declining professional scale and status of profession demanding a high educational level, and loss of the labour potential for regional and local economies.

Social relations: the forming of the new social structure, growing number of marginal social groups. The poorest stratum are forming rapidly and consist of scientists, teachers, doctors, the military and elderly people.

Occupational division has developed in a way when only the small part of region's population employed in the particular branches of industry (power engineering and transport), credit and private business found itself in much more favourable situation than the rest of the population. The atmosphere in society could be described as general tiredness, social apathy and "widespread sense of insecurity" (Standing G., 1996). Northerness for the local people became something negative. ("Northerness? This is something like being Russian. Being Russian? This is something like being 'second sort'..." from my interview with Anna, a young Russian woman).

Gender relations: are developing in a way unfavourable for women; no real access to the political participation; privatisation has the effect of reducing the demand for female labour.

Political relations: the population tries to go away from the policy or calls for the strong hand looking for defence. Despite the permanent strikes of people seeking to have their salaries paid, widespread movements for the rights of people have not arisen yet.

Environmental relations: growing awareness of the importance of environmental issues, lack of the local possibilities for restoration activities.

National/ethnic relations: increasing significance of the relations in the regional and local life, growing attention to the problems of indigenous population, lack of the proper regional and local politics in that area.

The above is a picture a bit different from the statistical one, and when thinking and searching in that direction one could become closer to understanding the process of social changes. But still the picture is pale and lifeless.

The most important thing for me is understanding that the core of all that system of relations is a human being, a person which has gender, age, nationality, cultural identity, lives in the concrete community, has their own interests and communicates and acts to realise the own interests.

It is of importance to comprehend that in any kind of issue where people are considered as a part of the system we shall look for understanding first of all the relations between people and impulses for interactions between them (Langlais 1997).

This is especially important in the situation which we have now in Russia: the state still proclaims itself as a main guarantor of social welfare but is in fact unable to realise its own ambitions. Still the majority of governmental social programmes are based on the traditional concept of passive role of the regions and supports the idea of reforms from the top. This question should be discussed in detail but at least one important remark can be made: while in the state social policy

the passive role is given to the regions, in the regional social policy the population is taken into consideration primarily as a factor of possible social explosion, rarely as a passive recipient of state relief and almost never as an agent of positive change.

I believe the human being is the object and the subject of transformation process and any social change is a result of communication between people. I'd like to stress the importance of shift in social issues (both in research and social policy-making) on the micro (especially, personal) level.

In research area it means that qualitative methods of research should come into wide use. While traditional methods like statistical or sociological ones (eg, large-scale surveys) are extremely useful for demonstrating *what* is going on, methods like life histories, diaries, letters, informal interviews are aimed at understanding *how* and *why* it is possible. It is my strong belief that personalisation of the societal experiences is not less significant than the way of generalisation.

This is the only way to learn to what extent the process of forming or implementing the social policy depends on the human being as an agent of social change, his or her gender or cultural identity, and to ascertain the conditions which are favourable for people's successful influence on social policy in the region, or in the local community, and in making the microsocial policy in the frame of the family.

In the area of social policy the shift to the micro (personal) level is of great importance for the Russian case. I see the trend whenever any hope connected to the models where the state plays a noticeable role in social security is about to die. The models connected to employment-related social security with other risks covered by social transfers also seem to be unrealistic because of the situation of the declining industrial employment model we have now and because of the presumption that more of the resources for social purposes must come from the general taxation, while the proportion of the population contributing little and needing social transfers is increasing (Standing 1996). The most obvious way out of the current situation is the privatisation of social policy: creating the small-scale institutions producing independent forms of social welfare and shifting to family and individual responsibility (Standing 1996).

At the same time in Russia the historical and cultural background for such a shift is weak: strong state control for decades created helplessness, the Orthodox Church never valued the personal welfare, private informal structures now are criminalised to the extent of 80%.

Galtung stresses the exceptional role of cultural background in development and points out that cultural changes are going on extremely slowly, but it still is really frustrating to think that "we must just write off this generation," as in the phrase of one Russian authority (Standing 1996).

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The European North as a multiple use region for different interest groups

Lassi Heininen

The main idea of this article¹ is to describe and analyze the situation of the international system of the 1990s in the European North through different actors and interest groups, and from the point of view of the so- called regional dynamics created by different actors.

The aims of the article are: firstly, to illustrate the change in the international system in the 1990s using an example of one geographical area; secondly, to describe different actors and interest groups of the European North in the 1990s; thirdly, to show relationships between different actors and interest groups through case studies; fourthly, to present and analyze the state of the European North in the 1990s through three different points of view; and fifthly, to test the concept of multiple use region as a viewpoint for an alternative scenario for development.

¹ The article is based on my research project “The European North - a Multiple Use Region?” (Heininen 1996b) and continues my previous articles dealing with the change of the current geopolitical situation and international environment of the European North, the BEAR cooperation, a new kind of state of actors and interest groups of the region, and alternative points of view to analyze the future challenges of the 1990s (see e.g. Heininen 1996a and 1997).

The geographical focus of the lies in the northern most regions of North Europe, here the European North, which includes the North Calotte, North-West Russia (except the southern most parts) and the Barents Sea and the Rim area. It is more or less the same geographical region as the Barents Region, officially the Barents Euro-Arctic Region (BEAR), but includes, however, sea and rim areas.

The European North is a relevant part of a new kind of North Europe, here the 'new' North Europe, from the North Atlantic in the West to the Ural Mountains in the East and from Svalbard in the North to the southern part of the Baltic Sea Region in the South (Suomi uudessa Pohjois-Euroopassa 1996). Here the European North can be seen like a laboratory of political scientists, like the Arctic by natural scientists and anthropologists, through which I try to analyze my point of view (Young 1992, Heininen-Jalonen-Käkönen 1995).

Starting Point: the change of the international system

In the international system there are going on different megatrends by which to describe the current situation and existing and probable trends. Here I take the following two megatrends as starting points from which to describe the change of the international system from the Cold War to the Post Cold War Period of the 1990s in the European North: *from geopolitics to geoeconomics, and globalization and regionalization.*

Megatrend: from geopolitics to geoeconomics

The geopolitical and military-political situation deals with a competition between the forces of continuity and the forces of change, which seems to be dominant in the transition period of the international system. A continuation of strategic aspects and emphasis of traditional military based security as the heritage of the Cold War in the policy of the unified states is seen in the European North, especially in the Barents Sea. This is due to great security-political and military-political importance to the major nuclear powers, the Russian Federation and the U.S.A, for example one of the largest concentrations of nuclear weapons and facilities on the Kola Peninsula and the nearby areas and seas.

At the same time when there is a phenomenon of the new geopolitics dealing with subregions in Europe (see Chaturvedi 1994), in the international system there is a phenomenon and megatrend from geopolitics to geoeconomics. That means a political and economical integration, where aspects of economy, power politics and defence come together and have a great influence (see Ohmae 1995).

Geoeconomics has more relevance in comparison to the military and politics which might mean more and harder competition between economic groupings like the European Union (EU), the North American Free Trade Area (NAFTA), the Asian Pacific Economic Council (APEC) or the Association of Southeast Asia Nations (ASEAN) and national powers like U.S.A., Japan and China.

Concerning the current state of the international system, the role of geoeconomics has to be taken into consideration in affairs dealing with the European North both inside and outside the Region. One fact is that geoeconomics has become more important in international cooperation and competition, and therefore geoeconomics is taken as an important and relevant megatrend of the international system in the 1990s.

As a part of this megatrend the picture of the Cold War Period can be described briefly so, that the European North, and especially the Barents Sea, was a military “theater” and an arena for utilization of natural resources dominated by the two superpowers, the Soviet Union and the U.S.A.

Traditional geopolitics looks at a geographical region mostly through geography, technology and power and their relationship and deals with “high” politics like the military- and security-policy and the traditional concept of security. New geopolitics, however, takes into consideration also “softer” elements i.e. elements of the so-called “low” politics (Chaturvedi 1994).

The change of the international system of the 1990s has meant at least the following phenomena to the European North: firstly, that in addition to elements of traditional security and military policy elements of international cooperation between nation or unified states and other actors. Secondly, that Stalin’s modernization in the Soviet Union has broaden to a stage of potential megaprojects in the whole area. So, the global economy is there and the gateway concept as a part of the global economy. There is a competition of an importance of utilization of natural resources and protection of an unique nature. Thirdly, the so-called northern dimension/politics has become an element of an alternative scenarios to national politics of the unified states of the North. That means that not only the northern dimension by the military of the two superpowers but that of the unified states of the region.

Megatrend: globalization and regionalization

The other megatrend, globalization and regionalization, brings to the international system and cooperation new kinds of levels of activity which are parallel to the national level. Some examples of globalization include: the existing global economy, the world wide web and other global communication systems, global environmental problems, global markets and economy, and an end of ideological clash (see Ohmae 1995). Examples of regionalization include: a rise of new kinds of actors like regions, provinces and region-states, and a rise in the importance of regional identity.

In the European context there are different kinds of regionalization, for example regionalization inside the EU with the so-called subsidiary - principle, cross-border regionalization inside the EU, regionalization across the outer border of the EU, regional cooperation beyond the EU like the Visegrad group, the “Four motors of Europe” institutional regional cooperation created by the unified states, like the Barents Region cooperation, with national and regional levels, and ecological regions (Käkönen-Lähtenmäki 1995).

Regionalization, like globalization, is one of the main megatrends and a new and important functional level and possibility to institutionalize the world opened by the new international situation. For that it is required, on one hand, to take into consideration the changes of world economy, the changed position of unified states, and a new kind of thinking about the dilemma of center and periphery, and on the other hand, a new kind of politics, economic geography and a creative thinking process with a goal of a self-determined regional development.

Parallel to this megatrend the picture of the Cold War Period can be described briefly so, that the European North was a part of the great circles of the Globe for airplanes and the military theater for the global political and military competition of the two superpowers. There was no aspect of the context or cooperation of the Circumpolar North except the ICC in 1978. Regionalization did not across the Soviet national borders and happened only within the North Calotte like the Nordic

Sami Council and the North Calotte Committee, except the North Calotte Peace days tradition since 1964 (Heininen 1989).

The European North has been a part of the growth-oriented world economy, and is now increasingly becoming a part of the global economy, mostly because of its rich natural resources like fish, forest, oil and gas. Integration into the global economy is, however, happening more by the preconditions of the unified states and political and economic blocs than the region itself (Heininen-Jalonen-Käkönen 1995).

These two, like other global, megatrends and the changing process of Europe have also created new kinds of challenges and expectations for changes to unified states and the legitimacy of the whole unified state system. Modern unified states are still, however, the main actor of the international system and politics. And it is not yet clear, if the megatrends and the current process of change will mean a real, deep structural change of the international system.

According to these two megatrends the change of the international system of the 1990s has also meant in the European North that inter/ multinational mining and oil companies (e.g. Rio Tinto Zinc) are here, international environmental organizations like Greenpeace and Taiga Forest Rescue, and more foreign tourists and more specific tourism is there as examples of the global economy. The provinces, countries and oblasts of the region have much more international cooperation, even their own 'foreign policy' nowadays, and parallel to the BEAR Council of the governments of the unified states there is the BEAR Regional Council for the regional cooperation between provinces.

Different actors and interest groups

As mentioned in the beginning the main idea of the article is to concentrate on different actors and interest groups. Actors here can be called actors, subjects, political actors/ subjects, groups of actors and/or interest groups and stakeholders. In this article I call them by a general name actors, and/or sometimes interest groups, and I am mostly interested in actors and interest groups with interests, goals and activities across national borders.

One way to organize actors

There isn't any official list of international actors, because they can be organized in many different ways. Here are, however, some categories like e.g. by Dougherty-Pfatzgraff (1990, 22-28) dealing with the actors: individuals, subnational groups, nation/unified-states, transnational groups and organizations not made up of states (NGOS and MNCs), international groups and organizations with states and their representatives as members (IGOs), and the international system. I now continue the discussion of different actors and interest groups in the European North (see Heininen 1996a, 152-155) using and applying the category by Dougherty- Pfatzgraff, to the case of the European North.

Individuals or citizens are the most important layer of all activity and activity in international relations can be searched through an international participation of a citizen (see Alger 1991, 208-210). There are every now and then 'heroes', VIPs or other prominent persons, or a mother/ father character making history. I do not, however, include the level of individuals to my category. Neither

do I include the level of the international system though for example the United Nations (UN) is an important part of the international system. The actors and interest groups of the European North in the 1990s excluded individuals and the international system can be listed in the following way (see Table 1):

Subnational groups

There are counties and provinces in the Nordic and regions or oblasts, republics and okrugs in the Russian side e.g. Finmarken in Norway, Norbotten in Sweden, Lapland in Finland, the Archangelsk Region in Russia².

Local people means here the majority of citizens e.g. the Norwegians and Finns living in the provinces as the main layer of a civil society. The indigenous peoples in the region, the Nenets, the Sami and the Veps, are here citizens with a special status.

There are many civil organizations, which activity is most national or sub-national including elements of international cooperation, like political parties, scientific community, environmental organizations and also mass media and industry in each state.

Nation/unified states

The unified states and their central governments of the Region are Finland, Norway and Sweden, and the Russian Federation. In addition of the governments there are different state organizations of the states like an army and state-owned industry, though more and more of industry in the North has been privatized in the 1990s.

NGOs and MNCs

The category of transnational, nongovernmental groups and organizations (NGOs) not made up of states is rich in many kinds of organizations and corporations.

Among transnational environmental organizations there are International Greenpeace, World Wild Fund (WWF), Taiga Rescue Network, Stopp Dödskyene fra Sovjet, Bellona. Other international civil organizations are the Committee for the North Calotte's Peace Days, the Barents Association of Student Unions and the Barents Press. The scientific community is included this category e.g. the IASC, an international loose network for the Calotte Academy.

Examples of multinational corporations (MNCs) which are present in the region are both mining companies e.g. Rio Tinto Zinc, Conroy and Ashton Mining, and oil and gas companies e.g. Conocon.

There are also international non-governmental organizations dealing with subnational groups like the Northern Forum and the Sami Council, but the Barents Regional Council I do not include this layer. Tourists, and especially foreign tourists, form a new kind of a loose interest group.

² Due to the fact that the Russian Federation is a federation, not a pure unified state like the Nordic states, oblasts and especially republics are a legal part of the Federation, more sub-regional units than sub-national groups (see Morozov 1997).

IGOs

Well known global and other international groups and organizations with states and their representatives as members (IGOs), like the UN and its suborganizations are present in the Region, though they are not so important in the 1990s.

More important are economic and political unions like the EU, and military organizations like the North Atlantic Treaty Organization (NATO) and in 1997 established the Euro-Atlantic Partnership Council (EAPC) of NATO.

There are regional organizations like the Council (the former Committee) for the North Calotte, the BEAR Council and Regional Council.

This is more or less a comprehensive picture on the current situation of the European North from the point of view of different actors and interest groups. Each actor and interest group has its own interests which I do not illustrate here more (see Heininen 1996a). Interests are partly cooperative, partly competing and partly conflicting with each other and actors can create different kinds of cooperation, allies, and competition. For example national interests might differ greatly from those of regions, local people, or indigenous peoples.

A change of actors

Comparing the current situation to the situation of the Cold War Period (see e.g. Heininen 1991, Heininen-Jalonen-Käkönen 1995) it is possible to argue that the state of actors with an influence has totally changed in the European North.

In the Cold War Period among unified states there were first of all the two superpowers, the U.S.A, and the Soviet Union with their central organizations like an army (esp. a navy and an air forces) and industry, and Denmark, Iceland and first of all Norway due to the Nato-membership and sovereignty over the northern regions. Finland and Sweden did not have any real influence to the situation nor had power enough for decision making (for example the U.S. military bases in Greenland).

Among NGOs there were the international scientific community (esp. natural scientists and antropologists) as a loose interest group, the North Calotte Peace Days tradition and the Nordic Sami Council. And among the IGOs there were first of all NATO, and the Nordic Council and its suborganization, the Committee for the North Calotte (see Table 2).

When thinking who the political actors of the Cold War Period with a real influence and power in the situation were the list is even shorter. There are only the U.S.A, and the Soviet Union and their armies, especially the navies, and industry (esp. the Soviet industry in the Kola Peninsula), and NATO as an IGO, and maybe Norway as a member state of NATO; that is all.

Comparing this picture to the above-mentioned picture of the actors and interest groups of the 1990s (see Table 1) the situation of the European North has changed much. In the Region there are more and more important political actors, and there are different interests by different actors and interest groups at many levels, partly they are hierarchic and partly according to a preference.

One example is a relationship between local people and, or even versus, environmental movement and organizations. Another example is a relationship between a masstourism and the traditional culture of the indigenous peoples. A relevant part of tourism, foreign tourists are a new kind of

loose interest group, which can be taken as some kind of a metaphor for the interests of the outsiders (e.g. the people of Central Europe) in the European North.

All in all the situation of the European North is in transition due to the change of the international system, but also the change of the state of actors. In the region there are influencing more and new actors and interest groups with their interests. They cooperate, compete and create different kinds of allies, and have even conflicts of interest. One way to try to determine relationships between different actors and their interests is to use case studies which the different actors and their interests are examined.

Two case studies

To have case studies dealing with different actors, their cooperation, competition and possible allies is, in a way, like to have players of a game on a board and to try to find out, what might be the next move of each player and the whole picture of the game.

In addition to a theoretical study I have taken the following topics dealing with either geographical sub-areas or different functions or a combination of the both as case studies to my research project (see Heininen 1996b) when trying to illustrate the situation: oil and gas drilling in the Nenets Autonomous Okrug, the nuclear weapon and waste problem in North West Russia, the Barents Sea, mining, the Pechenga area, and forestry vs. conservation of old forests.

Here I have only a brief discussion dealing with two cases: a relationship between the military and the environment in North-West Russia, and forestry versus conservation of old forests in the European North.

Case study: “The Military vs. the Environment”

Earlier I have studied the relationship between the military and the environment and the competing and conflicting interests of them in the Arctic and European North context, and also the nuclear weapon and waste problem in the Kola Peninsula and the Barents and Kara Seas (see Heininen 1991, 1992, 1994a and 1996a).

Here my case study “The Military vs. the Environment” deals with nuclear safety and a concern on the problem and risk of a sunken/ dumped nuclear submarine and nuclear waste in the European North from point of view of different actors. My interest here is to continue my earlier discussion on a change of actors and interest groups, and first of all to show the change dealing with this case. The relevant actors of the Cold War Period in this case were first of all USSR and the state organizations like the Red Army, industry, and the U.S.A, and the US Army, and NATO as an IGO (see the Table 2).

In the 1980s some NGOs like Greenpeace, the international scientific community, or at least some individual scientists, and some NGOs like the North Calotte Peace Days started to become interested in the situation and to have statements to express their concern about the situation. The first international scientific investigations on radioactive contamination started in the beginning of the 1990s (for more information see Heininen 1996c). Also individuals, especially active citizens of Iceland and Norway, and later the Russians, started to become worried about the situation in the end of the 1980s. This also made the governments of Iceland, Canada and Norway worried about the situation.

Any activities did not start, however, earlier than in the second half of the 1980s. (see Heininen 1992). In the Post Cold War Period this trend has continued, and mostly due to the above-mentioned general change dealing with actors and interest groups (see also table 1) the situation has changed much in this case, too. Now many actors and interest groups are either worried about the situation or both worried and active in order to decrease the risk, or even to solve the problem.

On the level of individuals many northerners and environmental movements have been worried about their own security and the unique nature of the North. Among subnational groups there are mass media of the northern provinces, environmental movements and organizations (e.g. Bellona in Norway), provinces (e.g. Finmarken) and the Sami people, who have been interested in the issue and active in order to stop that kind of activity.

Also the governments (e.g. ministries of the environment and foreign affairs) of Finland, Norway, Russia and Sweden, and also the U.S.A, have supported investigations and monitoring, and even solving, the problem.

Among NGOs the International Greenpeace and Bellona has continued investigations and studies dealing with the case. The international scientific community like the Arctic Monitoring and Assessment Program (AMAP), the IASC (e.g international conferences of AMAP) and International Institute of Applied Systems Analysis IIASA) has started their investigations (see Bergman, Baklanov, Segerstahl 1996). Among tourists, however, there is not a real threat picture, but a worry about these kinds of environmental problems and risks.

Among multinational corporations and companies there have also been some interest toward the case and even cleaning up the mess. Some Russian, Norwegian and Finnish companies (e.g. International Chetek Corporation in Russia and Imatran Voima Oy in Finland) have been interested in to sell their environmental technology in order to solve the problem of storing or to clean the mess.

Among IGOs there are many actors, who are interested in and worried about the situation. For example AMAP of the Arctic Environmental Protection Strategy (AEPS), NATO and the North Atlantic Cooperation Council, NACC. For example the NACC launched in 1994 the pilot project "Cross-Border Environmental Problems related to Defence Activities" (1994) covering radioactive and chemical pollution related to the military. The EU has expressed its worry about the situation and is involved in financing.

The BEAR Council and the Regional Council as regional organizations have been active through the Barents Region Environmental Programme (1995) in order to monitor the situation and find money for pilot projects in order to prevent radioactive pollution and nuclear accidents (see e.g. Declaration 1993, Heininen 1996a).

Case study: "Forestry vs. Conservation"

Another case study here is that of "Forestry vs. Conservation" of old forests. The case study deals with old-growth taiga forests of the European North. They are the largest and most important old-growth taiga forests in Europe and the western edge and a keen part of the taiga forest belt of the northern hemisphere continuing to Siberia in the East (see e.g. Pruitt 1991).

Forestry is an important and traditional way to utilize natural resources in the whole North Europe, and nowadays especially in Sweden, Finland and North-West Russia. For example Finland's national economy has, and is, based on forest resources, forestry, and the forest industry is one of the main sectors of the export of Finland in the global economy, too. Forestry also means development, i.e. employment instead of unemployment, for many municipalities and people.

On the contrary many people and interest groups think seriously that the old-growth taiga forests as wilderness areas are much more than only raw material for forestry and forest industry, and have for example ecological, social, cultural and historical aspects and values (see e.g. Virtanen 1996, Northern Wilderness Areas: Ecology, Sustainability, Values 1995). Therefore, the old-growth taiga forests as one of the original ecosystems of the European North should be protected in order to guarantee the preservation of biodiversity of a taiga forest.

A discussion, debate and competition, and even conflict of interests dealing with forestry versus conservation is not a new phenomenon. In the 1990s it has, however, together with an increased concern and discussion on the environment and the importance of ecological values in economy and development, become more intensive and critical question. A hot debate on, arguing and even attacks against, the Nature 2000 protection program of the EU in spring 1997 in Finland is a good example on the current situation in general, and because of new actors like the EU here.

The idea here is to have a brief overview on forest disputes in Finland from the point of view of different actors and interest groups. The case is interesting, because the current forest debates and disputes in Finland have been very international comparing with those in other countries. So, the special interest here is how different actors and interest groups are acting there. According to my understanding there are two main active parties: those who want to keep on, and even to increase, forestry, and those who want to conserve the old-growth taiga forests.

On one hand, it is easy to put some actors and interest groups to the two parties and to show, who prefers forestry and who conservation. On the other hand, the picture is much more complicated due to the fact that the case deals with different interests and values, and behind the interests and values there are different actors and interest groups, and people. If there is any solution, it will be complicated, and has also to deal with other values than those of economics, like democracy and local and regional self-determination.

Many private forest owners and their central organization, MTK, some trade unions, many municipalities for example in Lapland and Kainuu, forest industry companies (e.g. UPM-Kymmene), and the Ministry of Agriculture and Forestry prefer to keep on forestry.

The opposite environmental movements and organizations (e.g. Greenpeace, Wild Wide Fund for Nature, Taiga Rescue Network), other civil organizations (e.g. Kuhmo Kulttuurikornitsa), the Ministry of the Environment, and mostly mass media prefer conservation of the old-growth taiga forests.

Then there are actors like the government and other official authorities (e.g. the Forest and Park Service of Finland) and scientific community, who deal with both commercial forestry and nature protection, and people who are confused and do not know what to do. The government of Finland supports the conservation of the old-growth taiga forests in North Finland and in the border region between Finland and Russia in cooperation with Russia and the Karelian Republic. At the same

time the unemployment rate is very high in Finland and especially in the remote areas in North and East, and the Finnish forest industry demands more raw material for production.

For many local people in municipalities in those remote areas the situation is not easy when trying to decide between employment, which means money for your life, and conservation and biodiversity of a nature, where you have nated from. Therefore, the point here is not to put every single actor or interest group to one of the parties, but more to show the colourful spectrum of actors in the case.

As mentioned earlier actors and interest groups are partly cooperating, competing or conflicting with each others, and they can also create different networks and allies. That is also the case in this debate and fight.

For example NGOs like Greenpeace have made the case international using visible actions, high tech, Internet and international mass media (e.g. mass media in Germany), and markets. This means to influence some few, special actors, like the buyers of and producers using the Finnish paper products, through mass media and by a public opinion of the critical mass of consumers in Central Europe, and by the way to influence the situation in Finland. This might also be according to the interests of some big European forestry companies.

I do not know, what kind of new allies there are, and will be. The situation is, however, in transition and there are more and more active actors than earlier (see table 1). On one hand there will be new kind of cooperation, networks and allies, even unortodoxical allies, between different actors, like Enso Oy's proposal to put invite representatives of different interest groups to an ad hoc group dealing with forestry in the Karelian Republic. On the other hand there will be also more competition and conflict of interests between local people and environmental organizations, and even inside environmental movement e.g. between international and national organizations and local groups.

The European North through regional dynamics by actors

There are different ways and points of view to analyze the geopolitical situation, which is still in transition, of European North in the 1990s, and ongoing international cooperation in North Europe. In my research project (Heininen 1996b) I have developed the following three different points of view: the traditional institutional point of view, regionalization, and the point of view of the so-called regional dynamics created by different actors (here the regional dynamics by actors). In my article (Heininen 1997) I have discussed on the three points of view, and therefore here I will only mention them and concentrate on the point of view of the regional dynamics by actors.

The traditional institutional viewpoint stresses national policy and security-policy of unified states and intergovernmental cooperation, consists aspects of geopolitics, political realism and functionalism, three theories of international relations. The BEAR cooperation includes elements of intergovernmental, regional and functional cooperation and also an interesting relationship between security and cooperation (for more information see e.g. The Barents Region. Cooperation in Arctic Europe 1994, Dreaming the Barents Region 1996, Euro-Arctic Curtains 1997, see also Granberg in this volume).

Regionalization takes an approach, where the points of view are from the region and the region as itself is relevant, and represents some sort of vision of possibilities of international cooperation at

the regional level. In the context of a “Europe of Regions” regionalization is seen as a realistic possibility, even as a new resource, also in the European North, and is included in the BEAR cooperation.

The last point of view, the regional dynamics by different actors, means a regional dynamics of the European north in the 1990s created by different actors and interest groups with their cooperative, competing and conflicting relationships. A relevant part of an analysis is on one hand to analyze the activities and functions of the Region and on the other hand list the existing political actors and interest groups. By the way it is possible to build up the viewpoint of the so-called regional dynamics created by different actors in the 1990s which has more in common with regionalization than the traditional viewpoint. This approach is both an interesting and alternative approach in international relations.

Taking into consideration the current BEAR cooperation, the existing economy, the political transactions inside the Barents Region, the infrastructure of the Region, and divided interests of security-policy it is difficult to consider the European North or the Barents Region an international or economic region. One fact is for example that many economic and political ties and engines dealing with the Region are outside the region and stronger than ties inside the region (see Stokke and Castberg 1993, Wiberg 1996). Therefore, when placing general preconditions of regionalization into the case of the European North, the region looks like a loose geographical region with a increased common political, economic and social relationship. There are still many curtains and barriers and hindrances, more institutions and meetings, challenges and dreams than deeds or real results (see e.g. *Dreaming the Barents Region 1996*, *Euro-Arctic Curtains 1997*).

While referring to all three viewpoints, it is the third one which seems to be the most interesting and challenging when analyzing existing changes and the current status of the European North (see Heininen 1996b and 1997). It is not yet known, however, what kind of state that is, and what kind of development there will be in the future waiting for the Region. Therefore, I will start from a hypothesis that the European North is changing toward the state of a multiple use region, and apply the concept to the situation of the European North in the 1990s. Before that, however, some discussion dealing with the core of the relevant changes in the circumpolar north: a harder competition and more potential conflict of interests on natural resources.

Competition and conflicts in the circumpolar north

The circumpolar north or the Arctic has used to be terra nullius, and to have space and room enough for *laissez faire*. As E.F. Roots (1993, see also Penikett in this volume) has said two separate economies have coexisted in the North for the last thousand years: the small-scale indigenous economy and that of directed from the outside and for the needs of non-Arctic areas. Since unified states have come to the North with their national borders there has been more competition, international disputes and conflicts, in the 20th century mostly dealing with arctic seas (e.g. the Grey Zone in the Barents Sea), but lately also more cooperation between states.

Stalin’s modernization with megaprojects started in the 1930s in the Soviet North, which made northern regions a storehouse of natural resources in the economy of the Soviet Union. Since the 1970s there have been more and bigger megaprojects in the whole circumpolar north. After the end of the Cold war there are many signs that there will be a harder and more intensive competition

on natural resources, and therefore more conflicts and potential conflicts of interest which deal with the relationship between a man and a nature.

According to Gail Osherenko and Oran R. Young (1989, 161-175) the landscape of the current Arctic conflicts fits the following categories: (1) allocative issues, i.e. issues around the allocation of resources among competing or incompatible uses; (2) distributive issues, i.e. the distribution of benefits among competing claimants; and (3) jurisdictional issues, i.e. whether allocative or distributive conflicts take the form over the locus of authority to make binding decisions (also in international conflicts).

And further they to one or more of the following categories: cross polity conflict, cross-cultural conflicts (e.g. the claims of the indigenous peoples), and core value conflict (e.g. animal rights).

When thinking about the character of Arctic conflict there are for example the following features: (1) development expected to happen in the future rather than the present; (2) the events are often probabilistic; (3) involve interactions between complex ecosystems and social systems; (4) no suitable measuring system for calculating the full range of costs and benefits; and (5) in analyzing Arctic conflict a meaningful comparisons of gains and losses is even more complex (ibid).

There is no international regime or a legally binding agreement for the Arctic nor for the protection of the arctic environment, except the Treaty of Spitzbergen covering the archipelago and the Agreement on Conservation of Polar Bears (see Heininen 1994b). This is mostly due to the state of the circumpolar north as a "military" theater in the Cold War period. Neither there is any technical conflict-management/solution procedure dealing with international disputes or conflicts in the Circumpolar North. For example neither the AEPS, the Arctic Council nor the BEAR Council have any competence or mechanism, like the Security Council of the United Nations has, for solving disputes or conflicts. Therefore, a relevant challenge is how to have sustainable development in the circumpolar north when utilizing the natural resources.

There are, however, the AMAP and other programs of the AEPS of the Rovaniemi process with proper guidelines (e.g. Arctic Pollution Issues 1997) for an estimation on a state of the Arctic environment and for environmental impact assessment. There are also some regional and many bilateral agreements dealing with the arctic and sub-arctic environment (see e.g. Heininen 1994b), and mostly national treaties dealing with the northern indigenous peoples (see e.g. Penikett in this volume, page xx). And there are many international networks, forums and organizations dealing with the circumpolar north, and also the traditional nation-state system and transnational organizations like the EU and NATO which also cover the North.

Since September 1996 there has also been the Arctic Council, a body for the Arctic Eight States and the three organizations of the northern indigenous peoples. The AEPS including all the programs and activities integrated to the Arctic Council in June 1997, and the Council should undertake sustainable development and environmental protection as its two main tasks.

Now the most important and relevant questions are: how to implementate sustainable development in the work of the Council, and how to coordinate the work and how to organize the structure (the Term of Reference and Rules of Procedure) of the Council due to a spectrum of different actors (see e.g. Young 1996, Heininen 1996d). The process has been so far going for a year and will continue. There are different argumentations, points of view, and even a competition, between the member states and indigenous organizations of the Council. Some sort of main disagreement is

dealing with representation of different actors or interests groups, to take a traditional sector structure or the so-called round table structure with wide cooperative activities between different actors.

Therefore, and when thinking, like Osherenko and Young (1989) have done the current situation of a harder competition and more potential conflicts on natural resources in the Circumpolar North it is good to have a proper concept to describe the situation.

The concept of multiple use region

When going to illustrate the point of view of the regional dynamics by different actors I use the concept of multiple use region after Oran Young. He has used the concept to characterize a situation and the development of one stage in same geographical area with many actors or interest groups with their different and concurrent interests. According to Young (1992), multiple use regions:

... are arenas, normally though not necessarily always, transcending jurisdictional boundaries, in which a number of clearly differentiable human activities intersect in ways that spark conflicts which, while ordinarily non-violent, cannot be resolved through the use of technical procedures, like benefit-cost analysis.

It is not a theory as itself, but a concept used to characterize a situation and the development of one stage in one geographical area with many different and concurrent interests which partly cooperate, partly compete and partly are in a conflict situation without a technical mechanism for a solution by different actors.

The concept of multiple use region exists often with shared natural resources e.g. a megaproject of large-scale utilization of natural resources vs. the fragile arctic ecosystem/native culture and language of the indigenous peoples (e.g. reindeer herding-based culture of the Nenets in Timan Pechora). The concept also includes the aspect of the above-mentioned actors or interest groups of the region and their interests (see table 1). Relationships between interests of different actors are in focus, because partly cooperate or compete or are in a conflict situation.

The actors behind different interests are also partly cooperative, partly competing and partly conflicting with each other. The actors and their interests include contrasts and a conflict-oriented viewpoint, and even unsolvable conflicts of interests between different kinds of interests and activities— mostly dealing with utilization of natural resources and a relationship between man and nature.

They also create different kinds of cooperation, allies, and competition. For example, national interests might differ greatly from those of regions, local people, or indigenous peoples. Therefore, the concept includes at least two different aspects: the aspect of competition in cooperation, and that of coordinated competition as phenomena of non-conflicting and competing cooperation in peace time.

The concept of multiple use region opens an interesting point of view when thinking about alternative scenarios for the further-coming development in general and especially in remote areas or peripheries rich in natural resources. The concept is, however, problematic, because of the general and universal character, which means that it would describe what ever geographical area in

the world. It may be that the concept fits only to a geographical area of terra nullius or to a state of some region without a proper legislation or a confidence of that.

As mentioned earlier, I use Young's multiple use region concept to describe the European North at a stage of a transition period from the Cold War Period to the Post-Cold War Period. According to my understanding the two main features of the stage are, on one hand, the decrease of the importance of the military-based security and, on the other hand, an emphasis on the utilization and competition of natural resources.

Here the concept of a multiple use region is, however, a hypothetical and alternative concept. An open question is how it will fit to the current situation of the European North. I don't take it as given, but have to test in order to know what, and how much, it can describe the current situation of the European North.

My third viewpoint, the regional dynamics by different actors and the concept of multiple use region are alternative points of view and scenarios of development for the future. But what to gain by them when illustrating and analyzing the current situation of the European North?

(1) The point of view is a relevant and alternative phenomenon of the international system and opens a challenging approach to international relations: the existence of new actors and relationships between different actors. Nowadays in the international system there are new and more actors than only states influencing activity to the future. The traditional international politics has mostly been dominated by the superpowers, especially the U.S.A, and political elites, and therefore many peoples, ethnic, interest or other groups used to be in most of the cases in margins or peripheries in international politics and relations. The third viewpoint means new kinds of people, groups and actors, and by the way opens the traditional point of view. Applying the above-mentioned idea of the round table model to the circumpolar north we might have some useful and alternative aspects for the discussion of sustainable development.

(2) It opens an interesting and alternative point of view and new opportunities to the mainstream when describing and analyzing the European North in the 1990s (see the existing BEAR literature). It also gives new ideas and aspects when thinking alternative scenarios for the further-coming development in the whole circumpolar north and especially in the European North, mostly because the viewpoint the whole spectrum of actors and interest groups of the region and the relationships between them. For example according to this point of view even security policy, the main field of the traditional high politics, can be seen as one interest among other interests and the military as one actor among other actors. This gives one more argument for the discussion of security and different security conceptions (Langlais 1995, see Nokkala 1997 in this volume).

(3) The point of view gives an arctic perspective to the European North and possibilities to create and strengthen a northern/arctic dimension in the European context.

Conclusion

In the 1990s the situation of the European North, the earlier marginal periphery of the European North, has changed greatly, and the region is in the middle of international cooperation, integration and other processes both in the European and circumpolar north context. The region is still in transition, and there are many challenges for change with influence on development of the region.

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In addition to the trend of international and regional cooperation in the European North there are new actors and interest groups influencing the situation with their interests, which are partly cooperating, partly competing, and partly even conflicting with each other. When comparing the picture of the Cold War Period to the current situation it is possible to argue that the picture and state of political and other actors has totally changed.

In the European North there are, however, many curtains, add barriers and hindrances, more institutions and meetings, challenges and dreams, than deeds and real results. It is difficult, so far, to consider the Barents Region as an international region. The external engines may, however, potentially push the Region into a more intensive cooperation in the future, which indicates that there are also possibilities.

In conclusion, a brief analysis of my three points of view dealing with the current situation of the European North: the first viewpoint, the traditional one, is a realistic one and some sort of peace project of the Western democracies; the second, regionalization, is a vision, or utopian point of view, where the region has become an important political actor; and the third point of view, that of a regional dynamic by different actors, can be called a chaos or round table model, which tries to take into consideration different actors and their interests. While referring to all three viewpoints, it is the third one which I prefer, because it seems to be the most interesting and challenging when analyzing existing changes and the current status of the European North, and opens new opportunities for studying international relations.

Table 1*The Actors and Interest Groups of the European North in the 1990s**Subnational groups*

- counties/provinces/oblasts/republics: Nordland, Troms and Finmarken in Norway, Norbotten and Västerbotten in Sweden, Lapland and Oulu in Finland, the Murmansk Oblast, the Archangelsk Oblast, the Karelian Republic, the Komi Republic, the Nenets Autonomous Okrug
- indigenous peoples: Nenets, Sami and Veps
- local people as one layer of a civil society
- national civil organizations: political parties, scientific community, environmental organizations
- others, such as the mass media

Nation/unified states

- central governments of Finland, Norway and Sweden and the Russian Federation
- state organizations: army and state-owned industry

NGOs and MNCs

- inter/transnational environmental organizations: Bellona, International Greenpeace, WWF, Taiga Rescue Network, Stopp Dödskyene fra Sovjet
 - other international civil organizations: Committee for the North Calotte's Peace Days, the Barents Association of Students Unions, Barents Press
 - international scientific community: IASC, IASSA, Calotte Academy
 - multinational corporations: Rio Tinto Zinc, Conroy, Ashton Mining, Conocon
 - international subnational organizations: Northern Forum, Sa'mi council
- tourists esp. foreign tourists

IGOs

- global organizations: UN and its suborganizations
- economic and political unions/ areas: EU, EEA
 - military organizations: NATO, EAPC (former NACC and PFP)
 - regional org: Nordic Council, Council for the North Calotte, BEAR Council, the BEAR Regional Council, West-Norden Council

Table 2**Political Actors of the Cold War Period***Nation/unified states*

* USA and the Soviet Union and Norway, and Iceland and Denmark the armies of the USA and the Soviet Union and industrial companies of the Soviet Union

NGOs

International scientific community North Calotte Peace Days

* Nordic Sami Council

IGOs

* NATO

* Nordic Council, Committee for the North Calotte

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Women's networks and the prospects of women's and family policy in the northern regions Example: crisis centre project

Aino Saarinen

The backdrop of the crisis centre project is Femina Borealis, a network of researchers and activists in the Barents Region, resembling the North Calotte Academy. Its birth and development well reflect the general developments of the 1990s and the post-Cold War civic activities in northern Europe. The network was started in spring 1993 within the framework of the Pohjoiskalotti, or North Calotte, known by the name Kvinnoliv på Nordkalotten. It expanded very rapidly when Russian women joined the network in 1994. Its name was then changed. Femina Borealis - Women and Development in the North was developed at the network meeting held at the Abisko experiment station in Norrbotten in October 1994.

Femina Borealis is an open grass-root level network which now has more than one hundred members. Its objective is to outline alternative, women-friendly visions of social development in the North, produce training and education programmes, launch political campaigns and research work. The planning meetings organised on the basis of the resources once or twice a year, circulate

from country to country and county to county. Up till now, these meetings have been held in the following localities: Steigen, Nordland; Oulu, the Oulu county; Kautokeino (Guovdageaidnu), Finnmark/Sami land; Abisko, the Norrbotten county; Rovaniemi, in the county of Lapland; Apatity, Murmansk; Arkhangelsk, the Arkhangelsk county; Tromssa (Tromsø). The country chairpersons and research coordinators are responsible for activities between meetings. The administration of the network is now located at the Kvinneuniversitet Nord (Northern Feminist University) in Steigen. The Kvinneuniversitet Nord is also in charge of the home page of the network and for its e-mail. Almost ten books have been published in the series of publications of the network, including academic dissertations.

Femina Borealis has organised and co-organised several researcher and activist conferences and also established circumpolar contacts. This led to the video conference, which was organised on International Women's Day, 8 March 1995, with participants from Finland, Sweden, Norway and Alaska, and also to another conference, the Northern Women, Northern Lives Conference, held in summer 1997. The research courses and the Northern Women Studies, international study programme of the University of Oulu, have created a basis for initiatives of a programme, to be carried out jointly with several universities in the Barents Region.

NCRB - a network for women's crisis centres

The NCRB network for Crisis Centres for Women in the Russian Barents Region (and in the Barents Region as a whole) is the first joint, multinational, Nordic-Russian development and research project of the Femina Borealis network. The thematic subject of this three-year project, launched in spring 1999, is sexual-reproductive issues as well as issues concerning violence against women. The institutional target group is the women's crisis centres established in the Russian Barents Region since 1997. The institutional position of the centres varies. Some of them are NGO organisations, some are part of the public sector, the social and health care administration or local universities. At present, there are five centres, situated in the following localities :

- ▶ Murmansk (established in 1997)
- ▶ Polyarnye Zori (1998)
- ▶ Apatity (1998)
- ▶ Petrozavodsk (1998)
- ▶ Archangel (1999)

Two centres operating in St. Petersburg have also joined to the project. All together, there are about thirty crisis centres in Russia. They also have a common organisation, whose significance is chiefly moral and political.

In the launching of the centres, women researchers have had a central role. The centres have three forms of activity:

- ▶ providing psychological, social-health care and legal support and consultation
- ▶ running a support telephone hot line
- ▶ providing a shelter

Development problems

The resources of the centres in the Barents Region are minimal. At best, the personnel consisting of a couple of full-time employees and a few part-timers are in charge of consultation. The support telephone is run by voluntary workers. By now, only two of the centres, Murmansk and Polyarnye Zori, have been able to open a shelter.

In general, a development project starts in the adjacent areas of the Nordic countries - and in post-socialist areas even to a wider extent – in many ways from a typical situation. First, the backgrounds of centres vary a lot because the training and financing of the initial stages has come from several quarters. The crisis centre of Murmansk has depended on support coming from Norway, chiefly from the crisis centre activists of Tromsø. The Apatity and Polyarnye Zori centres have received support from Sweden, chiefly from Luleå. The Archangel crisis centre, the last one of centres launched, has received a little support from Oulu, Finland. The Petrozavodsk crisis centre leans partly upon the financing and training coming from Duluth, Wisconsin.

Therefore, it is important to estimate at the initial stage of the NCRB project to what extent the operational ideologies and practices of centres differ from each other, and how they are linked to their own respective development contexts. For instance, the models of the United States have been developed in the circumstances of a weak state and the welfare regime leaning on the voluntary sector, and where the norm continues to be that the breadwinner is a man. Whereas the Nordic models are linked to a strong state, and to the Nordic, women-friendly welfare regime, which is characterised by an ideology and practice of equality, of two breadwinners and legitimate single parent family. (Anttonen & Henriksson & Nätkin 1994) It is essential and perhaps surprising that distinct differences cannot be found between the Nordic countries nor within them. In Finland, the crisis centre activities have historical links with family-oriented child welfare in which harmony is emphasised. But in Sweden and Norway these activities have developed as an essential part of the autonomous women's movement, with a viewpoint that is largely women-centred and conflict-accentuated. (Eduards 1997; Bergman 1999).

Another problem is that the Russian crisis centres in the Barents Region have not many mutual contacts. For the time being, there is no Russian - or when thinking of the extent of the Russian territory and the diversity of its culture - no Russian-Barents model. Clearly, it is essential to outline such a model, not only because of the different social histories but also because the western models have been developed within economically stable and democratic societies, whereas economic instability and democracy, both representative and participating, still at their initial stage and vacillating, are characteristic of Russia. From the gender viewpoint and women's viewpoint, there is good reason to emphasise the contradictory character of the stage now underway called a democratic transition. The number of women in representative institutions has fallen on average to five per cent, and women are on the margin also in the new party institutions. The full employment of the past has turned into unemployment and, in the worst case, women have accounted for about 70% of the unemployed. Privatisation has led to the tearing of the collective social-health care safety nets at a time when the need for them has increased: the rate of mother and child mortality has risen, and abortion figures continue to be high, more than tenfold compared to the Nordic rate. Finally, the gender and family pictures are characterised by a manifold cross-swell, on one hand the re-traditionalisation, tying women to the family, and on the other hand "westernisation" and women becoming a sex objects. This also includes drastically increased levels

of prostitution, partly across borders. (Rumjantseva 1998). It is estimated that violence against women has increased in the post-socialist period. (Boitsenko 1996)

Networking: objective of the crisis centre project

In this situation, the crisis project is seeking for tools and solutions both in the networking and in individual action programmes. Here, it depends on the women's movement in the Barents Region of Russia, which is now in a new way part of the transnational "third wave" of the women's movement. This can be also learned in the founding history of crisis centres. (Saarinen 1999a)

This internal regional networking improves the mutual change of information and communication between the centres in the Barents Region of Russia, and thus makes it possible to appraise the models to be applied and to develop the Russian-Barents model. Here, support can be received from the St Petersburg Psychological Crisis Centre for Women, which has joined the project, is one of the pioneering units in the field in Russia, and which also has provided training to two of the Barents Region centres. At the same time, the external, transregional networking, across the border between the Nordic countries and Russia, can make it possible for both Russian and Nordic women together to outline and consider the specific, new problems, caused to both of them by the opening up of borders. Finally, the goal is be the creation of a common cross-border safety and service network. This can also be considered as a challenge of the future, because, in the increasingly globalised and regionalised world, welfare institutions can no longer be built only within the framework of nation-states. So, in this respect, the crisis centre project is part of the building of the Barents Region at grass-root and everyday level.

Thus, the base of the NCRB is the three-year training programme, in which the employees of centres as well as voluntary and political activists participate. An exchange programme is being built on the principle of 'twin institutions', based on the birth history of the crisis centres. The political and media campaigns, to be launched together with the project, are aimed to increase information on what sexual-reproductive and violence-related problems mean to the well being of individuals, families and other small communities. At the same time, the campaigns integrate women in civic society at the local, regional and transregional levels. They can also improve the possibilities of the crisis centres to build long-range resource strategies which also depend on Russian-regional and local financing.

The social and political dimension; multilevel system

The social and political dimension; multilevel system At a more general level is a question of an alternative concept of security, in which state-centred and armament-based security is not in the foreground, where everyday and citizen-centred security is transmitted by social movements. From this point of view, the projects such as the crisis centre project mean the creation of the social dimension of the Barents Region, where this kind of small, direct action at citizens' level, which is often considered to be marginal, could be in a key position. Briefly, trading and elimination of armament-based insecurity do not suffice, if the aim is to expand and deepen the BEAR administration. On the contrary, many democracy theoreticians start from the idea that a genuine political community can only be a such a community where people are united by these altruist, social-moral bonds. (Lehning & Weale 1997).

This is how grass-root campaigns raise issues on the political dimension on agendas. The demand for democratisation from below is not of current interest only in the context of the European Union but also of the Barents Region. State-centred security thinking implies that the organs established at the end of the Cold War should be studied from the standpoint of democracy and citizenship. Within this framework it would be necessary and urgent to map out empirically, analyse and form normatively a vision of the trends in the political multi-level system.

The aim would be to find out how it would be possible to create dialogues and interaction between civic movements representing the people in the region and the formal organs of the BEAR administration, the Barents Council and the Barents Regional Council. (See also Heininen 1999). One step in this direction was the Nordic Council meeting on Barents issues, held in Alta in April 1999. This was the first time that in the context of the Nordic Council meeting a separate women's meeting was held, with Russian women parliamentarians among its participants.

Many inspiring examples can be found at the global level, in the institutional development of the United Nations. The UN, which was originally established as an intergovernmental organ with the task to solve armed conflicts, has, in the course of decades, and largely under pressure of the women's movement, environmental and peace movement and the Third World movements - gained a kind of dual structure along with the expanding of its agenda. (Dickenson 1997 ; Pietilä 1999). Social-economic and cultural development programmes and efforts to guarantee peace and security by reducing the gaps between regions, countries and population groups mean that, in preparations, decision-making and follow-up, channels and arenas have been opened for NGOs and INGOs. Thus, sexual-reproductive issues and issues related to the violence against women have been put on UN agendas. The most recent evidence of this are the Fourth World Conference on Women and its Platform for Action and the Beijing Declaration of 1995 and its follow-up, the Beijing Plus Five- Action, as well as the global electric list End Violence, organised by UNIFEM in 1998. This culminated in the global video conference organised on International Women's Day in 1999 with NGOs from all continents participating in it.

Frontier regions

The Barents Region would naturally be joined as part to the cosmopolitan or geo-democratic construction by establishing visions and by democracy experiments. (Held 1995; McGrew 1997) This can be considered as extremely necessary in those regions where women have no access to decision-making. Making use of the political multilevel system, which is now being developed, a new type of dual strategy -the fact that the informal mobilisation from below is joined to the formal mobilisation and pressure coming from above from trans-regional and global, democratic organs - is a very important matter to women both in the Third World and the Fourth, the post-socialist world. (Saarinen 1999b) It has made it possible that, in the 1990s, at least some prospects have opened for getting sexual-reproductive issues and issues related to the violence against women on the political agendas, including those of countries now in the transitional stage of transformation.

This is also extremely necessary in the post-cold-war regions, called frontier regions by political geographers. These regions join together areas which used to belong to opposing global military and political blocks. There are four such regions in Europe and they extend from the Arctic Sea to the Mediterranean, from the Barents Sea to the Adriatic: The Barents and the Baltic Sea regions in the most northern parts of Europe, the New Euro-Region in Central Europe and the Alps-Adria

in the most southern part of Europe. (Veggeland 1994). The crises of the former Yugoslavia, Bosnia and Kosovo give subject matter to advocates of armament-based security policy. Preventive and long-range trans-regional policy will have to be based first of all on the strengthening of alternative, everyday and citizen-oriented security, also from the women's viewpoint. The Barents region, which in the Cold War period had the most important nuclear weapons concentration, offers the best example of this. (Heininen 1999).

The gap between the standard of living at the frontier between the Nordic countries and Russia is the deepest in the world, and the same divisions of development and democracy are also visible when looking at this region from the women's viewpoint. The gender-sensitive development and power indexes contained in the Human Development Report, produced by the UNDP, place the Nordic countries as the leading countries, whereas Russia can be found only on page 29. (Human Development Report 1995) It is quite clear that these divisions cannot be stitched together by military and economic policies. Social programmes are needed for that. The most critical viewpoint of the new, post-Cold War Europe and also of the Northern Dimension of the EU can be formed when this is looked at through such 'private', hidden and underestimated problems, which are at the core of women's crisis centre movement. Protection against rape, assault and trafficking in women, and possibilities of using sexual-reproductive rights positively are also prerequisites of women's political citizenship, without which we cannot speak justifiably of democracy nor everyday security in Europe's frontier regions.

Crisis centre for women -help for everyday survival

Olga Liapounova

The problem of domestic violence exists in Russia as in many; other countries. However, this issue has never been discussed in the mass media until recently. As a rule, domestic violence is invisible. The subject has been taboo for a long time and left as a problem to be solved within the family.

In the period of economic and political instability aggression in society has increased. The official statistical data of the Department of Internal Affairs shows the growth of cases of violence against women in recent years. In 1993 there were more than 14,000 murders of women and 57,000 cases of physical injury of women victims of domestic quarrels registered in the whole country. Russian statistics since 1995 show that 15,000 women were killed by their husbands and that the numbers are increasing.

The crime situation in the Archangel region is worrying. According to the statistics of the Department of Internal Affairs there were 4,815 crimes against women committed in the region in 1998. This figure includes murders, rapes, robbery and theft. But we do not know the precise statistical data concerning domestic violence, as it is seldom seen as a crime that needs to be reported to the police, and only a very small percentage of cases of abuse is followed up and brought to court.

The statistics concerning domestic violence is presented more precisely by the Archangel Regional Bureau of Forensic Medicine Expert Evaluation (the Bureau of FMEE). The official statistics presented by the Bureau of FMEE reflects the cause of death or to some degree the injuries sustained by individuals who have suffered all sorts of violence. Domestic violence is not distinguished as a particular type of violence. Men and women who have suffered domestic violence are not counted separately. In order to distinguish domestic violence cases against women it is necessary to look through the information on criminal cases and acts issued by the Bureau of FMEE.

We have looked through all the archive documents of the Bureau of FMEE from January to July 1998 and registered the following indices connected with domestic violence against women:

- ▶ The total number of the cases of different kinds of violence against women in Archangel is 419.
- ▶ The number of the cases of domestic violence against women is 151. So domestic violence cases account for more than 36 per cent of all the cases of different kinds of violence against women.
- ▶ Concerning the age groups of women who have suffered from domestic violence, we found 55 and elder - 29 cases; 40-55 – 32 cases; 30-40 - 49 cases; 20-30 - 29 cases; younger 20-7 cases. So women in the age group of 30-40 report to the Bureau of FMEE more often in the cases of domestic violence. In the most cases the aggressor is women' partner (husband, cohabitant). We think that this is connected with a crisis in the family relationship between married couples in the age of 30-40 (in non-successful families). Many young women and schoolgirls do not know about the Bureau of FMEE and that is why they seldom report to the Bureau.
- ▶ The social status and profession of women suffering from domestic violence do not always register in the archive documents of the Bureau of FMEE. In cases where they have been registered, we have the following statistics: pensioners, 23; students and schoolgirls, 5; unemployed women and housewives, 26; employed women, 54. Among employed women there are workers (2), nurses (4), medical doctors (2), saleswomen (4), shop managers (2), engineers (2), accountants (2), economists (2), teachers (2), a social worker (1) and even a lawyer (1). Many other professions are represented as well.
- ▶ Who is an aggressor in the cases of domestic violence? Husbands, 61; former husbands, 16; cohabitants, 17; former cohabitants, 3; sons, 7; sons-in-law, 6; fathers, 5; step-fathers, 4; daughters, 4; sisters, 3. Aggressors are often other relatives too, but in the most cases aggressors are womens' partners (husbands, cohabitants), that is 97 cases, or 64 per cent. Sex of the aggressor: male, 138; female, 13.

The statistical results show that the victim of domestic violence can be a woman of any age, social status and profession. That is why the problem of domestic violence in Archangel is urgent and requires a solution.

Crisis centres for women

One way to help women suffering from domestic violence is with the establishment of crisis centres for them. The first such centres for women were set up in the West. There are mainly three forms of activities performed by these centres: psychological, social and juridical consultations for women, hot-line telephone help, and refuge.

The Russian crisis centres emerged in recent years mainly with help from Western NGOs and based on their experience. Crisis Centres are now established in Moscow, St Petersburg and many other Russian cities. In the Russian part of the Barents Region we have five Centers: in Murmansk, Apatity, Polyarnye Zory in Murmansk region, Petrozavodsk and Archangel. They have been founded mostly by local individuals and organisations, often as a result of initiatives by women researchers. Funding and professional support is in many cases forthcoming from Norwegian and Swedish and international sources (Barents and Tacis Funds), both from governmental and non-governmental organisations.

A network for crisis centers in the Russian Barents region (NCRB project)

The planning of NCRB project is based on an initiative of the Equality Department of the Nordic Council of Ministers in Spring 1998. The NCRB project is led by Doctor Aino Saarinen, Oulu University and Doctor Natalia Gutsol, Kola Science Centre. The project will result in an information, innovation and collaboration network for the Crisis Centres in the Russian Barents Region and between the Russian and Nordic institutions.

In more concrete terms the project will also result in training and exchange programs (including the publication of a guidebook) for the institutions and relevant participants in order to exchange information and evaluate experiences in Russia and the Nordic countries and to set up a new collegial and client practices. It will also result in the creation of an electronic data base on Crisis Centres, their services and activities.

Two brainstorming meetings have been held, the first in Archangel in the context of the 1st Russian-Nordic Conference for Women's Studies in October 1998, and the second at the Psychological Crisis Centre for Women in St Petersburg in December 1998. All the Crisis Centres and the Centres for Women Studies in the Russian Barents Region have joined the project and have agreed to work in collaboration with the Nordic actors.

The survival of the Russian crisis centres for women is constantly endangered. In this context there is a growing need for creating and strengthening information, innovation and collaboration between the centres. The need for a Nordic and Russian context and collaboration is evident, too, prompted by the fact that many of the problems are also felt outside Russia's borders.

The history of the Archangel Crisis Centre for Women is a good example of fruitful international cooperation in this field. The Centre was established in summer 1998. The main task of the Centre is to provide social, psychological and juridical help for women who have suffered from violence. But until now, the Centre does not have staff, office, material and financial resources due to the with hard economic conditions in the Archangel region.

In February 1999, specialists from the St Petersburg Women's Crisis Centre held a seminar for volunteers on the subject 'How to start a Crisis Center in Arkhangelsk'. The NCRB project gave financial support for this meeting. In May 1999 a telephone hot-line for women was opened started (in the office of the Committee for Human Rights at the Archangel Regional Administration). The hot-line is run by volunteers from the Center. At present efforts are continuing to develop the Archangel Crisis.

Tendencies of Economic and Social Restructuring in the Murmansk Region

Vladimir Didyk

The Murmansk region (*oblast* in Russian) is one of the most industrially developed territories of the Russian high North. Historically the specificity of the region's economic development is connected to the two major driving forces. First, it is military-strategic reasons for large state investments in physical infrastructure. They determined construction of the railway during the First World War. Later, during the Soviet period, the Kola Peninsula became the base for the powerful military group of the Northern navy and its serving infrastructure, including ship-repairing, construction and other enterprises, as well as social infrastructure of defense related ministries.

Second, the natural resource potential became another key factor of the region's development, where the mineral and biological (fish) resources play the major role. It defined the industrial specialization of the region represented by mining, metallurgical and fishing sectors. Initial stage of intensive industrial development during 1930s (Stalin period) was driven by far not economic methods, but often by compulsory administrative methods of state power. More than 250,000 people were moved to the Kola Peninsula, mostly forcibly in the 1930s. This led to the rapid growth of population: from 27,000 in 1929 to 318,000 in 1940 (Luzin et al. 1994). The main industries of

the region were rapidly developing during the 1950s-80s due to state centralised investments aimed at meeting the whole country's demand for raw materials and semi-processed goods. Interests of national security and enormous military expenditures of the state during the Cold War period also stimulated economic development of the region.

Starting from early 1990s Russia has been experiencing deep socio-economic and political transformation, radical changes of all sides of social life due to dissolution of the Soviet Union and transition from the centrally planned to market-oriented economic system. The process is going on up to nowadays and characterized by wide variety in terms of both different tendencies within the time span and regional specificities. Related processes represent interesting object of scientific study, demanding multidisciplinary approach, and often are regarded under theoretical concept of socio-economic restructuring (Neil and Tykkylainen 1998). Analysis of the restructuring in the certain region helps in particular to understand its specificities, level of its involvement in the processes of globalization and regionalization and estimate prospects of development.

In this article the case of Murmansk region's socio-economic restructuring is regarded. In the first section the main economic tendencies on the base of macroeconomic statistical indicator are presented. Second section is devoted to analysis of such important social indicators as living standard, employment, demographic structure. In the last section prospects of future socio-economic development in the region are estimated. All statistical data used in the article are from official yearbooks of statistics of the Territorial Organ of Federal Service of State Statistics in Murmansk Oblast – Murmanskstat.

Economic restructuring tendencies

For the period from the beginning of market reforms (since 1990s) a deep crises and structural changes took place in the economy of the Murmansk region alike in the country as a whole. Price liberalization, privatization, beginning of competition among enterprises in the domestic and foreign markets became the main factors of the changes. Unfavourable natural-climatic conditions of the Murmansk region, which cause higher production costs compared to central and southern regions of the country, became additional “stress” factors influencing employment and economy structure in the changed system of relations. Nevertheless, the fall of industrial output during 1990s in the Murmansk region was less dramatic than the Russian average (see Figures 1).

The relatively better indexes of industrial output in the region compared with the national average in the 1990s can be explained mainly by the structural specificity of the Murmansk regional industry. Predominance of enterprises based on exploitation of natural

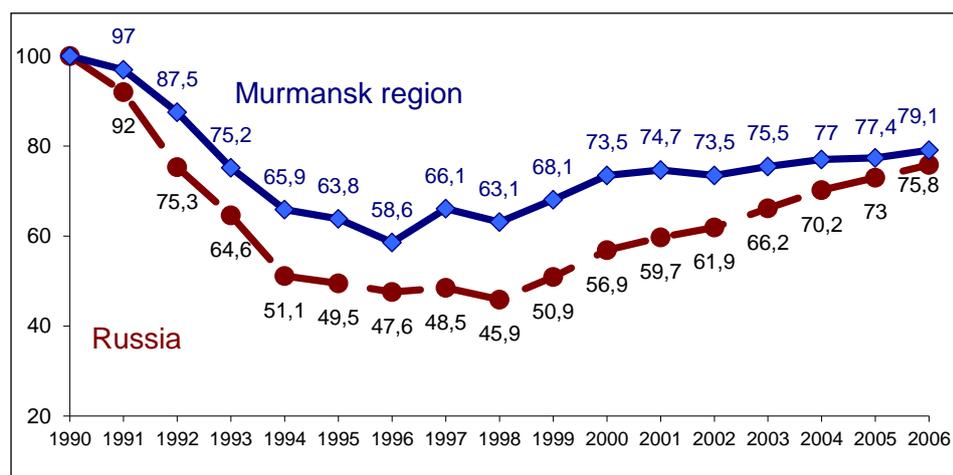
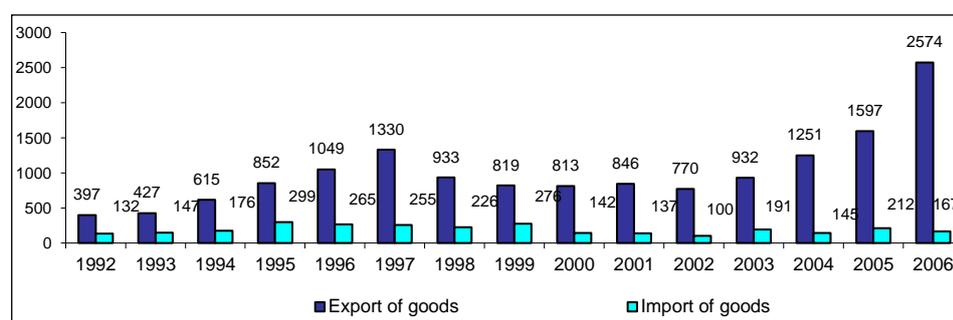


Figure 1. Deflated indexes of industrial output (1990=100)

resources, which lay at the very beginning of the production chain, made regional industry less vulnerable to destruction of economic ties among enterprises after the collapse of the centrally planned system. The decrease in sales at the domestic market was partly compensated by growing exports abroad thanks to liberalization of external trade and comparatively high prices (Figure 2). The share of exported goods in the total value of industrial production increased from approximately 10% in the 1980s to 50% by the mid-1990s¹.

Figure 2: Dynamics of foreign trade turnover, million USD



Thus, an immediate consequence of the direct impact of international trade upon the regional economy (at least on its mineral extracting industry) has been rather positive. Proceeds from exports allowed the region to keep its main enterprises operational. This was important from the social point of view because many of such enterprises were the main employer in the communities.

Several negative consequences of economic liberalization have, however, appeared. Among the most noticeable there was, for example, serious destruction of fish processing industry in the region. The industry decreased its production by 80% compared to pre-reforming (centrally-planned) period (Vasiliev 2001). The main reason of such fall was that under new condition it

¹ Non-ferrous metals (nickel, copper, aluminium, etc.) have become the main items of goods exported from the region, share of which in total exports usually exceeded 40%; fish and other food products (about 20-30%), mineral products (apatite, iron concentrates, etc.) – about 20% of total exports.

became more profitable to export raw fish, mainly to Norway. Another example is an increase in the dependence of Murmansk's economy on fluctuations of world prices for its exports. Prices for non-ferrous metals have been especially volatile. An extraordinary case occurred in 1998, when a substantial fall in world prices for non-ferrous metals almost bankrupted one of the region's leading enterprises - JSC "Kola mining-metallurgical company", and had negative impact on tax revenues of the consolidated regional budget. Therefore, it could be noted that during the last decade the economy of the Murmansk region became increasingly involved in international division of labour as supplier of raw resources and this process has significantly influenced regional economic structure (Didyk 2004).

Figure 3 illustrates the changes in regional industrial structure². In particular, sharp fluctuation in the share of the non-ferrous industry is explained by the mentioned price volatility for its export. Substantial growth of share of the power industry is also explained by price factor (prices for energy grew more rapidly than those for other goods), whereas diminishing share of the fishing industry reflects physical decrease of production volume, especially fish processing as the main factor of the change. The lack of competition ability of the industry due to its structure unsuitability to market conditions was among major factors, which caused the crisis in the fishing industry. The industry was formed under the centrally planned economy and relied upon state support for building of large fishing vessels, with major fishery regions in far Pacific and Atlantic oceans. Negative impacts also have been made by drawbacks of state tax and customs regulations, inefficient system of quotas distribution. (The Murmansk region ... 2001: 82-86; Vasiliev 2004).

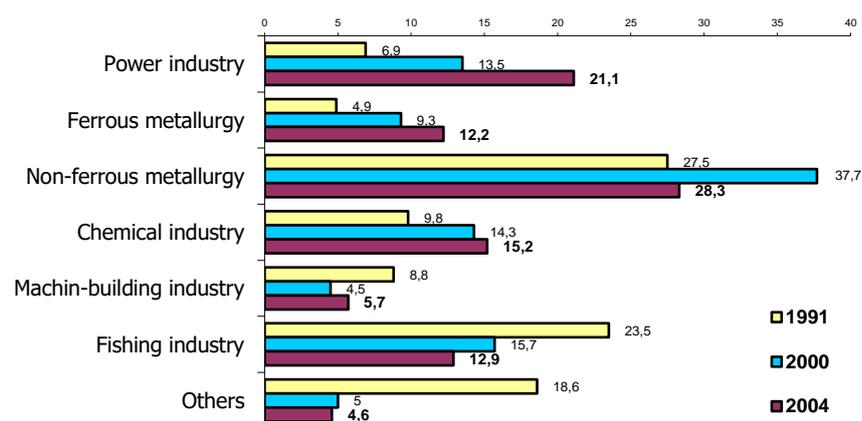
Another feature of the structural changes is the trend towards a narrower specialization of the regional economy. It is reflected in the increase of share of mining-metallurgical and chemical industries and a decrease in the share of 'other industries' (from 18.6% in 1991 to 4.6% in 2004), which mostly include such processing industries as the light, food and construction materials industry.

To give more general characteristic of the latest tendencies in economic development in the region it is necessary to regard such aggregate indicator as gross regional product (GRP). Dynamics of its change compared to the national analogous indicator - gross domestic product (GRP) is presented on figure 4.

The graph illustrates the trend of slowing down economic growth rate in the Murmansk region, while the strong increase of the national GDP is obvious. Stagnation of the regional economy is explained by the fact that major existing enterprises have already reached optimal level of their capacity use, taking into account nowadays demand and resource

² The structure presented in figure 3 includes list of industries according to "old" their classification, used since Soviet period and preserved up to 2004. Starting from 2005 Russian statistical bodies switched to a new accounting classification of economic activities, which is close to the standards accepted in the EU countries (so called NACE standard)

Figure 3: Dynamics of industrial structure, % of total industrial output



limitations. Obviously, recovery of the economic growth in the region could be achieved only at the expense of large investments in new enterprises and economic activities.

The graph illustrates the trend of slowing down economic growth rate in the Murmansk region, while the strong increase of the national GDP is obvious. Stagnation of the regional economy is explained by the fact that major existing enterprises have already reached optimal level of their capacity use, taking into account nowadays demand and resource limitations. Obviously, recovery of the economic growth in the region could be achieved only at the expense of large investments in new enterprises and economic activities.

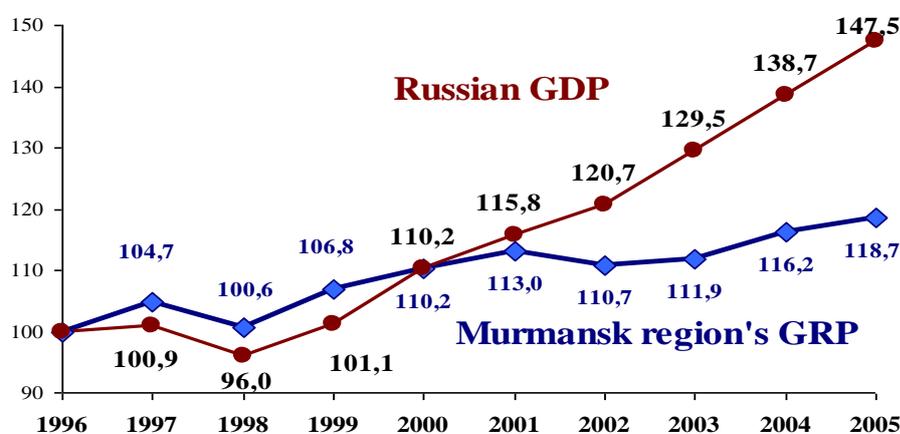


Figure 4.: Dynamics of real changes of GRP and GDP, 1996=100%

An important aspect of structure of the region's economy and its changes can be given on the basis of cost proportions of GRP (table 1). Analysis of data from the table (with indicators of previous years taken into consideration) makes it possible to conclude that in GRP structure up to 2003 there prevailed the tendency of decreasing share of production of goods (from 54.6% in 1994 to 47.7% in 2003) in favour of growing share of services (from 41.8% to 51.4% respectively). The changes corresponded to general economic trends, which are typical for countries and regions with developed market economy. However, by the results of 2004 the share of goods production grew again (to 57.7%). This was caused by favourable situation both at the domestic and foreign markets for products of the main industrial enterprises of the region (mainly of non-ferrous metallurgy), annual profit of which sharply increased compared to the previous year. As a result, share of

industry in GRP structure of the region increased to 51.8% (the Russian average is about 30%). In GRP structure by sectors the tendency to increasing transport share was also observed. However, by the results of 2004 it returned to the level of mid-1990s.

The ratio between produced and consumed GRP (p.3 in table 1) reflects the fact that the Murmansk region by its contribution of value added refers to regions-donors within the national economy (meaning that it produces more than consumes). In 2004 this role especially strengthened (excess of produced over consumed GRP reached 23.6%).

Decrease of share of gross accumulation of fixed capital (from 20.1% in 2001 to 13.6% in 2004) was an unfavourable change in structure of GRP. It implies that level of investment in the economy relatively decreased in the situation of urgent need for renovation of fixed capital and availability of the necessary internal resources.

The acuteness of investments deficiency in the Murmansk region is also confirmed by the fact that annual deflated value of investment by 2006 still was substantially below of its 1991 level (see Figure 5). Despite the dynamics of investments in the Murmansk region during the observed period was quite similar to Russian one, the average rate of changes of real investment value was worse than national average rate. This combination of lower investment activity, relatively good industrial performance and high volumes of exports (over \$1 billion per year) reveals the problem of capital flight (outflow of capital from the region has been larger than inflow). If the process continues it can undermine future development of the traditional industries in the region.

Table 1: Structure of GRP in the Murmansk region, %

	2001	2002	2003	2004
1. Share in GRP:				
production of goods;	54,7	48,5	47,7	57,7
production of services;	45,7	50,2	51,4	41,7
net taxes on goods.	-0,4	1,3	0,9	0,6
2. Contribution of sectors to production of GRP:				
industry;	46,7	42,2	40,4	51,8
construction;	6,3	5,2	6,0	5,1
transport.	11,2	10,6	12,1	9,3
3. Share of consumed GRP in produced GRP	92,3	92,1	96,2	76,3
4. Share in produced GRP:				
expenditures for final consumption;	72,1	76,6	78,2	62,8
gross accumulation of fixed capital	20,1	15,5	18,0	13,6

Source: Calculated on the basis of data from Murmanskstat

The main channel of capital flight from the region is the use of transfer (intracorporate) prices. This practice is widespread among the region's large companies, almost all of which belong to national and transnational corporations. This also means that owners of the corporations, which

are outside the region (predominantly in Moscow), increasingly control regional resources. Obviously, such dependency creates risk of unfavourable for the region path of development.

Another form of “capital flight” from the region is shift to centralization during redistribution of state budget system incomes among regional and federal levels in favour of the latter. Explicitly such a shift started since the period of 1999-2001, when set of legislative acts, reforming tax and budget systems, was adopted and implemented. The changes resulted in shrinking tax base of the regional budget and in decrease of their tax revenues (Pachina & Grishin 2004: 102-103). This has led to the necessity to ask regularly for a financial help from the federal budget that is an additional form of the region’s dependency preventing self-reliant economic development.

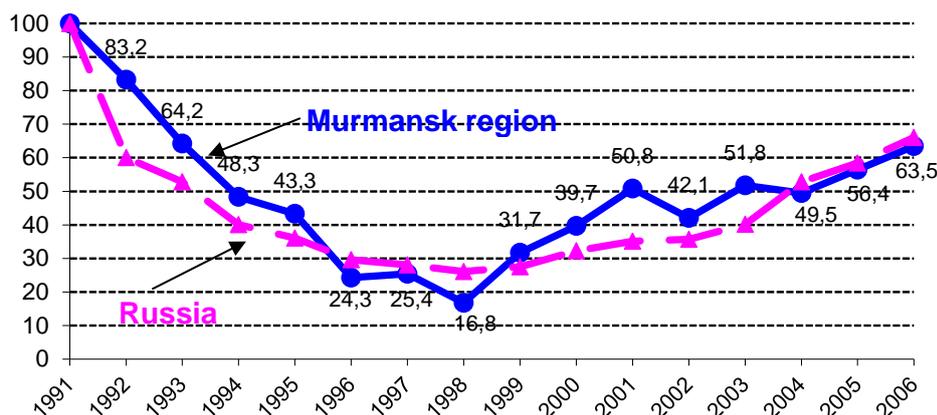


Figure 5: Capital investment indices deflated value, 1991=100

In general, summarizing the outlined and others economic processes in the Murmansk region during 15-years period of economic transformations the following main tendencies could be stressed. First, deep socio-political and institutional changes, conditioned transition from centrally-planned to market economic system, were coincided with crisis falling down of industrial production in the Murmansk region, which, however, for main enterprises was less dramatic than the Russian average, and lasted up to 1998. Since 1999 most industries of traditional economic specialization of the region demonstrated upward trend, but during the last few years they are characterised rather by stagnation. They also suffer from lack of sufficient investment for comprehensive renovation of their production assets and diversification, which to certain extent explains such stagnation.

Second, structure of the region’s economy changed toward more narrow specialization. It happened under the pressure of market competition and resulted in tighter involvement in national and world labor division and trade. However, development of small and medium sized enterprises and economic interactions with nearest neighbors within the Barents Region are rather weak.

Third, institutional and ownership changes lead to dependence of main enterprises located in the region on the policies of holdings and business-groups they belong to. Since head-quarters of large business groups are located outside of the region (in Moscow), the local interests are rarely taken into consideration. The similar dependent position occupies regional government against federal level regarding the budget and economic policy formation due to tendency to centralization of state power.

How the outlined economic processes influenced life condition of the region's population? To answer the question the following section is devoted to analysis of main social indicators.

Tendencies of social restructuring

Transition to the market economy had strong influence on the all sides of social life. The related changes were mainly painful for the most of population, which manifested in fall of living standard, decreasing level of social security, appearance of problem of unemployment, etc.

In 1992, the price liberalization provoked a deep, over 2 times, fall of real disposable money income of population in the region. Further, in the years of economic slump, decrease of real incomes in the Murmansk region was deeper than that in the country on average. One of the main reasons for this was low degree of diversification of the resource-based economy of the region limiting possibilities to receive incomes from alternative activities, especially for expense of small and middle-sized businesses development. Basic indicators describing population incomes and dynamics of their changes in the Murmansk region compared to the corresponding Russian average indicators are given in table 2.

After the hard for the population period of the 1990es, noticeable growth of real incomes was registered in 2000. Then in 2001-2004 income growth rates in the Murmansk region were considerably backward the Russian average (table 2.). Only in 2006 increase of population's real income in the Murmansk region a little bit exceeded the average Russian one.

Because of low growth rates of population's incomes in the Murmansk region the tendency of closing of wage level in the region and the Russian average has formed (table 2.). This means actual disappearing traditional for the region privileges in the labour payment due to higher than the Russian average costs of living and less comfortable climatic condition in the region. Thus, policy of labour force attraction to the North, which carried out in Soviet period, abruptly stopped and opposite process of outflow of population began.

Table 2: Population living standard indicators in the Murmansk region

	1991	1995	2000	2001	2002	2003	2004	2005	2006
Monthly per capita nominal income, RUR	642	740	3550	4620	5892	7134	8367	10073	12381
Index of real disposable incomes, % to the year ago: <i>Murmansk region</i>	114,8	86	115,1	102,0	104,5	101,9	103,4	109,5	111,0
<i>Russia</i>	116,0	87	109,1	108,5	118,8	114,9	107,8	111,1	110,0
Average monthly nominal wage per one worker, RUR: <i>Murmansk region</i>	795,0	851,5	3747	5387	7223	8645	10404	12522	14984
<i>Russia</i>	548,0	472,4	2259	3240	4360	5512	6828	8550	10736
Ratio of average wage in the region to average wage in Russia	1,45	1,80	1,66	1,66	1,63	1,57	1,52	1,46	1,39
Share of population with incomes below subsistence minimum, %: <i>Murmansk region</i>	19,1*	22,0	25,4	24,6	24,1	24,1	19,8	20,6	18,7
<i>Russia</i>	33,5**	24,8	29,0	31,7	24,2	20,6	17,6	n/a	n/a

* Data for 1994. Before 1994 the regional statistics did not calculate this indicator

**Data for 1992. Before 1992 this indicator was not applied in RF

Income differentiation of the population, in particular sectoral and territorial ones, is among the serious social problems in the region. Average wage in the social sphere financed from the budget (education, culture, etc.) as well as in the agriculture is more than 2 times lower than in sectors of the industrial production. Regarding territorial differentiation, level of average wage is higher in those administrative districts where profitable big enterprises are located³, as well as in the administrative centre of the region – the city of Murmansk⁴. The lowest wage level is in coastal and rural districts. For example, in 2006 in the Terskiy district on the White Sea coast average wage amounted 9.6 thousand RUR, i.e. 64% of the regional average.

Nevertheless, in the Murmansk region degree of population differentiation by incomes is lower than the Russian average. This is in spite of the fact that the tendency of increasing differentiation of population by income level in the region was observed during almost the whole analyzed period. In 2005 decile coefficient⁵ in the Murmansk Region made 11.7, whereas Russian average was even higher - 14.9. Oppositely, poverty level⁶, which before 2002 was stably lower than the Russian average, from 2003 began to exceed the latter (table 2.).

³ For instance, in 2006 in the town of Polyarnye Zori, where Kola nuclear power plant operates, average wage amounted 25.7 thousand RUR (\$943 according to official exchange rate), i.e. it was almost 2 times higher than the region's average wage.

⁴ In 2006 in Murmansk average wage was by 13% higher than the region's average (16.8 thousand RUR)

⁵ Decile coefficient evaluates degree of social stratification and is defined as ratio of income level of 10% of population having the highest incomes and 10% of population with the lowest incomes

⁶ Poverty level is defined by statistics as share of population having incomes lower than the fixed subsistence minimum, in total number of population

During the last two years (2005-2006) certain positive trends in change of living standard were set: growth of real incomes in the region approached to the Russian average, and poverty level began to decrease. The positive shift is confirmed also by results of sociological surveys of the province's population⁷. In 2006 share of residents referring themselves to "poor" and "very poor" decreased and accounted for 35% (in 2005 – 50%).

Similar trends in change of unemployment level were observed: during almost all period of 1990s and up to 2004 relative number of unemployed in Murmansk region both officially registered and general (calculated according to methodology of International Labour Organization (ILO)) was substantially higher than Russian average (see table 3). In 2005 and 2006 the level noticeably decreased and approached the Russian average, although still acceded the latter.

The outlined economic and social processes strongly influenced demographic situation in the Murmansk region. Since beginning of 1990s reduction of population number started. In total, for the period 1990-2006 population in the region dropped by 334 thousand people (or by 28% to the level of 1990). Of them 297 thousand were lost due to emigrational outflow and 37 thousand - because of natural decrease (the death rate exceeded the birth rate). Figure 6 shows the annual their dynamics during the mentioned period. Despite the fact that the emigration tends to diminish, its continuation could be regarded as an indication of less favorable living conditions in the region compared to other Russian regions.

Table 3: Unemployment level, % of unemployed to economically active population

	1992	1995	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Murmansk Region:												
General (ILO methodol.)	5,8	12,4	19,7	21,3	16,4	12,8	15,3	13,4	11,9	11,0	8,8	8,7
Officially registered	1,9	5,7	5,1	6,0	4,0	3,3	3,9	4,6	4,4	4,4	3,7	3,5
Russia:												
General (ILO methodol.)	4,7	9,5	11,8	13,3	13,0	10,5	9,0	7,1	8,0	8,5	7,6	7,1
Officially registered	0,8	3,3	2,9	2,9	1,7	1,4	1,6	1,8	1,8	2,6	2,4	2,4

Two factors influencing the migration level in the region could be pointed out. First, there is a state assistance program for resettlement of certain categories of people from Northern regions to other parts of Russia. However, financing of the program has so far not satisfied all the people eligible for it. Therefore, the program has had minor impact on general migration processes. It is estimated that the share of those who left the region with assistance of the program did not exceed 10%.

Second, there are circumstances slowing down out-migration from the region. The most important is the cost of housing in the south, making it unaffordable for most people to resettle.

⁷ Since 2000 sociological surveys of the Murmansk province's population are regularly carried out by the Institute for Economic Studies of the Kola Science Centre RAS

Migration outflow of population, death rate growth and birth rate fall have caused the unfavorable changes in demographic structure in the Murmansk region – decrease of children in the population and the increase of retired people, as well as decrease of life expectancy. The indicator of life expectancy at birth declined from 70.6 years in 1991 (with the Russian average of 69,0 years) to 63,6 years in 2004 (the Russian average was then 65.3 years).

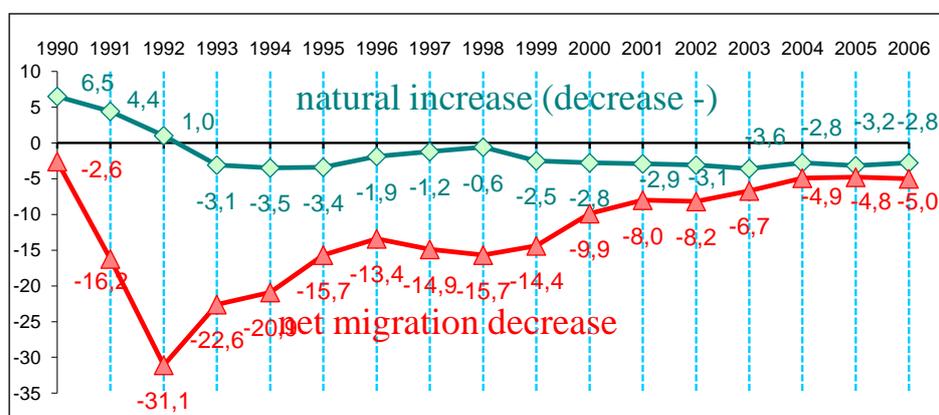


Figure 6. Natural and migration change of population in the Murmansk region, thousand of people.

Consequently, measured by this important indicator of life quality the Murmansk region lost its advantages compared to most other Russian regions. The region's advantage regarding the average age of population has been maintained so far but is gradually lost. At the beginning of 2005 it amounted 35.6 years (32.9 for men and 38.2 for women) with the Russian average of 37.7 years.

The regional government tries to cope with the outlined challenges elaborating and realizing the Program of socio-economic development of the region and other measures to stimulate economic growth. Obviously, some positive socio-economic trends were conditioned by these efforts. However signs of stagnation of major socio-economic indicators prevailed during last years. Main hopes for overcoming the stagnation trend are connected with the perspective of development of the large-scale investment projects, which briefly are described in the next section.

Prospects of socio-economic development in the Murmansk region

At present in the region several large-scale investment projects are prepared, that can significantly change economic and social situation in the region. The largest by investment size group of projects is connected to development of oil and gas resources of the Arctic shelf, and, first of all, Shtockman gas-condensate field (SGCF). According to the declaration of intentions OJSC "Gazprom" to invest in complex utilization of SGCF, it is supposed to construct a gas processing LNG plant and a pipe line system from the Barents Sea coast to the border with the Republic of Karelia. The total investment depending on the field development variant is evaluated as 40-70 USD bln, of them about 17 in the Murmansk region. Within preparation to the project realization an Association of oil and gas industry suppliers "Murmanshelf" was established in the region. Over 100 enterprises already have become its members. Activity of the Association is one of useful prerequisites for positive spill-off effects of the project in the region.

Another perspective direction of economic development in the region is growth of the transport-reloading capacity of the Murmansk seaport and their infrastructure. According to the plans of the

government and large transport companies it is envisaged to increase cargo reloading there by 2015 almost three times against the level reached lately (from 26 mln tons in 2005 to 72 mln tons in 2015, considerable part of that is accounted for by transit export deliveries of oil and coal). The indicated growth of transport and port facilities will require many billions of investments and will be connected to creation of several thousands of new jobs.

Among important planned projects in the Murmansk it worth to mention construction of a large oil-processing plant. According to declarations of intent of the JSC “Sintez petroleum” the company is going to invest in construction of the plant with capacity of 6.0 mln tons of processing oil a year. Though the plant is mainly oriented to export of oil products, it will meet internal demands of the region as well that is more beneficial for the region compared to the present situation when they are delivered from places more than 1000 km distant.

Besides the mentioned projects, realization of which will imply appearance of the new for the region fuel industry, there are real prospects of construction of large new enterprises of the mining industrial complex. Among them (1) a mining-beneficating combine on the basis of apatite-nepheline ore deposit in the central part of Kola Peninsula. It means that competitor to oldest mining company of the region – “Apatit” - will appear relatively soon (the planned exploitation launch in 2012). The new mining combine plan extract 6 mln tons of the ore per year, and employ 1200 people. (2) A mining-beneficating combine on the basis of ilmenite-titanium-magnetite ores in the Kola district with mining capacity of up to 5 mln tons, number of new jobs – to 1500 and exploitation launch in 2011-2012. (3) A mining-beneficating combine on the basis of platinum group metals deposit Fyodorova Tundra with mining capacity of 10 mln tons, number of new jobs – 700 and exploitation launch in 2010. The latter project will be the first large green-field investment project carried out by a foreign investor in the region. This is one of the world largest mining companies “Barrick Gold Corporation” having its headquarters in Canada. Project investments are evaluated as 17 bln RUR.

Thus one can expect that realization of the mentioned and a number of other projects will result in an investment boom in the Murmansk region in the nearest future. Another positive tendencies of the last period, which could stimulate economic recovery in the region, is strengthening of cross border economic ties with neighbors from Nordic countries. Promising examples are, for instance, the project of creation in cooperation with the Finnish partners of an industrial park in Alakurtti. Another example is the planned project of the establishment of the so called “Pomor Zone” as a joint Norwegian-Russian industrial and economic cooperation zone in the area between Kirkenes and Pechenga.

It should be noted that the all outlined projects, in case of their realization, could help to overcome current negative demographic trends in the region. However, to improve the situation it is insufficient just to offer new jobs and high wages. In addition it is necessary to provide conditions determining high life quality – favourable ecological situation, proper social services, especially housing and communal services, as well as public order, security and others life conditions, including those taking into consideration specificity of the High North. The task of creation of such conditions can only be solved by joint coordinated efforts of state power bodies, local self-government, NGOs and business community.

Hence, it is uncertain whether the new large investment projects will bring all mentioned benefits to local population. Therefore protection of socio-economic interests of the residences should be of a higher priority for the regional authorities than economic growth itself. It seems that such priority will not appear automatically but under the pressure of civil society institutions. The latter, however, are to be more active than currently to fulfil the mission.

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Payments for ecosystem services as a road to sustainability? A case of forest dispute in Muonio, Northern Finland

Simo Sarkki

Introduction

Sustainable development, focusing on environmental, economic and social dimensions has been a key policy goal for around two decades and a way to conceptualise relationships between people and the environment. In the new millennium, the concept of ecosystem services has emerged as a new kind of conceptualization of human-environment relations. Ecosystem services encompass the benefits of nature for people, and it is thought that these benefits ground human well-being (MA 2005). Following the Millennium Ecosystem Assessment (MA 2005), there are four types of services: 1) Provisioning (products obtained from ecosystems, e.g. timber), 2) regulating (e.g. flood control; species balance), 3) cultural (non-material benefits obtained from ecosystems, e.g. ecotourism), and 4) supporting, which maintains all other services by for example primary production and nutrient cycling.

The concept of ecosystem services has its origins in ecological economics (Farber et al. 2002), which has resulted in monetary valuations becoming a key characteristic for the ecosystem service approach (e.g. Costanza et al. 1997). Relating to the trend of valuating ecosystem services in

monetary terms, different kinds of Payments for Ecosystem Services (PES) have been developed for enhancing ecosystem service production (Jack et al. 2008; Sommerville et al. 2009). PES schemes are seen to have the potential to balance the inequalities in distributions of costs and benefits related to the use and conservation of natural resources (Bruner et al. 2008). In short, PES systems are built to make sustainable use of natural resources attractive also in economic terms (cf. Daily & Matson 2008; Pejchar et al. 2007). The ecosystem service framework is increasingly applied with the assumption that the identification and valuation of ecosystem services, and subsequent implementation of PES schemes will contribute to sustainable development. However, it has been argued that the ecosystem service framework moves discussions away from ethical and equity considerations essential to sustainable development towards market-based solutions compatible with current neoliberal developments (Norgaard 2010). Thus, it becomes important to examine the relationships between PES schemes and sustainable development.

The objective of this article is to examine the forest dispute in Muonio, northern Finland, and particularly examine what the challenges for PES schemes illustrated by the Muonio case are, and how the Muonio PES solution can be viewed in terms of equity. In Muonio, the innovative PES solution was used to come up with a resolution to a forest dispute between the Finnish state forestry enterprise Metsähallitus, which manages and logs state-owned commercial forests, and the local coalition opposing the loggings, consisting of local tourism entrepreneurs, representatives of local conservation NGO, a hunting association, reindeer herding and the municipality of Muonio. The solution was that the tourism entrepreneurs and the municipality paid compensation to the state forestry enterprise for not logging in state-owned forests located in northern Muonio. I assume that the challenges illustrated by the Muonio case are more general and might be applicable also to other PES schemes and to some extent to other market-based governance instruments.

Ecosystem service framework is also applied to research for assessing arctic ecosystems and the benefits they deliver (e.g. Leadley et al. 2010, 53-59, 111-116; ABA 2011). The common paradigm is shared that climate change and loss of biodiversity can lead to tipping points, after which the recovery to the previous state is impossible and the new system will be controlled by different variables (see Russill & Nyssa 2009). Nevertheless, the increasing acknowledgement of perils caused by climate change and biodiversity loss will probably lead also to policy responses which try to cope with these challenges. It can be assumed that new policies will be implemented, but also creation of market-based mechanisms to safeguard arctic ecosystem services will occur. The Arctic Biodiversity Assessment (ABA 2011) was endorsed by the Arctic Council in 2006, and ABA stressed also relevance of ecosystem services, like the report on Arctic Biodiversity Trends 2010 (2010). Furthermore, in science side the relevance of ecosystem services for traditional livelihoods in the arctic has been noticed, and challenges brought by climate change have been seen as a serious problem also beyond traditional livelihoods. Following the Arctic Climate Impact Assessment (ACIA 2005) Ministers of the Arctic Council stated that there is an urgent need to reduce greenhouse gas emissions (SWIPA 2011). It will be likely that also market based mechanisms are implemented to mitigate climate change. These might include payments for carbon sink services, and trading schemes for greenhouse gas emissions. It can be assumed that as for example Arctic Council includes science members (Koivurova et al. 2009) the issue of ecosystem services and possible development of PES schemes will invade also to the Council leading possibly to policy demand for market-based governance mechanisms, including PES schemes.

The lessons learned from the Muonio case may be applicable to the following domains relevant for arctic environmental governance: 1) oil drilling and mining and the compensation requirements for companies which deteriorate ecosystem services (see Nuttall 2011), 2) compensating and incentivizing tolerance towards harms caused by large predators, such as wolves and polar bears (see Heikkinen et al. 2011), 3) various market-based mechanisms for fisheries governance, like individual transferable quotas (see Armstrong & Sumaila 2001), 4) the global climate change mitigation efforts via market-based compensations or incentives (Koivurova et al. 2009), and 5) general development of market-mechanisms for the governance of arctic common pool resources. Furthermore, this article examines issues relevant also to other arctic areas: relationships between traditional land-uses (e.g. reindeer herding) and resource extraction (logging), but also stresses growing importance of tourism industry and its implications to local-level environmental decision making.

This article is based on 15 interviews of representatives of Metsähallitus and members of the local coalition opposing the loggings conducted in 2005 and 2007, and the follow-up of media discussion on the issue. This material was analysed with content analysis, and with a question what are the challenges for the PES scheme in the Muonio case especially in terms of equity. I piled the material according to identified challenges. These piles then formed the basis for the sub-sections in section 2 of this article.

This article begins by outlining the backgrounds and developments in Muonio. Next, the challenges regarding the PES solution are outlined. These challenges consist of the following questions: 1) is the use of ‘polluters rights’ –logic appropriate and non-biased in state-owned and thus public forests, 2) are the valuations on the amount of compensation involved in the PES scheme neutral, 3) how can Payments acknowledge and value the flow of benefits from the ecosystem services to multiple actors at various scales, and 4) how to cope with the costs and benefits for future generations of the governance decisions. The article is concluded by considerations about relationships between PES schemes and equity issues essential for sustainable development.

Illustrating challenges for PES through the Muonio case

Forest disputes have been rather common during last two decades regarding state- owned lands in northern Finland. The disputes have often concentrated on loggings in old-growth forests, which are important reindeer pastures, have high biodiversity values, provide basis for nature-based tourism, and also provide good commercial returns if end-logged. The main parties of the disputes have been the state forestry enterprise Metsähallitus, environmental non-governmental organizations, reindeer herders, and tourism entrepreneurs and other local people (Raitio 2008; Sarkki & Heikkinen 2010).

In Muonio, the forests under dispute are not natural forests in a strict sense, and they were not claimed for area conservation, but the local coalition wanted to exclude them outside commercial loggings because these forests are important for nature-based tourism, reindeer herding, hunting and local recreation. In contrast, Metsähallitus wanted to do loggings in these forests. As a response to finding out Metsähallitus’ logging plans, some local actors formed a coalition to oppose loggings in late 2006. These key actors arranged a protest against the planned loggings in Muonio to which some 500 people joined, which is a huge amount in a small municipality with 2500 inhabitants. As a response to wide local opposition, Metsähallitus initiated extra negotiations outside Metsähallitus’

Natural Resource Planning processes. There were three rounds of negotiations between Metsähallitus and key actors from the local coalition. Finally, after controversial discussions, Metsähallitus chose to leave the disputed forests outside loggings for the next ten years. Furthermore, it was agreed that tourism entrepreneurs and the municipality of Muonio pay an undisclosed sum of money to Metsähallitus for not logging (Sarkki 2008).

This payment can be considered as a Payment for Ecosystem Services. According to Wunder (2005, 3) Payments for Ecosystem Services include five criteria: 1) The transactions are voluntary, 2) the ecosystem services or the land securing these services is well defined, 3) the service moves to the buyer, 4) from the producer, 5) and the producer of ecosystem service ensures the continuity of the ecosystem services.

In Muonio, the tourism entrepreneurs in fact suggested that they could pay Metsähallitus for not logging. The land securing the ecosystem services (e.g. attractive area for local recreation and tourists, reindeer pastures, nursery and living habitat for game animals, and berry production) was well defined. The services did not in fact move to the buyer, but Metsähallitus ensures the flow of the services by retaining from loggings. Next I outline some challenges for PES and market-based governance tools that are illustrated by the Muonio case.

Problematic ‘polluters’ rights’

We can talk of ‘polluters’ rights’ when Payments are provided to an actor for not deteriorating the state of ecosystem services relevant for other actors. For example, people or industries using water up-stream may be compensated if they refrain from actions that deteriorate the water quality or diminish the water quantity available for down-stream actors. Thus, in this case the Payments for Ecosystem Services are designed with an assumption that polluters have a right to pollute, and they are entitled to compensations if refraining from doing so (see Vatn 2010). ‘Polluters’ rights’ –logic was also applied in Muonio, and it also resonates with Metsähallitus’ current trend to measure how much income they are losing because of taking general societal responsibilities into account in their loggings.

Calculations on how much Metsähallitus loses because of taking general societal responsibilities into account (biodiversity conservation, recreational use and scenic values, reindeer herding, Sámi culture, and employment opportunities) are also done more widely than just in relation to Muonio. The Ministry of Agriculture and Forestry decided in 2006 that Metsähallitus should develop an evaluation system to assess what the costs and benefits are for taking societal responsibilities into account in state-owned commercial forests. The costs, not benefits, were counted for the first time in 2006-2007, and the result was that Metsähallitus forestry unit loses around 38 million Euros annually because of taking account these societal responsibilities, while its profit was 65 million Euros (Schildt 2007).

This trend was heavily criticized by an interviewed member of the local coalition who stated that ‘in the beginning God created lands and forests, and in the second day all forests were signed as logging areas for Metsähallitus. And if there is an exception of this holy principle it has to be counted how much Metsähallitus is losing because of taking other land-uses into account.’ This quote highlights critique towards the idea of ‘polluters’ rights’. Why should Metsähallitus have the right to deteriorate the other ecosystem services other than wood production potential in public lands? Why does Metsähallitus calculate only the costs and not the benefits emerging from not

logging? Furthermore, in Muonio, tourism entrepreneurs paid for Metsähallitus for not logging. This 'polluters rights' -logic is criticisable as money should not be a pre-requisite for effective participation in decision-making related to public lands.

Politics of valuations in Muonio

Measuring and valuating ecosystem services is important, but it also raises questions about the knowledge production; who generates the knowledge and how is it related to decision-making (Hodgson et al. 2007)? Furthermore, we need to think valuations as being integral with institutional context (Vatn 2009): thus, it matters who is doing the valuations. The below illustration from Muonio highlights that the measurements on which the Payments are based on are highly political and various interest groups can produce very different numbers.

Tourism entrepreneurs in Muonio made a suggestion in public to Metsähallitus that they could pay for Metsähallitus for not logging the disputed forests in northern Muonio in ten years. The proposed sum was 100 000 Euros for the ten years (Melamies 2007). According to Suomen Kuvalehti, which used a memo from the meeting between Metsähallitus and local coalition in Muonio as a background, Metsähallitus claims 1 million Euros of rent from the tourism entrepreneurs. According to the memo, Metsähallitus had stated that the total value of the timber in the disputed area of 2500 ha is some 7.5 million Euros. According to tourism entrepreneurs the value of one hectare of forest in the latitudes of Muonio is around 400 Euros, which would make the market value of the disputed forests some 1 Million Euros. These calculations were based on the studies by Finnish Forest Research Institute (Pöntinen 2007). Thus, in this case both parties produced their own numbers and it is evident that instead of coming up with neutral numbers, the calculations around the value of timber were biased and highly political.

Spatial scale and payments

Valuation of ecosystem services needs to incorporate the multiple stakeholders who benefit from those services at various scales (Hein et al. 2006). When comparing management options in terms of the benefits they produce, the management option which is able to attach more actors and benefits to it will be probably in better position when comparing management options in terms of the benefits they deliver.

An interviewed representative of Metsähallitus pointed out that the total value of wood extracted from the forests is something like 15-fold, when processed further. For example, the forestry side's argumentation in public discussions was often concerned about the future of the Kemijärvi factory, which is now closed for other reasons (see Rönkä & Sarkki 2011), but still operated during the Muonio dispute. The point of this kind of argumentation is that the benefits gained from the extracted wood are much larger than just the benefits for Metsähallitus. Thus, taking account of the whole production chain can multiply the value of certain services.

In Muonio many of the interviewed members of the local coalition admitted that forestry might benefit the people working in distant pulp factories, but noted that there are merely few people in the municipality of Muonio employed by forestry. The contested question for sustainability, spatial scale and measurements is: should the benefits for distant people justify deterioration of locally important ecosystem services?

The rather long production chains were also identified for tourism by the local coalition in order to create competitive arguments against forestry. As most of the tourists in Muonio are foreign, they come there by plane, which benefits Finnish airlines. The role of reindeer in creating a positive image about Finland abroad was also stressed. The Finnish tourism industry uses images of reindeer in their advertisement, and thus, free grazing reindeer herding produces some benefits for tourism via the national image. Tourism also keeps the remote villages alive by providing jobs and also contributes to improvements of public services and infrastructure. Valuation of these kinds of benefits is very challenging, but needed to produce realistic accounts on the benefits of tourism. However, it is difficult to assess how the utilization of provisioning services (timber) impacts on the possibility to utilize other services (attractive landscapes for tourism and recreation, reindeer pastures, habitat functions for game, and berry production). This question still lacks an answer (Norgaard 2010), and is also relevant to the Muonio case. Natural forests certainly attract tourists, but what would actually be the difference between unmanaged and logged forests in terms of attractiveness of Muonio as a tourism destination?

Related to scale issues, members of local coalition noted that Metsähallitus had done some 'revenge' loggings in other areas of Muonio. This was considered to be a response by Metsähallitus to the lost logging possibilities in northern Muonio. Also Tahvonen (2007) has found that in case of decisions to increase the amount of set aside areas for commercial state forestry, forestry actions tend to be intensified in other regions as the overall economic goal of loggings is not reduced. Thus, it is possible that 'polluters' collect the payments for not 'polluting' and then continue and intensify 'pollution' in other areas. In this case, the whole idea of using Payments for improving sustainable use of natural resources becomes somewhat diluted.

Temporal scale and one-sided measurements

Time has been labelled as a key dimension to sustainability: the current utilisation of natural resources should not diminish the future possibilities for well-being (e.g. Hodgson et al. 2007). However, it is often a problem in valuations of ecosystem services that the future depletion or appreciation of the services is not being accounted for. This might lead to incorrect indications about the state of well-being, and also to misinformed policy actions (MA 2005, 131).

The temporal scale was taken into account in the local coalition's argumentation. It takes some 150 years for the forests to regenerate at the latitudes of Muonio. Thus, the coalition argued that the loggings would 'steal their future', referring to deteriorated opportunities for nature-based tourism. They also pointed out that while tourism entrepreneurs can enjoy a steady annual flow of income from nature-based tourism, forestry would log there once and then come again after 150 years. The local coalition also argued that Metsähallitus should have not only counted the losses for forestry, but also the long and short term benefits to other ecosystem services due to refraining from loggings. This would have enabled a fair comparison between the different management options. These kinds of comparisons should be standard when designing PES especially in dispute situations, because a one-sided view will likely produce biased results and mask the benefits deriving from the 'non-calculated' land-uses.

Conclusions: PES and equity

Payments for Ecosystem Services are seen as promising tools to enhance governance and come up with sustainable solutions. However, we noticed above that there are serious challenges for PES to

contribute to sustainability. In this section I will consider the argument that application of ecosystem service framework and implementation of PES schemes will in fact move us away from considerations on equity, towards thinking that market-based mechanisms will solve the questions of sustainability (Norgaard 2010). How do PES and ecosystem services blind us from seeing equity issues?

Firstly, the Muonio case stresses the idea that when there is increasing interest toward certain areas, their ownership relations become more acute and actors begin to claim property rights to these areas (see Bromley 2006, 103). Metsähallitus' ownership was confirmed with the Payment, and in a sense, public lands moved a step closer to 'private state ownership', where citizens have to pay to participate effectively into decision-making. This reflects an argument that PES are benefitting the rich more, and might further marginalize the poor (Norgaard 2010). In Muonio, tourism entrepreneurs had the money, but what if they would not have been participating, would the reindeer herders, hunters and other locals been able to halt logging plans?

Secondly, the different ecosystem services differ in relation to the ability to value them. Forestry related benefits seem more easily countable than for example the landscape's value for tourism and recreation, value of free grazing reindeer herding for the image of Finland, or intrinsic values of recreation and biodiversity. While these issues together with intergenerational justice are key factors for sustainable development, their monetary value is hard to grasp. This complicates building equitable market-based governance solutions for sustainability. Market-based solutions might hinder more radical institutional and economic change, which some argue is needed to move towards a sustainable world (Norgaard 2010). In Muonio and in Finnish state-owned commercial forests, this more radical change could take place in respect to taking other than commercial values for forestry increasingly into account. The calculations on general societal responsibilities are a step forward, but at least in Muonio they were applied in an incomplete and biased form and as such, they shadow the equity and ethical considerations rather than induce more radical change.

Thirdly, when counting the values of ecosystem services, spatial scales to which the benefits diffuse would also be good to take into account in order to produce realistic accounts of the real value of utilization of a particular service. However, sustainability is also about equity, and taking account of the benefits throughout production chains might produce a bias in favour of land-uses with long production chains (e.g. forestry: from loggings to book stores) over land-uses, which do not include such long production chains or if the values of ecosystem service for a particular land-use is hard to be measured (e.g. nature-based tourism). Furthermore, when comparing different management options with scale sensitive value assessments, these valuations mask the question whether local people should have more rights to local environments than far-away actors. Should the benefits for distant people justify deterioration of locally important ecosystem services?

If these challenges are solved by valuation methods used as a basis for Payments for Ecosystem Services, it would be a really promising tool to enhance governance for sustainability. However, it seems that these challenges are serious and cannot be easily resolved. In Finland, this might be the reason why the 'Muonio PES model' has not been applied to other areas. If the valuations are used in one-sided or incomplete manner, it is possible that governance strategies based on those valuations blind us from various complexities behind the idea of ecosystem services (see Norgaard 2010) and as a result, environmental sustainability and equity become diluted by the emerging PES schemes.

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“Go North, Young Man”¹ — Gendered discourses on climate change and security in the Arctic

Auður H Ingólfssdóttir

Arctic discourses

In the past, the Arctic has often been presented as a pristine territory, waiting to be discovered. Arctic explorers' travelogues created an image of a cold, dangerous, distant but mysterious region. Only the brave and heroic dared to travel to there. Whereas the image of the explorer is of the masculine hero, the Arctic as a region is feminized. The Arctic environment is pristine, untouched, and almost virgin like. It is to be conquered by the brave explorer.

Masculine values are also dominant in more recent times, when the Arctic became a playing field for superpowers to demonstrate their military power. Heininen (2010a) identifies three different

¹ The title is borrowed from Borgerson (2008). In his article this sentence is used as a subheading for one of the sections, and is an obvious reference to the opportunities for “young men” to take advantage of emerging unknown territories in the Arctic and at the same time a call to the US authorities to turn their attention north to avoid being the loser in upcoming battles about resources

stages of security in the Arctic in past decades. The first stage started during World War II when the Arctic was militarized. During this period open battle took place, e.g. bombings of the harbor of Kirkenes in Norway, and the harbor and town of Murmansk in the Soviet Union. The struggle between states about sovereignty had reached these northern regions and military tension was high. The second stage of security covers most of the Cold War and Heininen names this stage “military theatre”. During this period, political and military competition between the two superpowers, the USA and the Soviet Union, was a dominant factor and the arms race was at its heights. By the end of the Cold War, the Arctic was heavily militarized, the region was one of the most important platforms for nuclear weapons systems and there was a strong sense of the enemy state being a threat to national security on both sides of the conflict. The third stage is the transition stage, indicating the shift towards demilitarization of the region after the Cold War. The transition was inspired by the 1987 Murmansk speech of Mikhail Gorbachev, then the president of the Soviet Union, and included not only demilitarization but also an increase in civil cooperation in several fields such as economics, environmental protection and science (Heininen 2010a).

While masculine values of competition and control over territory can easily be linked to the two first stages of security, the transition phase brings in some new elements, indicating a possible shift in values. Heininen and Southcott (2010) recognize this shift, pointing out that a new vision has emerged, where the Arctic is increasingly being viewed as homeland for indigenous peoples and as a platform for international and interregional cooperation. This emerging vision is not only challenging the vision of the Arctic as a military playing field, but also the more traditional view of the region as primarily frozen, extreme, and exotic; or as a sparsely populated frontier; or as an area rich in natural resources, waiting to be exploited for the benefit of the nation.

But how does climate change and the melting of the Arctic ice influence this picture? Will the environmental changes threaten the peace and stability of the region, leading to a race for resources and competition between and among states? Or will climate change provide added incentives for cooperation among states and other stakeholders, changing the third security stage identified by Heininen from a transition stage to a more long term transformation stage?

The answers are not clear. Currently there are two competing discourses on climate change and security in the Arctic. One draws from the realist perspective in international relations, in which power politics between states dominate, the other can be linked to liberalism, emphasizing the mutual benefit of cooperation. However, certain aspects of the second discourse could also be identified with alternative approaches, calling for a more radical transformation of values and the relationship between states and citizens and between humans and nature. One purpose of this paper is to explore whether feminist approaches can be identified in this second discourse. Are feminine values still pushed to the margins in the field of geopolitics or have they entered the stage as an accepted player, capable of useful contribution to the shaping and implementation of policy?

Before digging deeper into the two competing discourses, some background information is needed, to explain the links between feminism and key theoretical approaches within international relations.

The state and hegemonic masculinity

Feminism as an academic discipline grew out of the feminist movement of the 1960s and 1970s, but feminist perspectives first entered the international relations discipline at the end of the 1980s, about the same time as the end of the Cold War. A landmark book in feminist writings in international relations is Ann Tickner's book *Gender in International Relations* published in 1992. Tickner points out that because foreign and military policy-making has largely been conducted by men, it should not be surprising that the discipline that analyses these activities is primarily about men and masculinity. "We seldom realize we think in these terms," she writes, "...however; in most fields of knowledge we have become accustomed to equating what is human with what is masculine," (Tickner 1992, p. 5).

Tickner traces how in realism, the most dominant school of thought within international relations, the ideal of the glorified male warrior has been projected onto the behavior of states. Throughout history, characteristics associated with masculinity, such as toughness, courage, power, independence, and even physical strength, have been those most valued in international politics. This glorification of male warrior attributes celebrates only one type of masculinity, however, subordinating other types of masculinities. Connell has used the term "hegemonic masculinity" to explain how one type of masculinity can occupy the hegemonic position in a pattern of gender relations. She defines hegemonic masculinity as: "... the configuration of gender practice which embodies the currently accepted answer to the problem of the legitimacy of patriarchy, which guarantees (or is taken to guarantee) the dominant position of men and the subordination of women," (Connell 1995, p. 77). Hegemonic masculinity is sustained through its opposition to various less valued masculinities (e.g. homosexuality), and through its relations to various devalued feminine qualities, creating unequal power relationships between different groups of men, and between men and women. Tickner claims that in international politics, the characteristics associated with hegemonic masculinity are projected onto the behavior of states whose success as international actors is measured in terms of their power capabilities and capacity for self-help and autonomy (Tickner 1992).

Liberalism, the main competing theory of international relations to realism, is not free from masculine values underpinning basic assumptions, according to Tickner. While realists emphasize competition and power struggles, liberals are advocates of free trade and cooperation between states that will maximize benefits. According to liberals, human beings are driven by rational self-interest. "The rational economic man" is offered in contrast to "the political man". But perhaps the difference is not so great? The rational economic man has many similarities to the political man, but his aggressive passions have been tamed by the rational pursuit of profit (Tickner 1992). Women are still absent from the picture and feminine values related to caring, nurture and service, all of which are crucial for reproduction and the survival of the younger generation, are nowhere to be found.

After drawing up the picture of international politics as a masculine domain, Tickner asks: "How could feminist perspectives contribute anything new to its academic discourses?" (1992, p. 17). She argues that by privileging masculine values over feminine, the options available to states and their policy-makers to tackle the global challenges of the present are seriously constrained. Since knowledge about the behavior of states and the international systems depends almost entirely on assumptions that are derived from men's experiences, a large part of human experience is ignored,

limiting our ability to come up with innovative and transformative solutions to problems. of human experience is ignored, limiting our ability to come up with innovative and transformative solutions to problems.

Competition or cooperation?

To evaluate if climate change is a security threat in the Arctic, one must be clear on what is meant by security. Are the main concerns with potential conflicts between states or should we be more concerned with human security challenges at the local level? The focus of attention is important, because it not only influences how policy is shaped but it directs what types of policy measures are implemented.

Already, it has been established by scientific research that the Arctic is extremely vulnerable to observed and projected climate change and climate changes are being experienced particularly intensely in the region. For example, in the past few decades, Arctic average temperature has risen at almost twice the rate of the rest of the world (Arctic Council 2004). The warming of the Arctic is causing thawing of the permafrost soils of the tundra, melting of glaciers and increasing erosion of the coasts by wave action and storms. These changes are impacting the natural environment, but the effects on human communities are also considerable. These effects can be viewed both as threats and opportunities. For example, the melting of ice can make extraction of resources easier and new shipping routes more viable. These new opportunities could, however, turn out to be potential sources of conflict, and thus pose a threat to security in the region (German Advisory Council 2008).

In an article published in *Foreign Affairs*, Borgerson (2008) argues that global climate change has given birth to a new scramble for territory and resources among Arctic powers. He warns that while other Arctic powers (Russia, Norway, Denmark and Canada) are in a race to claim additional territory in the region, the US is remaining on the sidelines. Borgerson is concerned that without US leadership to help develop diplomatic solutions to competing claims and potential conflicts, the region could erupt in an armed conflict, as states compete for newly accessible resources. “Although the melting Arctic holds great promise, it also poses grave dangers. The combination of new shipping routes, trillions of dollars in possible oil and gas resources, and a poorly defined picture of state ownership makes for a toxic brew,” he says (Borgerson 2008, p. 73).

Borgerson is approaching the topic from the traditional realist perspective, claiming that climate change is creating new threats to US national security, due to the competing territorial claims of Arctic states in order to gain access to and control over new shipping routes, energy resources, fishing grounds and other potential assets. Although he calls upon the US government to provide leadership in negotiating diplomatic solutions, rather than using their military power, he clearly expects that if left alone, the other states will use the threat of military force to sort out their competing claims.

The fear that the melting of the Arctic ice will lead to a competitive “scramble for resources” has been echoed in numerous media accounts in recent years. However, other authors and commentators point out that cooperation is a more logical path to follow. For example, in a paper on the new security agenda in the High North, Bailes (2009) emphasizes the importance of cooperation of both states and non- state actors; “Even at this early stage in exploring the new northern agenda, it is crystal clear that the only viable solutions are based on win-win cooperation

and on respect for planned, transparent, at least partly regulated frameworks of action by state and non-state actors alike,” (Bailes 2009, p. 3).

Whether competition or cooperation is the guiding light in present day interaction among Arctic states is not always obvious. The rhetoric is clearly one of cooperation. For the past two decades interregional cooperation has increased and numerous regional initiatives and forums have been created. The Arctic Council, for example, was established in 1996 as a high level intergovernmental forum to provide means for promoting cooperation, coordination and interaction among the Arctic States, especially in the fields of sustainable development and environmental protection (Arctic Council n.d.). Heininen (2010b) argues that at the beginning of the 21st century the Arctic is a stable and peaceful region with increased cooperation both within the region and between the region and the outside world. However, he also warns that this spirit of cooperation will not automatically continue when new challenges arise. For example, even though climate change is an environmental issue, it also has a security dimension related to state sovereignty and the national security of Arctic states. Thus, the issue may appear as a traditional security issue, calling for re-militarization of the region, but this would be a mistake, since climate change needs a more comprehensive approach to security, one that includes issues related to both environmental security and human security (Heininen 2010b).

Feminist scholars have also highlighted this risk. For example, MacGregor warns that the securitization of climate change can lead to a “masculinization” of environmentalism. If climate change is securitized it is constructed as a problem that requires the kinds of solutions that are the traditional domain of men and hegemonic masculinity. This could mean that both military responses and exceptional measures that depend on downgrading of ethical concerns would be justified (MacGregor 2010). Challenging the traditional, state-centric view of security thus seems to be an important component of any attempts to securitize climate change in an effort to channel more resources into political processes. Rather than focusing on states, the more people-oriented approach of human security seems to be a more appropriate framework for analyzing threats posed by climate change.

The human security approach is particularly appealing for feminist researchers, who have generally sought to emphasize marginal groups and give voice to the powerless, using gender as an analytical tool. In fact, one can easily draw a parallel between the human security agenda and feminist security theory since the works of feminist scholars on war; gender and security have contributed to the emergence of human security. Feminist scholars writing about security have focused on the security of the individual, rather than the state, and among other things they have contributed to the understanding of how structural violence can threaten the security of individuals and groups. The concept “structural violence”, as a term to describe social injustice, was first introduced by peace researcher Johan Galtung, in his article *Violence, Peace and Peace Research*. He uses the concept to explain how systems created by society can discriminate (often unintentionally) against individuals belonging to certain groups (Galtung 1969). Feminists have developed this concept to explain the exploitation of women under the patriarchal system, and pointed at the various dangers posed to certain groups in society, even if national security is not threatened. Although feminist scholars have been very critical of the traditional definition of security, their criticism did not reach mainstream discourse in security studies. The emergence of the human security agenda, however,

changed this. Although the human security concept can be traced to policy institutions like the UNDP, or individual governments like Canada and Norway, Thórarinsdóttir (2009) points at three ways in which feminism influenced the human security agenda. First, the writings of feminist scholars on security issues helped to create fertile soil for the new concept. Second, women activist organizations had prepared the ground, by drawing attention to gender based violence in conflicts, and third, it can be argued that the increasing number of women in position of power, both in national governments and within international institutions, helped pave the way for new ideas to emerge and gain acceptance.

The broadening of the security concept, and the increasing emphasis on human security, both globally and in the Arctic context, point towards a shift, where feminine values are given greater weight than before in security discourses. The emergence of new challenges, like climate change, has no doubt facilitated this shift. Yet, the more traditional views of security are still noticeable and might be more evident in state actions than rhetoric. For example, despite a decreased military presence in the Arctic since the Cold War, there is not any real evidence of disarmament in northern regions. While in some parts of the Arctic military bases and radar stations have been closed and troops have been withdrawn and activities stopped, in other parts military activities have been extended and new areas have been identified as strategically important (Heininen 2010a). Thus, it is clear that a certain tension exists between the need to cooperate and the tendency to prioritize the protection of one's own interests. When it comes to utilization of resources that the melting of the Arctic ice will make more accessible, however, there seems to be little disagreement about the prediction that states in the region will be eager to exploit those resources. This is especially true of the oil and gas reserves, in spite of the fact that the utilization of those resources will further add to worldwide greenhouse gas emission, intensifying the ecological and human security problems created by climate change. When it comes to man's right to exploit nature, dominant values seem to be unchallenged. This brings us to the feminist views of the relationship between humans and nature.

Humans and nature: domination or partnership?

Climate change is an issue that does not fit well with the power-seeking behavior of states described in realist theories, since it is a phenomenon that has no respect for national boundaries and calls for collective action. From the time of the formation of the modern state in the 17th century Europe, natural resources and geographical spaces have been viewed as resources for increasing state power and wealth. Further strengthening this view was the scientific revolution that also began in the 17th century; it provided a more mechanistic view of nature than had been the previous norm. Prior to this revolution, humans were considered to form an integral part of nature, but during this period nature began to be viewed as a machine to be exploited for human benefit (Tickner 1992).

Ecofeminism has made important contributions towards understanding the relationship between humans and nature, pointing at the parallel between the patriarchal system, where the masculine dominates the feminine, with the domination of humans over nature. As MacGregor (2010) points out, however, ecofeminism has been suffering from a negative reputation as being spiritualist and essentialist and naturalizing of women's reproductive and domestic roles, and thus has received harsh criticism from many feminist scholars. Yet, some more recent ecofeminist scholars have

rejected this essentialist connection between women and nature, stressing instead that the oppression of women and the domination of nature are both the result of patriarchy. “What all ecofeminists agree about is that there are important connections between the domination of women and the domination of nature,” writes Warren (1998, p. 264). Part of the problem is dualism in Western thought, whereby disjunctive pairs are seen as opposite (rather than complementary) and exclusive (rather than inclusive), and higher value (status, prestige) is attributed to that which is higher than to that which is lower. Examples of this would be twin concepts like: reason/emotion, mind/ body, culture/nature, human/nature, and man/woman. Whatever is historically associated with emotion, body, nature and women is regarded as inferior to that which is associated with reason, mind, culture, human (i.e. male), and men. This value-loaded dualism becomes a part of a larger conceptual framework, where socially constructed sets of basic beliefs, values, attitudes and assumptions shape how one views oneself and others. A conceptual framework is oppressive when it explains, justifies, and maintains relationships of domination and subordination (Warren 1998).

For ecofeminists, the solution to these problems includes dismantling the man made rift created between humans and nature. For example, Ruether writes: “We need to think of human consciousness not as separating us as a higher species from the rest of nature, but rather as a gift to enable us to learn how to harmonize our needs with the natural system around us, of which we are dependent part,” (Ruether 1993).

The potential for a value shift in the Arctic

Although Arctic discourses have traditionally been colored by some masculine themes, there is great potential for a counter discourse, celebrating feminine values as an important contribution to the achievement of peace, economic justice, and ecological sustainability. Already voices from this direction have made impact. For example, female leaders from Arctic indigenous communities have been influential in the discourse about the future of the region, bringing in alternative views on the relationship between humans and nature. The Nordic countries, which all belong to the Arctic Council, have also been known as states that pay attention to gender equality and social justice. For example, the five Nordic countries usually place in the top ranks in the Gender Gap Index, published annually by the World Economic Forum (Hausmann *et al.* 2010). The Scandinavian countries are also on the top of the list in Hofstede’s analysis of cultures where countries are listed according to how high the culture scores on characteristics he labels as feminine. The purpose of Hofstede’s study was to examine the role of values in the choices that states make in choosing their path for development (Tickner 1992). Thus, the Nordic countries have shown leadership at the global level in eliminating gender equality and should be more open than many other states to feminine views, challenging the more dominant masculine worldview.

As has been discussed in this paper, values and beliefs are important in how we view the world, and can be an influential factor in how policy is shaped and implemented. In this light, exploring the values underlying discourses on climate change and security in the Arctic is an important step in our efforts to find innovative solutions to new security challenges associated with climate change. An argument has been presented, that dominant theories in international relations are based on a partial view of human nature that is stereotypically masculine. There is a need for a world view that is more inclusive of the feminine characteristics, emphasizing both the conflictive and cooperative

elements of human nature. The focus of attention is important because it not only influences how policy is shaped but it directs what types of policy measures are implemented. By employing a feminist perspective, policy interventions can be more targeted, and more likely to address the real security needs of people that are at risk. This perspective gives hope for an international community that is more cooperative, capable of prioritizing long term common benefits over short term individual gains.

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Participation of non–state actors in Arctic environmental governance

Sebastián Dyuck

Introduction

In the perspective of the “Rio Plus 20” UN Conference on Sustainable Development, the international community is once again debating the role of non-state actors in environmental governance. In the context of this broader discussion, the Arctic is often highlighted as an example of a best practice in reference to the status of “permanent participants” granted to the representatives of Indigenous People Organizations (IPOs) at the Arctic Council. Oran Young identified the Council as a *“pioneer in providing opportunities for non-state actors to participate in efforts to address policy issues”* (Young 2009). Considering the important role and recognition of local indigenous people, and the distance separating national political centers to the region, the Arctic, indeed, presents a unique set of opportunities for the development of a more inclusive model of regional governance, which would take into consideration other voices besides those of national governments.

This article aims at assessing whether the Arctic can indeed be identified as a model of inclusive environmental decision-making, as the previous quote suggests. Rooted in the context of the ongoing discussions on the reform of the institutional framework for sustainable development, the present study will take a legal approach to this question, taking into consideration the formal status and rights granted to non-state actors in intergovernmental processes, while elements related to the effective influence of these actors will fall beyond the scope of this study.

The first section will set the general context, highlighting the progressive recognition of the importance of the participation of non-state actors in sustainable development governance, as well as the particular challenges relating to the inclusion of stakeholders in intergovernmental forums. The second section will consider the case of the Arctic Council, considering the different status granted, not only to representatives of indigenous people, but also to other categories of actors. Finally, the procedures for the inclusion of non-state actors in the work of other regional intergovernmental institutions, such as regional fisheries management organizations (RFMOs), will be considered in the third section.

Non-state participation in the proceedings of environmental intergovernmental organizations

Progressive recognition of the importance of public participation for sustainable development

The participation of non-state actors has been recognized repeatedly as a key element of sustainable development. Already in 1987, the report of the World Commission on Environment and Development noted the importance of providing non-governmental organizations (NGOs) with access to information, opportunities to participate in decision-making processes on environmental matters, and access to legal remedies (Our Common Future, 1987).

This acknowledgment was later incorporated in the Rio Declaration on Environment and Development that recognized public participation as a principle of sustainable development.

Environmental issues are best handled with participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities – (Rio Declaration 1992, Principle 10).

The “Agenda 21” adopted during the same conference as the implementation plan of this declaration dedicates a full section to the critical role of the “*commitment and genuine involvement of all social groups*”. The document identifies altogether nine Major Groups representing various groups of stakeholders, from trade unions and local government to women and farmers, thus going beyond the traditional definition of civil society. Agenda 21 provides that rules and policies affecting the access and participation of stakeholders in the work of any institutions contributing to the implementation of sustainable development shall apply equally to each of these groups.

In the pan-European context, the UN Economic Commission for Europe (UNECE) adopted in 1998 the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters. This convention constitutes an additional landmark in the international recognition of the participatory rights of stakeholders in

environmental decision-making as a legal principle, as it is enforced through a compliance mechanism hearing individual applications. Public participation in intergovernmental forums

Despite this growing recognition of the role of civil society, international cooperation remains nevertheless framed to a large extent, by a Westphalian vision of international affairs governed solely by sovereign states. The participation of non-states actors in international decision-making thus remains marginal, civil society invited mainly to play the role of *observer* rather than *participant*.

The report of the Brundtland Commission already noted in 1987 that improvements to the participatory rights of civil society should not only take place at the domestic level, as it called for the “*establish[ment] or strengthen[ing] of procedures for official consultation and more meaningful participation by NGOs in all relevant intergovernmental organizations*”. The report justified this need by the crucial role played by NGOs and private and community groups in supporting the delivery of public policies and programs. Building on the report, both declarations adopted at the Rio Conference and at the Johannesburg Summit referred to the importance of increasing the role of civil society at all levels of decision-making, thus including participation at the international level.

Under the frame of the Aarhus Convention, pan-European countries adopted in 2005 the Almaty Guidelines on Promoting the Application of the Principles of the Aarhus Convention in International Forums. These guidelines constitute the first international document providing a detailed set of principles regarding the procedural rights of civil society in intergovernmental processes. The UNECE also established a Task Force on Public Participation in International Forums mandated to review existing practices and regulations and to highlight best practices and challenges faced by specific intergovernmental organizations.

Arguments supporting the inclusion of some forms of participation of NGOs refer to several added values for the intergovernmental process. Stakeholders are in a position to provide unique expertise and information, both technical and practical, thus contributing to the quality of the outputs of the process. At the meetings themselves, observers might also facilitate positive outcomes, acting as bridge builders between various national positions or by researching and proposing political options. Finally, NGOs provide an additional link between different levels of governance by monitoring and reporting on domestic implementation or by building public support for policies in their national context (Raustiala 1997).

The role of cooperation among intergovernmental organizations

While references to the role of non-state actors in international governance mainly relate to civil society, cooperation among intergovernmental organizations (IGOs) also amounts to non-state actors participation. Considering the large number of IGOs currently established and the important areas of overlap in both geographical and material scope, the capacity of these organizations to cooperate and provide input in the work of similar bodies is key in ensuring a minimum amount of duplication of resources. For instance, the importance of cooperation among international institutions is highlighted by the 2007 pilot initiative of the UN Development Group “*delivering as one*” through which UN agencies, involved in projects related to development, attempt to increase the effectiveness of their work through the streamlining of their intervention in target countries. This necessity is particularly relevant to the field of environmental cooperation as the UN currently estimates the number of international environmental agreements at over 500. The

mutual recognition of intergovernmental organizations through the granting of observer status also reinforces the legitimacy of each organization (Willetts 2001).

The rights and roles of non–state actors in the work of the Arctic Council

Specific recognition of the status of Indigenous People Organizations

In the process leading to the creation of the Arctic Council, Indigenous People’s Organizations (IPOs) were originally included under the traditional status of observers, a status shared with other NGOs, as well as with non-Arctic states. The role of IPOs was enhanced with the adoption of the Ottawa Declaration on the Establishment of the Arctic Council, which creates a specific category for the participation of IPOs. According to Article 2, the three organizations already recognized as observers under the Arctic Environmental Protection Strategy were granted the status of Permanent Participants, a status potentially open for other organizations representing indigenous people. According to the provisions of the Declaration, “[t]he category of Permanent Participation is created to provide for active participation and full consultation with the Arctic indigenous representatives within the Arctic Council”. The Arctic Council’s rules of procedure further stipulate that “[t]his principle applies to all meetings and activities of the Arctic Council”.

According to the rules of procedure, Permanent Participants have almost equal participatory rights as the state members to the Council, with an exception in regard to decision-making. This status has been described as “close to a de facto power of veto should they all reject a particular proposal” (Koivurova and Heinämäki 2006). Permanent Participants are also to be consulted through the preparations of any official meetings, as they can raise issues to be added to the agenda or can propose collaborative activities. In addition to their participation in the Senior Arctic Officials’ meetings and the bi-annual ministerial meetings, Permanent Participants have also actively taken part in the activities of each of the six working groups established under the Arctic Council and have contributed to other ad-hoc initiatives, such as the 2004 Arctic Climate Impact Assessment. Consequently, the Arctic Council approach to the participation of indigenous people constitutes an example of a best practice that other international forums could consider adopting (Heinämäki 2009).

More limited formal access for other categories of observers

While the Ottawa Declaration establishing the Arctic Council led to a strong recognition of the role of indigenous people, the establishment of the Arctic Council did not lead to a similar acknowledgment of other segments of civil society. The Ottawa Declaration does indeed refer to the desire to “ensure full consultation with and the full involvement of indigenous people and their communities and other inhabitants of the Arctic in such activities (emphasis added)”.

This emphasis on the need to include both indigenous and local communities in governance of the Arctic was also highlighted in the proceedings of the Task Force on Sustainable Development and Utilization (TFSDU), which contributed to the preparatory work leading to the establishment of the Arctic Council (Keskitalo 2004). The TFSDU recognized for instance that “the inclusion of the indigenous people and local communities in the decision-making process will enhance the legitimacy of the decisions made and will facilitate compliance”.

The Ottawa Declaration, however, created a third category of stakeholders with limited rights to participate in the work of the Arctic Council. This “observers” category is open for non-Arctic States, intergovernmental and interparliamentarian organizations, and non-governmental

organizations. The main criteria conditioning the approval of the observer status is the determination by the Council that the applicant can “*contribute to its work*”. While the interpretation of this rule is at the core of the current debate related to the role of non-Arctic states, diverging interpretations of the implications of this provision have also been used to refuse the recognition of the status to NGOs when some Arctic states considered that the activities of a particular applicant were not consistent with their vision of sustainable development for the Arctic (Keskitalo 2004).

The rules of procedure provide a more limited role for observers, mainly restricted to the attendance of the meetings of the Council, as well as to the submission of relevant documents and possibly to short interventions. Thus non-state actors other than IPOs have a more restricted capacity to participate effectively to the proceedings of the Arctic Council. Where observers have specific expertise, their contribution is in practice welcome to a larger extent in the various projects launched by the Working Groups. In practice, nine IGOs have obtained the status of permanent observer to the Arctic Council, as well as eleven NGOs representing the interests of five out of the nine major groups identified in the Agenda 21: environmental organizations, research institutions, regional governments, indigenous people, and members of the primary sector of the economy.

Interestingly, the formal status granted to NGOs is nonetheless similar to the one given to non-Arctic states. Hence, despite the fact that the rules of procedure are not particularly inclusive for NGOs, they do not differentiate between state observers and non-governmental observers. In recent years, some of the Arctic Council members have expressed concerns with the role played by non-Arctic states in their proceedings and have refused to grant the status of observer to any new applicant until the reach of a consensus on their role. This ongoing political discussion has led to the freezing of the recognition of the observer status of new applicants, hence leading to a situation in which some non-state actors, already recognized as observers, exercise more participatory rights in the work of the Council than the four sovereign states and the EU, which have submitted their applications more recently.

Recent evolutions: institutionalization vs. inclusiveness

The Search And Rescue Agreement: a purely intergovernmental process

At the 2011 Ministerial Meeting held in Nuuk, the Arctic Council announced the adoption of the first legally binding instrument negotiated under its auspices: the Agreement on Cooperation in Aeronautical and Maritime Search and Rescue. The provisions of the agreement do not contain references to the role of non-state actors in relation to the implementation of the agreement or as observers during the decision-making processes established in the new regime.

The presence of local government representatives or members of the shipping and aeronautical industries could for instance have brought added value to the functioning of this agreement. While the agreement do not relate directly to environmental protection, it is relevant to this study as it might well indicate a general trend for the future of Arctic governance. Considering their experience with regard to the recognition of non-state actors, the Arctic Council members had the opportunity to build on their inclusive approach to governance rather than ignore the role that such actors can play.

Increasing reliance on Task Force and implications for non-state actors

The adoption of the Search And Rescue Agreement was the result of a two-year long drafting process that took place under a task force especially created by the Arctic Council in 2009. The terms of reference for the task force did not provide for any participation of non-state actors. The two other task forces established recently on Short-Lived Climate Forcers and for Institutional

Issues are based on more participatory terms of references. As ad-hoc bodies, task forces can possibly depart from the formal rules of procedure applying both to the meetings of the Arctic Council and the proceedings of its working groups.

The 2011 Senior Arctic Officials' report refers to the growing use of task forces in the substantive work of the Arctic Council. The report further mentions that the mode of operation of the task force will be determined in a case-by-case basis, thus implying that the Arctic states reserve the right to establish such bodies on a less participatory basis than provided under the 1996 rules of procedure.

The challenge of retaining inclusiveness while strengthening institutional elements

These developments might reinforce concerns over the fact that a further institutionalization of the Arctic Council could lead to a questioning of the special status of the Permanent Participants. The willingness of the eight Arctic States to accept this strengthened participation of indigenous people's organizations might indeed diminish if the Arctic Council adopts more formal and legal structures. International law does not create any obstacle to a similar level of participation of indigenous people in a more formalized institution. However, the increased institutionalization of the Council is likely to involve a more conservative approach to intergovernmental cooperation and a restriction of the role that non-state actors, including indigenous people, could be expected to play (Koivurova 2008).

Non-state actors in other regional forums for environmental governance

While the Arctic Council provides a unique model for the inclusion of non-state actors, this section seeks to assess whether this inclusiveness can be considered as a general trend in the region or if the status of the Permanent Participants at the Council remains an exception.

Sustainable use and conservation of marine mammals

The main international organization related to whaling, the International Whaling Commission (IWC), abandoned its regulatory approach to marine mammals exploitation for a policy of prohibition justified by moral arguments. This decision motivated traditional whaling nations of the North Atlantic to withdraw from the IWC and form their own regional organization to create a legal framework within which the sustainable exploitation of marine mammals could take place. In 1992, Iceland, Norway, Greenland and the Faroe Islands adopted the Agreement on Cooperation in Research, Conservation and Management of Marine Mammals in the North Atlantic, establishing the Northern Atlantic Marine Mammal Commission (NAMMCO), with the purpose of contributing to the conservation and rational management of marine mammals in the North Atlantic through consultation and cooperation.

The 1992 agreement provides that the Council, the main body of policy-making at the Commission, which reaches decision by unanimity, could consider opening meetings of the Commission to observers when such participation might contribute to the objective of the Commission. The rules of procedure of NAMMCO further regulate the status of observer. NGOs, as well as global and regional intergovernmental and interparliamentary organizations, can apply for observer status by providing information relative to their role, functions and operations. The Council thus decides whether to grant observer status to the applicant on the basis of the criteria discussed previously. Once granted, observer status applies for any upcoming meeting, unless a party to the agreement raises an objection. The chairman of any given meeting has the discretion to allow observers to make statements or submit documents. The role of observer organizations was raised in the 2006 meeting of the Council, which reiterated that observer status should be granted to organizations contributing to the purpose of NAMMCO. The Council also decided to clarify that the admission of observers requires an unanimity decision.

So far, the majority of observer organizations attending NAMMCO meetings consists of Regional Fisheries Management Organizations (RFMOs) such as North East Atlantic Fisheries Commission (NEAFC), the North Atlantic Fisheries Organization (NAFO) and the IWC, and other IGOs such as the FAO and the International Council for the Exploration of the Seas (ICES). In addition, a few NGOs have also obtained observer status. In practice, those organizations include only NGOs defending the interests of fishing communities (including the Inuit Circumpolar Council) and whalers. Finally, the participation of observers to the meetings of the various committees established by the commission differs from one committee to another. The rules of procedures of the Management Committee state that the committee may decide over the participation by observers to its meetings, while other committees – the Scientific Committee and the Committee on Hunting Methods – refuse participation by observers as a default rule, unless the parties unanimously decide otherwise. In this respect, the procedures allowing for participation by observers in the proceedings of the NAMMCO are slightly more restrictive than those applied at the IWC – the organization with the closest material scope. Indeed observers can attend all meetings of the subsidiary bodies of the IWC to the exception of the financial and administrative commission.

North Atlantic fisheries commissions The Northwest Atlantic Fisheries Organization

The Northwest Atlantic Fisheries Organization (NAFO) was established in 1979 as a regional fisheries commission managing most of the fisheries along the coasts of Canada and Greenland. The rules of procedure specific to each of the Governing Council, the Scientific Council and the Fisheries Commission also provide a right for observers to attend meetings and to address both plenary and subsidiary bodies – however, without any voting right. Observers shall also have access to all non- confidential documentations shared by the secretariat to the parties and can submit written documents, A written version of the main statements delivered by observers is made available by the secretariat on its website. The NAFO Convention also provides that the Scientific Council might invite cooperation by “public and private organizations”, which have objectives related to fisheries conservation. Finally, NGOs can apply for the observer status, provided that they justify a particular interest in the conservation of a species specifically addressed by NAFO.

Representatives from research institutions, environmental NGOs, and IGOs have attended the past meetings of these bodies with observer status. In relation to the transparency of its meetings,

the media policy of NAFO was highlighted as an example of good practice in the 2011 UNECE report on “Good practice and challenges for public participation in international forums”. The same report also took note of the fact that the NAFO secretariat faces challenges in ensuring a balance between the diverging interests of stakeholders involved in fisheries management.

The Northeast Atlantic Fisheries Commission

A similar RFMO, the North-East Atlantic Fisheries Commission (NEAFC), regulates fisheries in the waters located between the archipelagoes of the Azores and Svalbard. Its rules of procedure contain similar provisions related to the participation of observers as those of NAFO. Provided that they support the main objective of the Commission and that they prove a specific interest in some of the species under purview by the commission, NGOs and IGOs can obtain observer status allowing them to attend and address meetings at the discretion of the president of the meeting. Such statements are included in the reports of the meetings. However, observers are not allowed to take part in committees and working groups meetings, except for the ICES, due to a specific provision in the memorandum of understanding established between the two organizations. Consequently, the capacity to contribute to work of NEAFC of other IGOs working on marine conservation is constrained, which leads to a lack of communication, thus potentially increasing the risk of a duplication of efforts (Kvalvik 2011).

Regional cooperation in the Barents Region

The model of regional cooperation adopted in the Barents region is particularly enriching with regard to the role attributed to non- state actors in regional cooperation. This cooperation is articulated on the basis of a double institutional layer with regional sustainable development as its main objective. At the national level, states take part in the Barents Euro-Arctic Council (BEAC) gathering at a ministerial level on a bi-annual basis. At the regional level, the Barents Regional Council (BRC) was established to foster cooperation among the representatives of regional governments. Due to the political, rather than legal, nature of the Barents cooperation, most of the cooperation takes place through the activities of the working groups established at both international and interregional levels.

At the international cooperation level, the 1993 terms of references provide that the BEAC could invite participation of observers to the meetings of the Council and of its working bodies. The participation of youth groups and the business community has been particularly emphasized in the two working groups most related to their interests, with a specific stakeholder advisory body established in both cases. However, the working group most relevant to our study – the WG on Environment – involves primarily the participation of national administrations.

At the level of regional cooperation, each of the 13 regions involved in the Barents Cooperation participate, together with representatives of three indigenous people’s organizations, in the annual meetings of the BRC. One of the five working groups established at the interregional level focuses on environmental cooperation and gathers only representatives from the member regions.

Indigenous people are currently participating in the Barents cooperation through their membership in the Working Group on Indigenous Peoples that provides input both to the BEAC and the BRC. Representatives of IPOs have, however, recently expressed their wish to see the status of their organizations elevated in the Barents Cooperation to a level similar to the status of the Permanent

Participant at the Arctic Council. Interestingly, the 1993 Kirkenes Declaration referred explicitly to the chapter of Agenda 21 related the importance of the participation of indigenous people in decision-making, without further references to the other eight chapters that acknowledged other groups of relevant stakeholders.

The BEAR thus represents a model of regional governance regarding the participation of different layers of public authority. In this cooperation, a large role is foreseen for the representatives of regional administrations that do not require the mediation of their national governments to engage in joint projects across borders. However the participation of civil society appears to be relatively low in the work of the BEAR. The relative absence on the BEAR's webpage of information and guidance on the observer status and related advantages might contribute to explain the lack of participation by NGOs (Sellheim 2011).

Concluding observations

Over the past decades, the international community has progressively recognized the importance of the participation of non-state actors in the governance of sustainable development. The involvement of stakeholders in international decision-making helps build public support for the projects of, and contributes to the legitimacy of these intergovernmental processes. Cooperation and mutual recognition among intergovernmental organizations reduce costs and increase effectiveness by avoiding duplication of efforts. Intergovernmental cooperation, however, remains largely framed at the global level by a vision of the international realm involving mainly sovereign states as actors.

In this context, several forums for Arctic regional cooperation provide interesting examples of innovative approaches to the role of non-state actors. In particular, the status of IPOs at the Arctic Council is often highlighted as a best practice. Oran Young noted that non-state actors have been successful in the past in securing for themselves opportunities to participate in Arctic governance by framing the issues they work on in a way that resonated with the agenda of the Arctic states (Young 2009). The author highlighted however that there are reasons to question whether these actors would be able to maintain this high level of engagement in the context of a growing interest by non-Arctic actors to play their part in regional governance.

Among the other Arctic institutions dealing with environmental protection, the Barents Cooperation has explored a different approach relying on projects implemented jointly among regional authorities. Other groups of stakeholders have, however, failed to play an active role in the decision-making processes of this platform. Besides these two highly visible experiences, Arctic intergovernmental cooperation on environmental matters remains mainly based on the participation of states, whereas other actors are confined at best to an observer position.

With the acceleration of the impacts of climate change in the region, new challenges and new opportunities emerge rapidly in the Arctic, necessitating improvements or adjustments of the existing forums of regional governance. In this context, the states involved are facing a choice regarding the role that they perceive for other stakeholders in Arctic cooperation. These rapid changes might offer a unique opportunity to build on and further develop the innovative and inclusive approaches upon which they have relied when establishing some of the key existing regional institutions. Considering the increasing pressure by external actors to become involved in

the activities proliferating in the region, the empowerment of local actors would certainly have an added value from the perspective of the eight Arctic states.

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Section III: Regionalisation & Institutionalization – North Calotte, Barents Region, Europe, Arctic

Regionalization in the Barents Sea Area¹

Olav Schram Stokke & Rune Castberg

The political initiative

In January 1993, the Nordic and the Russian foreign ministers came together in Kirkenes, Norway, aiming to strengthen regional cooperation among the states and counties in the Barents region. During the years of perestroika a marked growth has taken place in the interaction between Northwest Russia and its Nordic neighbours. While private contacts and tourism are as yet quite insignificant, various institutions in Northern Norway currently have more frequent contacts with counterparts in Northwest Russia than with those in Finland or Sweden. The Kirkenes meeting implies that regionalization is entering a stage of increased political interaction formalized at both government and county level. It is important to emphasize, in other words, that the initiative does not create a new region but rather restructures and widens an ongoing process. The initiative can be seen as an appreciation of the promising development already underway in the region. Also, it coincides with a general trend of regionalization in Europe, the closest of which is that in the Baltic region. The Norwegian initiative is supposed to proceed in a two-stage fashion.

¹ This is an abridged and modified version of Olav Schram Stokke and Rune Castberg, *The Barents Region: Concept and Dynamics*, Lysaker: the Fridtjof Nansen Institute, RSN Report No 3, 1992 (unpublished).

The first stage focuses county-level cooperation and is already well underway. At a Tromsø meeting in April 1992, representatives of the three northernmost Norwegian counties agreed with their colleagues from the Northwest Russian counties Murmansk and Archangel to draw up a Working Plan for denser cooperation. Since then, Finnish Lapland and Swedish Norrbotten have been invited to join this work. The second stage, formally initiated at the Kirkenes meeting in early 1993, will bring cooperation to the inter-state level as well as expand the cooperation to include all the Nordic states and possibly even other states.

The Barents region initiative is the latest of several Arctic cooperative proposals tabled during the past five years. Hien CPSU Secretary General Gorbachev's 1987 Murmansk speech sparked a series of Soviet proposals for international cooperation in the North, including environmental coordination and opening of the Northern Sea Route for Western shipping². A number of bilateral scientific and environmental agreements were followed in 1990 by the formation of an International Arctic Science Foundation, something polar scientists had been trying to establish since the late 1950s. In 1991, the Northern Forum was set up to identify joint development programmes and business opportunities for Northern counties. The so-called Finnish Initiative for circumpolar cooperation on the Arctic environment peaked in the 1991 Rovaniemi ministerial meeting, to be replayed in Greenland in 1993. The Canadian initiative for an Arctic Council is still in its formative stages (for more information on the Arctic cooperation see Stokke 1992). In the past few years, the security threat previously defined squarely in the context of East-West rivalry, has grown more abstract and elusive. From a Western point of view, the possible military threat from Russia emanates not from a conservative assessment of the intentions of the current leadership but from the fear that Russia may develop into a less trustworthy and less democratic great power neighbour. It is generally agreed that the fate of the current Western-oriented leadership will depend heavily on its economic performance. This undermines the traditional reluctance among Western hard-liners to accept increased East-West economic interdependence: Western security interests are in most instances promoted and not threatened by improvements in the crisis-ridden Russian economy. Given the very real risk of a Russian reversal towards more hostile policies towards the West, the argument that unbalanced dependence on Russia for strategic resources could prove politically costly, still holds. However, Russian-Western relations today are very far from such a situation. Thus, East-West economic cooperation is today largely a means of stabilizing the political situation in Russia and ensuring that the inevitable short-term negative social impacts of the reforms in Russia do not create a basis for widespread anti-Western sentiments.

What is a region?

Political regions are conventionally discussed at three levels (Waever & Joenniemi 1992):

- At the *intra-state* level, certain geographic areas stand out from the rest and can become the subject of political differentiation, i.e. special incentives, tax reductions, infrastructural investments etc. This is usually called regional politics.

² The International Northern Sea Route Project (INSROP), including a number of Western and Russian research institutions, studies the viability of such an opening. The Western part of the project is coordinated by the Fridtjof Nansen Institute.

- At the *inter-state* level, the concept refers to groups of states with a high degree of interaction. The key example and clearest success story so far is the Western European region, as defined by the integration process in the EC.
- At the *trans-state* level, regionally refers to interaction between adjacent areas separated by national borders.

A region would form a hybrid of the two latter understandings of a region: the transnational dimension is seen by the role of local authorities, businesses and other non-governmental Barents organizations in the proposed architecture; the international one by the role of the foreign ministers in nesting transnational relations in an inter-state framework. This inter-governmental framework may be both enabling and constraining. It may be instrumental in meeting key requirements for costly, large-scale cooperation, such as investment funds, technological expertise, or legal environments facilitating and safeguarding investments and trade.

The concept of political regionally is closely linked to the study of political integration, a growth industry in the 1960s and early 1970s. Trying to condense its achievements in terms of defining the key concept, Thompson (1973) first identified 21 much-cited and different definitions of a political region, and, confining the concept to minimally two actors, went on to narrow in on three dimensions: geographic proximity; internal and external recognition that the grouping in question is a region; and regularity and intensity of interaction. Duffy & Feld (1980:510) notes that this interaction can be both conflictual and cooperative.

Newer understandings of regionality stress that it is something evolving, something created rather than a social object identified by easily measurable criteria such as external exchanges. In a terminology inspired by Giddens, Väyrynen (1984:340) calls diem discursive, dual structures, both enabling and constraining. Their discursiveness refers to the fact that regions are created and changed by the projects of interacting states and groups, where perceptions, purposes and changing frames of references are key elements (see Stokke 1993). Their duality refers to the condition that once set moving by political entrepreneurs, such projects tend to take on a life of their own: they may be created by purposive actors but at the same time they affect and change these actors.

For there to be a political region, therefore, three elements must be present, although the degree may vary. First, geographical proximity, it violates everyday language to coin a group of non-adjacent states (i.e. not tied together by either land or ocean) regional³. Contiguity is not enough, however. Political regionality requires also significant *interaction* within the region in one or more spheres, be it conflictual or cooperative. Indeed, a strict definition would require that interaction within the region is denser than that between regional states and outsiders, but this would leave out groupings of highly interrelated states knit into wider networks of interaction. In our context, a process of increasing interaction, relatively speaking, within the region would constitute regionalization. Finally, the state grouping must be perceived to be *distinctive*, i.e. it must stand out from the areas surrounding it. This variable must be demarcated on two sides. First, distinctiveness is something more than similarity, a factor that is often quoted as constitutive of a region. Internal similarity in itself is not sufficient: a politically relevant contrast or difference from what lies outside

³ Needless to say, geographically scattered states may very well engage in regional projects, such as the activities within the Antarctic Treaty System. Here, however, it is not the participant states but the geographic area to which the cooperation pertains which forms a region.

the region is necessary as well. Second, distinctiveness is less than autarchy or autonomy, concepts associated with geopolitical thinking. While trade and security blocs are important features of international relations, the pattern of international exchange transcends them on a growing scale. Moreover, the distinctiveness variable emphasizes the perceptual and discursive element of a region: while geography and interaction refer to objective and easily observable factors, distinctiveness requires that the region is *recognized* as a natural unit by the regional actors themselves as well as by outsiders. Some have suggested that a political region should be linked to Deutsch's concept of a security community. This concept refers to a situation where the actors have attained a sense of community that combines with strong and widespread institutions and practices and assures non-violent approaches to political differences. We do not, however, believe that it is fruitful to confine discussions of regionality to such very tight relationships. It is important to emphasize that increased cooperation within a region can be highly beneficial to those engaging in it even if it does not amount to a security community.

Characterizing the Barents region

What are the main features of the Barents state grouping along the three dimensions of regionality? The interactive and the recognitional and discursive processes of regionalization do not necessarily evolve in parallel. In the Soviet period, the recognitional element was arguably stronger than the interactive. The historic Pomor traditions and the more narrow Nordic *North Calotte* cooperation⁴ kept the idea of regional community alive despite the fact that transnational interaction was insignificant. Both politically and economically, regional interaction was organized in the wider inter-governmental framework placing decisions with actors beyond the geographic core. Believed to have a bearing on national security and territorial interests, Norwegian-Soviet fisheries relations were strongly centralized until the late 1980s. Foreign trade organizations in Moscow and Leningrad fully controlled the USSR external economic relations. Even the substantial Finnish-Soviet trade in the region was highly centralized. The friendship relations between some few towns in the region, although nominally transnational, were for many years limited to official courtesy visits and cultural exchange. In cases of cooperation between non-governmental organizations, like trade unions, the Red Cross, Communist parties and peace organizations, again Moscow held a dominant position on the Soviet side.

The geographic boundaries of a region may vary over time. From the late 1600s up to the Russian revolution, the regional centre of gravity was found in the coastal districts, including the North Russian waterways. This was the *Pomor* era. The revolution triggered a rapid cut-off of transnational coastal-based interaction as well as Russian participation in land-based regional interaction. By consequence, the interaction density was considerably reduced; the dominant sphere of interaction and exchange shifted; and the centre of gravity moved inland from the coast. Eventually, regional interaction recovered with a more limited scope of participants. This is the North Calotte or *Nordic* period, conveniently dating from the late 1950s to the late 1980s. In this perspective, the Barents regional initiative reflects not only a *renaissance* of the golden Pomor era but also its combination

⁴ The formalized international North Calotte co-operation includes counties of Norway, Sweden and Finland situated north of the Polar Circle. In 1960, the cooperation was initiated by the Nordic organization *Foreningen Norden*. In 1967, the North Calotte Committee was established with representatives from each of the three governments. Parallel to this cooperation special *North Calotte* conferences, at which the Russians take part, have been arranged regularly. Such conferences have also taken place in Murmansk.

with the Nordic-level successor. The geographic core of the region is again shifting seawards. The possible opening of the Northern Sea Route for international shipping will further strengthen this feature. However, land-based and air-based communication has developed much faster than has shipping, and the ability to tie coastal and inland areas together is much better today than in earlier times.

As noted, despite Russian withdrawal from transnational regional cooperation, the regional sense of community has to some extent been perceptually sustained - due to the great historical significance to the region of the Pomor trade and to the vivid impressions lingering even today of the area as a meeting place for widely differing cultures. On the Russian side, this goes for Archangel county in particular. In contrast to the population of Murmansk county, which moved into the region only after the revolution and never developed any special relationship to the neighbouring countries, a large part of the Archangel inhabitants have the Pomor era as a central frame of reference in judging the behaviour of foreigners and their relationships to other countries. This historical capital makes it easier to establish and develop trust and cooperation across the borders. In other words, a region may continue to exist discursively even after the observable interaction has gone: memories and models of past interaction influence current developments.

Geographic inclusiveness

Which areas and what states go to form the Barents region? It is necessary to make a distinction between the geographical area addressed by the initiative, and the group of states and other actors which will be able to take part in the substantive cooperation that will emanate from it. As mentioned above in certain areas it may prove useful to expand participation beyond those states controlling the geographic areas in question.

The *geographic core* of the Barents region, as defined by the Norwegian initiative, are the three northernmost Norwegian counties Finnmark, Tromsø and Nordland, the Russian counties of Murmansk and Archangel, which includes Novaya Zemlya and Franz Josef Land, and Finnish Lapland and Swedish Norrbotten. The marine boundary dispute between Norway and Russia in the Barents Sea inevitably puts some constraints on cooperation, but the Norwegian view is that the dispute should not hamper activities that are not directly connected to it⁵. The disputed jurisdictional status of the continental shelf around Svalbard, based in different interpretations of the Svalbard Treaty, may likewise limit cooperation in that part of the region⁶. As we shall return to, however, it is clear that even other states may be relevant to the solution of joint problems or the realization of joint benefits in the area.

⁵ The engagement in non-prejudicing cooperation with the Soviet Union has been a part of Norwegian foreign policy since the late 1970s (Regjeringens langtidprogram 1978-81). In 1983 this line was extended from fisheries to petroleum when the government approved the export campaign of the Boconor consortium directed especially towards the Soviet offshore market in the Barents Sea. This contrasts with the Japanese line in the dispute over the Kurile Islands, which is far more restrictive towards cooperation with Russia absent of an agreement.

⁶ During the last years relations between Norwegians and Russians on the Svalbard archipelago have become much closer. The Norwegian authorities seem to have succeeded in gaining more insight in and national control over Russian activities. Events like the inclusion of the Russian settlements into the Norwegian telephone and postal networks, inspections by Norwegian authorities in connection with mining accidents, direct commercial relations between the Russian *Arktikugol* mining company and its Norwegian counterpart *Store Norske Spitsbergen Kullkompani* and other Norwegian companies, all signify increasing integration into the Norwegian society.

Interaction density

There is little doubt that in most of the areas above, extra-regional interaction is more important than internal interaction. The geographic areas in question are resource based, implying that they are heavily dependent upon exchange with larger and more densely populated market areas. Moreover, the regional states have traditionally been embedded in *different spheres* of interaction. Norway has been strongly oriented towards Britain and the United States both politically and economically. Sweden has tuned her economy on Germany while politically insisting on a non-aligned position⁷. Finland has traditionally balanced between her eastern and western neighbours in the economic as well as the political area; whereas, of course, the former Soviet Union strove to build a relatively independent and competing political and economic frame of interaction with the Communist world. Admittedly, while the security relationships are still dealt with in the larger East-West context, the European Community is increasingly a common centre of gravity for all the regional states, especially the Nordic ones. Nevertheless, regional interaction is clearly on the rise.

A convenient categorization would distinguish between political interaction producing ramification of activities and economic or other society-level actors working within these ramifications.

Political interaction

At the *inter-state* level, there are several long-standing bilateral and sub-regional institutions, such as the Russo-Norwegian commission on fisheries or economic relations and the Nordic Council and the Nordic Council of Ministers respectively. Over time, bilateral agreements involving Russia or the former Soviet Union have multiplied and have come to cover new areas, such as environmental issues or search and rescue operations. In September 1992, a joint declaration was made by the Nordic and Russian environmental ministers setting forth principles and priorities for future regional cooperation. The now-troubled *Pechenganikel* project, which involves Nordic governments and private firms in a possible financing and reconstruction of the metallurgical combine in this city close to the Russian-Norwegian border, can be counted as one of the predecessors or even building blocks of the current regional initiative⁸.

On the *county and municipal levels*, likewise, the current initiative can profit from established networks of bilateral and subregional interaction. As noted, the *North Calotte* cooperation involves local authorities from the three Fenno-Scandinavian nations, focusing on issues such as the development of infrastructure, especially transport. By having an inter-state component as well, this cooperation may have served as a model for the current initiative in the Barents region. We have observed that Northern Forum is a new body bringing together the Northern counties from the whole of the Arctic and sub-Arctic. This shows that a number of decisions made at the sub-state level may be of interest to adjacent regions beyond the national limits and speaks for complementing the

⁷ This situation is currently under pressure, as the European Community Commission has set as a preliminary condition for Swedish EC membership that they are prepared to join in a future cooperation in the security area

⁸ For a presentation of this project, and also of the problems it has run into in later months, see Castberg (1992:194). In September 1992, the Russian environmental minister informed his Nordic counterpart that the project could not be realized without a radical increase in the Nordic subsidies. At that time, the Norwegian and Finnish governments have committed themselves to a support of roughly a sixth of the USD 600-million project. A joint expert group is set up to discuss alternative and less expensive solutions.

international component with a transnational one. Conditions should be adapted for direct communication between the county authorities in the region to facilitate joint planning. Such a county component in regional collaboration can benefit from e.g. the already established collaboration between Finnmark and Tromsø counties on the Norwegian side and Murmansk and Archangel on the Russian side. It will enable the coordination of already established county contacts in the region and stimulate transnational learning and the exchange of experience. It might even comprise a continual quality control of the regional collaboration. A third important function is to coordinate the articulation of county-level wishes and requirements to the central authorities.

Such transnational cooperation is not devoid of problematical aspects. Generally, it is an expression of well-established trust when the central authorities feel no need to coordinate and steer lower-level collaboration. In the absence of such trust, a possible county component may well be included with a clearly limited area of competence, or with procedures for state overview of the coordination that takes place. As it is, the cooperative opportunities emerging from denser transnational contacts will have far better chances of being realized if regional resources are complemented by state funds. Recently, the Norwegian government channeled some NOK 20 million to the counties of Tromsø and Finnmark to be used at their discretion in a programme to improve food production and living conditions in Murmansk and Archangel counties.

Economic interaction

Apart from the Finnish case, the impact on regional *societal* interaction of government policies has been largely *constraining*. For instance, citizens were allowed to cross the border between Norway and the Soviet Union only on special permission from the border commissioner. While over the past few years these permissions were granted routinely, only now is the border station becoming a normal crossing point with extensive opening hours. Visas are still required both ways. The Russian system of demanding some kind of invitation to each town to be visited and the spelling out of the itinerary in visas is probably quite unique in Europe today and there is no corresponding practice on the Norwegian side. In contrast, Nordic citizens may move about and work freely in Norden without passports or special working permits. *Commercially*, until 1983 there was no transportation of goods across the border.

Today, intra-regional *trade and investments* are clearly on the rise. Although the Finnish-Soviet trade exceeded by far the present level in value terms, it was not based on active transnational interaction by Northern actors but relied primarily on inter-state agreements. Swedish and especially Norwegian economic ties with Russia in the post-war period have been modest compared to Finland's. This stems from an increasingly Westward commercial and political orientation in these countries which has contributed to a deterioration of knowledge and experience on Eastern trade and a general negligence of old business contacts in Russia. The dominance of raw materials extraction and exports in the economies of both countries is yet another reason for the low-level economic interaction. Currently, however, there are a number of initiatives to improve regional *infrastructure*, such as the Northern Sea Route project, the Barents Gate and Kirkenes World Port projects; or the opening of a bus line as well as a ferry connection between Kirkenes and Murmansk. Also, *foreign investments* are on the rise in many sectors. In the fish farming area, Vardtf Pomor has recently established itself in Archangel; several joint ventures are engaged in wholesale

and retail trade on both sides of the border, for instance Pomor Nordic Trade JV in the Murmansk harbour or the Sovnorg JV super-market in Murmansk⁹. Together with PO Apatit, the Norwegian industrial concern Norsk Hydro has established a joint venture based on one of the apatite mines on the Kola Peninsula, with a Norwegian deputy director. This venture will modernize and increase production and is intended to introduce Western management, accounting, and marketing practices as well. To-day, ventures such as these are mushrooming in many lines of trade throughout the Barents region to an extent unthinkable in the pre-perestroika foreign economy. Nevertheless, there is still much uncertainty as to the security of investments in Russia and the future of the current privatization move.

It is not only the Russian economy that is stimulated by this growing regionalization. The fisheries industry is a cornerstone in the Northern Norwegian economy, and imports of Russian cod and haddock have produced a new upswing of the processing industry. Previously outlawed by the Norwegian Fishing Limit Act, direct landings of cod and haddock from Russian trawlers grew from 6 000 metric tons in 1990 to probably 40 000-50 000 metric tons in 1992. When adding traditional imports of frozen fish, as much as 60 % of the Russian cod quota may be processed in Northern Norway this year.

Non-profit organizations

Nor is regionalization confined to the economic area. The growing contacts between non-governmental organizations (NGOs) on different sides of the old East-West divide, e.g. among *environmental organizations*, is an especially interesting development. Norwegian NGOs such as Bellona and Greenpeace Norway have drawn extensively on these contacts in order to produce evidence of illegal Soviet dumping of radioactive nuclear waste in the Barents Sea. Also, a number of *scientific* joint projects are being planned and conducted, related both to traditional areas such as marine biological studies and to new ones such as the investigation of the concentrations of radionuclides in the water masses and sea floor sediments in the Barents and Kara Seas¹⁰.

Perceived distinctiveness

If interaction refers to the internal unity or oneness of regional actors, distinctiveness requires in addition a socially relevant external contrast: i.e., one that has implication for the natural pattern of interaction.

Geographic distinctiveness

Although there are wide *climatic* differences within the region, the northern parts of it stand out clearly from the rest. It is marked by poor vegetation, simple ecosystems, long winters and low temperatures. From an environmental point of view, these features render the region as a whole quite vulnerable to human pressures, especially as remoteness from large concentrations of pertinent equipment and personnel can make emergency and reparational actions both difficult and time-consuming. In some cases, this may suggest lateral coordination of emergency preparedness and response. Quite recently, an oil spills contingency agreement was drafted between Norway and Russia, currently awaiting ratification.

⁹ For other examples, see Castberg (1992), which includes i.a. a list of joint ventures in Murmansk county.

¹⁰ A planned cruise in summer 1992 into three bays of Novaya Zemlya where radioactive materials have reportedly been dumped, however, was stopped by Russian authorities, allegedly because of objections from the navy.

While there are some dense spots, especially in the Kola Peninsula, the geographic core of the Barents region is quite *sparsely settled*. The population of Murmansk county is relatively densely distributed along the North-South railway Murmansk-Kandalaksha, while the Eastern half of the peninsula is almost uninhabited. In Archangel county, which covers a territory the size of France, the population is primarily concentrated in some relatively big towns in the Northern Dvina delta and in the southernmost part. The archipelagos Novaya Zemlya and Franz Josef Land are presently uninhabited outside the confines of the military establishments. The rest of Archangel's vast territories is very sparsely populated. As roads and railways are poorly developed, many settlements rely on air transport for supplies, except during the short spring sea-son when river transportation is possible. In consequence, development of infrastructure in the North is extremely costly. On the other hand, because Moscow has lost control over a large number of ports, roads and railways by the dissolution of the Soviet Union, the Kola Peninsula and Northwest Russia is increasingly important in an infrastructural perspective (Granberg 1992).

Self image: bureaucratic organization

In discussing whether a specific geographic area is dealt with as a distinct policy region, Young (1988:2) focuses on the way states organize internally to deal with issues relevant to that area. One indication that the national governments do regard their northernmost extremes as something distinct from the southern parts are the *special incentives* they provide for activities in the region. The economy works under more favourable administrative conditions than in the central parts of the countries in question. In Northern Norway such conditions apply for all enterprises, but tax reductions are higher in Finnmark and the Northern part of Tromsø than further south. In order to employ a professional workforce, beneficial rules for repaying education loans have been introduced in this northernmost area. Similar incentive systems exist in Northern Sweden and Finland, and the Soviet plan economy used to employ even more forceful incentives to attract workers to Arctic regions. The steep demographic growth in Murmansk county and the Soviet North in general shows the effectiveness of this strategy. Under the current reconstruction of the economy, this incentive system does not function well, and this is one of the reasons for a drop in Murmansk county's population of more than one percent over the last year. Politicians and lobbyists of Northern Norway have, in fact, found inspiration and arguments in the Soviet incentive system, contributing to the development of similar arrangements in Norway.

When it comes to external organization, however, Barents issues are typically either assimilated into larger Northern or even more general departments of the Ministries of Foreign Affairs (MFA), or divided between departments. MFA expertise on regional affairs are assimilated into more general planning staffs with a broader field of responsibility. It is fair to assume that this mode of organization reflects a perception that the states comprising the Barents region *primarily* be long to groupings defined otherwise, *i.e. by* East-West rivalry, the Nordic community, the integration process in Western Europe and, to a lesser extent, the recent mobilization of pan-Arctic regionality referred to above. Thus, judging by their bureaucratic organization, the regional identity of the Barents foreign policy *elites* is caught in the crossfire between several integrative processes some of which are broader and some narrower than the Barents ensemble. Because of the current warmth of East-West relations, these other processes are not directly competing with the latter, but this may change.

Regional identity

Generally, the cultural heterogeneity is considerable within the region: the more than three million Russian Barents dwellers are separated from their roughly one million Nordic neighbours by language, confession and political ideology. True, Russian courses are gaining popularity in the northern Nordic cities, and the Pomor University of Education in Archangel teaches Norwegian as the second foreign language. Although several decades of secularization have probably reduced the significance of religious differences and the Russian political ideology is in the process of approaching the Western one, deep cultural differences exist between Russians and the Nordic populations. By consequence, regionalization will not be devoid of cultural and communication problems. While in the early phase these differences were exotic spices stimulating regional interaction, already we see signs of increasing tension between locals and visitors along the Barents basin. Much of this will disappear, however, once the administrative systems have adapted to the dramatic increase of border-crossings and reduced the incidents of smuggling, littering or drunkenness of visitors. And as noted, similar climatic conditions, shared fish stocks, common environmental problems, the distance to and sometimes conflicts with their respective centres tend to join with the historical ties and support a sense of northern community.

Locomotives of regionalization

The stability of state goals favouring interaction is one prerequisite for the emergence of a cooperate region. Some of these are long-standing goals given new applications in the current East-West climate. The determination to *avoid* situations of *political tension* or conflict in the strategically sensitive Barents Sea area is one of these. Due to the role of strategic submarines in the nuclear balance, this area has been a key front in the old military rivalry between the United States and the former Soviet Union. Conflict avoidance has been demonstrated by certain self-imposed restraints in Norwegian and NATO military activity in the areas close to the common border; and by the establishment of bilateral political institutions in areas such as fisheries where rational management requires coordinated behaviour.

More ambitiously along the same line, as noted, the Nordic states and particularly Finland have propped up their relationship with the former Soviet Union by a certain degree of *economic interaction*. These old goals mingle with clusters of new ones, associated with the economic and environmental crises in the North and the deepening integration process particularly in the European Community but around the Baltic Sea as well. The economies in the *northern parts* of Norway, Sweden and Finland have been slow for a number of years. This coincides with a situation where all three governments are eager to persuade their population to opt for membership in the Community, reluctance to which is strongest in the northern regions. Also, there is growing worry about trans-boundary fluxes of airborne *pollution* from the metallurgical combines on the Kola Peninsula, the spread of forest decline, the possible problems associated with growing offshore petroleum activity in the Russian part of the Barents Sea and not least the widespread use of nuclear energy and the presence of atomic weapons. Thus, domestically, Nordic governments have sound economic as well as political reasons for demonstrating a willingness to take political action relevant to the economic and environmental situation in the region. Add to this the *geopolitical* concern that the northernmost parts of Europe stand the risk of being politically marginalized by rapid changes

in its immediate surroundings. The European Community absorbs steadily more of the political and economic attention of traditional partners such as Germany and Britain. As the strategic rivalry with the former Soviet Union is less pronounced, the United States is believed to reduce her political and military presence in the European Arctic¹¹. Moreover, the emergence of stronger inter- and transnational linkages in the adjacent Baltic region may have added to the feeling that the northern sections of the Nordic countries are in need of more political attention: they strive to retain their attractiveness to economic and political actors further south.

As noted, however, it would be incorrect to portray the current regionalization around the Barents Sea as something created by foreign policy elites. The basic locomotive for this process is *bottom-up* thrust produced by local authorities, businessmen and other non-governmental organizations who realize the potential gains that can be reaped from linking up with partners on the other side of the old East-West divide.

Institutional considerations

There may be sound reasons to introduce a *unifying element* in the organisation of an extended Barents regional collaboration. Institutionalization might facilitate the *selection of areas* for joint action. This is especially important in cases where increased coordination involves extra costs, e.g. in the form of support systems for investments or the exchange of goods and services. It is also conceivable that some of the states involved may want to limit the cooperation in certain areas, for instance those having to do with the flow of goods, services and staff. Moreover, a certain centralizing element might facilitate the vital *information-gathering* function required for bottom-up cooperation among businessmen, scientists or other organizations. Since cooperation is costly and demanding, it can only be realized when the relevant organizations hold high hopes for the benefits to be reaped from cooperation. Such assessments require knowledge about the skills, staffs, stability and long-term plans of potential partners on the other side of the boundary. Gathering and updating such information can be an important task for a system administering an extended regional collaboration. This would obviously be facilitated by the presence of a unifying political component. A third important function is the *symbolic* one. An international institution steers attention towards a given set of problems, participants and solutions. It captures the focus of the media. It provides a target for NGOs; and it may strengthen certain sectors if the public administration at the expense of others. Finally, and importantly, institutionalisation may in some cases, such as Norwegian-Soviet fisheries or in the Antarctic, *isolate* an issue area or geographical area from other conflicts and rivalry between the parties concerned.

Participation

Generally, it is quite clear that a *geographic criterion* of participation may be quite artificial when the cooperation involves a large number of issues (see Stokke et al. 1992). Regarding practical participation, the actor scope can be conceived along a continuum: a narrow, possibly even bilateral collaboration on the one hand, and a broad multilateral forum in which the European Community or even the United States and Canada participate, on the other.

¹¹ However, it should be pointed out that the sheer size of the Northern Fleet and the possibility of a strengthened Russia in the not too distant future tells us that U.S. strategic interests in the region are quite stable. The recent controversy regarding storage of more heavy equipments on the Keflavik base on Iceland is one indication of this.

At least three factors are relevant in assessments about the breadth of collaboration: the specific aim of the collaboration, the nature of the problem and legitimate requirements of sub-national actors. These considerations may in certain cases pull in opposite directions, a factor that may make it difficult to select the states that should be invited to participate in the process:

- Purpose: generally speaking, regional political solutions may have three kinds of objectives, and wise organisation of the cooperation will take this into consideration (Keohane 1992). If the aim is quite cost-free *coordination* of behaviour at a modest level, e.g. information exchange with a view to identifying cooperative projects at the societal level, there is every reason to practise openness with regard to participation: the more the merrier. Instances of measures with this aim are the various conferences organised within the framework of the Baltic cooperation. True, local businesses might prefer to be shielded from competition from extra-regional companies. However, this is hardly realistic today, partly because of international rules and partly because it will be in the clear interest of Russia to pit various cooperative candidates against each other. If, on the other hand, the cooperation aims at more binding and costly *collaboration* where the parties are to adjust their policies in order to achieve common gains or avoid common losses, free rider incentives may arise. Environmental management is an instance of this, where some may evade the costs of restraint and yet enjoy the benefits of clean air. Where this applies there is reason to make participation conditionally open: states may take part to the extent they have the ability to influence the problem addressed and are willing to submit to surveillance measures to ensure no unfair consequences of the collaboration. No more than a few states will in that case be considered, and these will be obliged to pay an entry ticket in the form of some degree of relinquishment of own decision-making. Finally, if the aim is achievement as a group of something vis-a-vis outsiders, such as a cartel, or if for some reason it is desirable to create a strong community spirit, a closed organisation would be preferable. This is obviously an important objective in the European Community collaboration, where trade strategic opponents have from the start been clearly defined. There is little doubt that the Barents region, so rich in natural resources and so dependent on extra-regional markets, can have much to gain by coordinating their efforts to penetrate these markets.
- The nature of the problem: regardless of the actual purpose, the breadth of the collaboration ought to reflect the scope of relevant actors provided by the problem itself. Experiences from the International Whaling Commission imply that there are few advantages and actually decisive drawbacks in including functionally irrelevant actors in inter-state collaboration. Participation in regional collaboration should therefore be limited to the actors whose decisions have strong influence on regional political aims such as economic growth (e.g. the major potential investors, importers, exporters to the Barents region), resource management (shared stocks) and environment management (sources of the region's pollution). This criterion would seem to expand the participation beyond the core area states in some issue areas and narrow it further in others.

- Legitimate demands for participation: the Saami Council¹² has together with the Inuit Circumpolar Conference and the Association of the Small Nations in the Russian North been invited to participate as observer at the Rovaniemi Process. If the Barents collaboration succeeds in becoming institutionalised, the Saami organisations will probably demand corresponding representation there too¹³. A number of voluntary organisations aim at being included in the political decision-making processes regarding Northern regions. This applies especially to the area of the environment, but also to humanitarian aid. Political authorities should consider to what degree and in what way their enthusiasm and any professional expertise they may have should be employed within a closer Barents collaboration.

There are two reasons for refraining from answering the participation question conclusively at this stage. First, it is a politically sensitive question, affected i.a. by the interest extra-regional states may express to take part in the activities. Also, the functional range of the regional cooperation is yet unsettled: and the geographic scope of relevant actors varies significantly from one issue area to another. A few comments can be made, however. Concerning concrete *political measures* in the region, the breadth of the collaboration may vary according to issue area. While in fisheries management cooperation will remain confined to the two states sharing the fish stocks, certain environmental issues might require the participation of a broader scope of actors. A regional collaboration in the Barents region must be able to accommodate such differential needs: i.e. permit narrower participation in some contexts than in others. An approach that we are familiar with from other areas is a *tiered organisation*. There are two conceivable variants, depending upon whether the point of departure is broad or narrow. In addition to a quite broad ministerial level institution, e.g. a Barents Council with participation from Norway, Sweden, Finland and Russia, and possibly other interested and functionally relevant states, one possibility would be the establishment of more narrow *commissions* for various issue areas with the task of developing more binding or concrete actor-limited and issue-specific measures. These might take the form of regulative protocols or projects which the parties may join if they wish. Any bilateral elements in such regional collaboration will naturally have to relate to the key *existing institutions*. This is especially relevant for the bilateral commissions in the fisheries and environmental areas which have successfully taken on management functions, including Scientific investigations. It is important to avoid attempting to fix a machine that is not broken. A natural division of labour might be to have a new regional cooperation concentrate on the *commercial and human resources* links currently merging rather than tampering with bilateral commissions working well. Other issue areas such as indigenous peoples or infrastructural development, however, lack arenas for regional policy coordination.

One *problem* with such organisation, however, is the possible difficulties of keeping council member states away from political processes where they are not functionally relevant, but where they still may wish to participate for symbolic or other reasons. This objective may possibly be best achieved by simply commencing in the *opposite end* to that suggested above: a council can be made quite narrow and possible *expansion* can take place in the respective issues on the basis of functional relevance. On the other hand, this solution may possibly fail to prove sufficiently attractive to states

¹² Formerly, this organization was coined the Nordic Saami Council. In 1992, however, it was joined by representatives from the roughly 1700 Saami on the Kola Peninsula (Borgos 1992).

¹³ Such demands may well be strengthened by the recent native population organisations' break-through for a number of their fundamental demands at the UNCED Conference in Rio de Janeiro.

such as Germany, Britain or France for them to attach themselves to this process rather than pursuing integrative projects with Russia on their own. This may be why the Norwegian government invited not only all the Nordic states to join the ministerial meeting in Kirkenes in January but other interested states as well.

External organization: relation to pan- Arctic integration processes

As sketched above, a wide political mobilization is taking place in the Arctic. Interdependence between the eight arctic and sub-arctic states is in the process of being strengthened and institutions are emerging. The Barents regional initiative thus intervenes in already ongoing processes within a wider geographical framework. The fact that related processes are already underway need not be a drawback. Problems exist at different levels, and the institutions at each of the levels may in certain situations stimulate each other. Collaboration at lower levels may well yield the more concrete gains. Nevertheless, where broader Arctic processes are already going on, it must be shown that a Barents regional cooperation will stimulate concrete problem solving. The point in this context is that within each single area one must discuss what role a Barents collaboration shall play in relation to existing institutions. If it is to be a useful contribution to inter- and transnational relations in the region this initiative must not duplicate work already ongoing elsewhere.

Conclusions

Defining regionality in terms of geographic contiguity, interaction density and recognized distinctiveness, three conclusions emerge from this discussion of the Barents Region initiative. First, while the northern parts of the Nordic countries and northwest Russia form the geographical core of the region, the projects relevant to this area may include actors beyond this scope. We have pointed out some of the factors affecting the relevant scope of participants, such as the purpose of the venture, the type of problem addressed, and legitimate demands for participation. Accordingly, when institutionalizing the cooperation, one should consider ways to differentiate participation over issue areas. Second, political, economic and other societal interactions growing in the region, but in most areas extra-regional ties are denser and more significant than those within the region. The image of the cooperative Pomor period is still vivid in parts of the region. Still, both the bureaucratic organization of the states in question and the regional heterogeneity in terms of language, religion and political culture support the conclusion that the Barents region is not the primary frame of reference for actors operating in the area. Third, however, a number of political engines are pushing the region to a more cooperative one: the foreign policy background of amiable East- West relations; the long-standing ambition of the regional governments to pursue non-conflictual cooperation; the rising significance of environmental problems in the region; and not least the determination of local actors to take advantage of these new opportunities for cross-boundary interaction.

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Calotte as an economic region in the world economy

Ulf Wiberg

The Calotte territory

In this presentation the concept Calotte is representing the provinces in Norway, Sweden, Finland and Russia which are located above the Arctic circle. In Norway we include the counties of Nordland, Troms and Finnmark with a total population of 460 000 people in the early 1990's. In Sweden we include the county of Norrbotten with 265 000 inhabitants, in Finland the county of Lappland with 200 000 inhabitants and finally in Russia the county of Murmansk with 1 100 000 inhabitants. This means a total population of 2 million people in the area that comprises 451 000 km² of land, which is approximately equivalent with the area of Sweden. From a geological and physical geographical viewpoint the Murmansk county, in other terms the Kola Peninsula, is associated with the Fennoscandia. In Figure 1 is illustrated the structure of administrative communities and urban centres in the Calotte and nearby regions. The most striking difference in structural pattern is the much higher urban concentration level in the Murmansk county.

A historical background

During thousands of year with subsistence economy the Calotte region was a sparsely populated territory with in many respects different ways of life compared with the rest of Europe. The hard arctic climate combined with remoteness meant an extremely marginal situation. The Sami people with reindeer herding as basic economic activity were spread all over the Calotte. Along the coasts in Norway and the Kola Peninsula the rich fish resources in the Barents Sea and options to cultivate land formed another important economic platform for life and settlement. Before the early 18th century when S:t Petersburg was established as city the ice-free ports along the Kola Peninsula played a key role for international relationships of the Russian Empire.

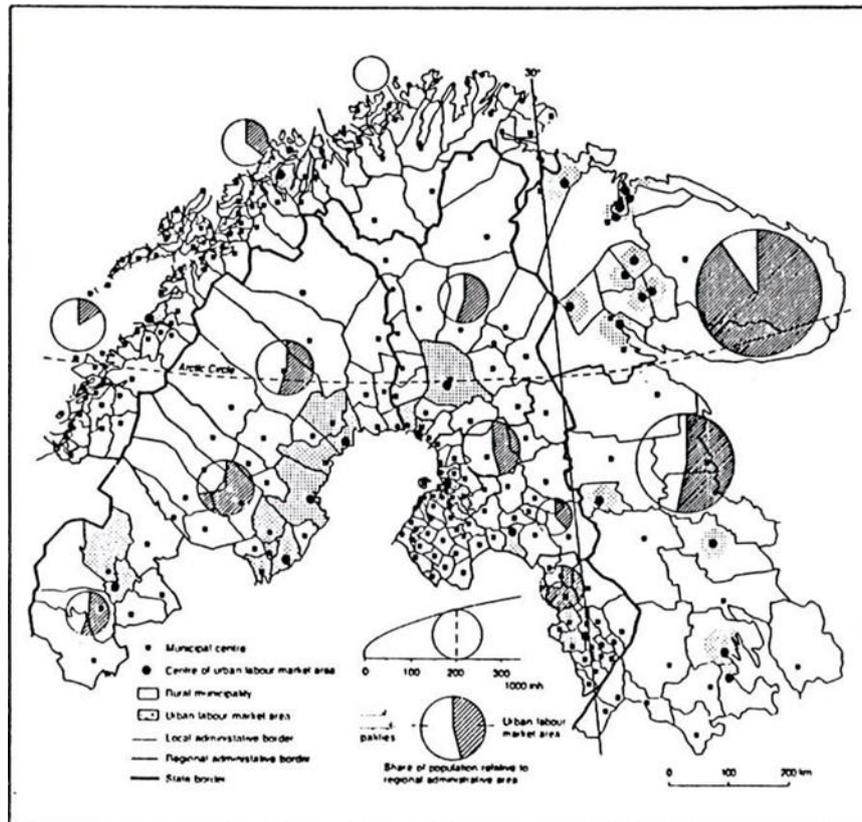


Figure 1 The location of municipal centres and main labour markets in Northern Scandinavia, Murmansk county and the republic of Karelia. (The labour market areas correspond to the definition by Johannisson et al, 1989).

Source: Jussila (1993).

The Calotte territory was free from political borders limiting contacts and flows of goods between different geographical parts. When resource extraction and production became more elaborated exchange trade started between various places within the Calotte territory. An intraregional trade relationship of considerable importance was the so called Pomor trade. It was intensive during the 17th and 18th centuries and involved the coastal districts of northern Norway, the Kola Peninsula and the White Sea area with the town of Archangelsk as the key node. A great number of small ports were connected into the sea transportation network. The main trade products were fish and fishery products which the Norwegians exchanged for fur and flour. The language barrier between

the Norwegians and Russians was handled by creation of a special language serving the needs of the trade relationships. The trade contributed to a considerable increase of economic welfare in the region.

Simultaneously with the east oriented integration of northern Norway with northwestern Russia a stronger south oriented integration of northern Norway with the other parts of the country took place. With reinforced transportation possibilities it became easier to strengthen ties between regions within the country. As in many other European countries the national state concept was increasingly stressed. Trade interests in southern Norway tried to receive control over all Norwegian foreign trade. Laws were also formulated with the purpose to reduce the direct region to region trade, but in reality the pomor trade was not stopped.

Another economic integration started in the late 19th century focused on the huge forest resources in northwestern Russia. Also in this case Archangelsk was the Russian key node. This development process has been described as a frontier movement of exploitation of new areas going east through Norway, Sweden, Finland and finally Russia. The main driving forces were technological and political preconditions. With the new transportation and communication technologies developed and implemented in the late 19th century - railways, steamships and telegraph - remote areas could much more easily be exploited in a competitive way. Around the turn of the century decreasing supply of timber in combination with regulations of timber concessions and rights to by forests lead to rising prices in Norway and Sweden. This pushed the sawmill entrepreneurs to try the much more liberal options available in northwestern Russia. Large investments in sawmills were made. Most of machinery and other equipment was shipped from Sweden and Norway. Even some workers went to Russia to build up the mills. The timber to these sawmills came not only from Russia, but also from Finland (Björklund 1984).

The Russian revolution in 1917 had a definitive negative impact on the integration that had been developed during hundreds of years in the Calotte region. A political barrier was created that almost immediately cut off major trade relationships, social and cultural contacts between northwestern Russia and the other parts of the Calotte. The dominant interaction and exchange pattern shifted from coast to inland, but it took several decades to build up a new pattern of regional interaction with appropriate infrastructure. Among the three Fenno-Scandinavian countries a formalized North Calotte cooperation was initiated by the Nordic organization Föreningen Norden as late as 1960.

During the 20th Century extraction of natural resources in peripheral areas in relation to main industrial centres and cities have increased considerably all over the world. One reason behind this change is that there has appeared a relative depletion of deposits located close to places with major consumption. Another factor of great importance is that remote locations have become less disadvantageous on account of falling transport costs.

Within the framework of the communistic economic system the combination of attractive natural resources and a strategic location for accessibility to the big seas of the world meant that the Kola Peninsula played an important positive role for the whole Soviet Union. Since the 1930's there has been a strong economic development based on exploitation of these resources. The development model used has stressed large scale industrial complexes with production determined by plans

formulated by the central government. Heavy investments have been made in railway and road infrastructure to secure efficient transportation links to the industrial centres of the Union.

According to an estimation by Doiban et al (1992) production in the Murmansk county increased 1,9 times faster than in Northern Scandinavia during the late 1970's and 1980's. However, that caused negative social consequences and a rapidly increasing environmental damage.

In the Kola Peninsula the ice-free port of Murmansk and with good accessibility to the Atlantic became early one of the most important ports for international trade from Kola as well as several other parts of the Union. Exports of raw materials became part of a national strategy to get foreign currency for purchase of western technology and equipment (Doiban et al, 1992, Jussila, 1993). According to some recent rough estimates 50% of the Russian export passes through the port of Murmansk.

As the Cold War developed during 1950 - 1986 between the Super States Murmansk also turned into a huge military node of Soviet Union. It is estimated that the military complex in early 1990's directly and indirectly comprises almost a third of the population in the Murmansk county, which means over 300 000 people. The Calotte became involved in a cumulative hegemonic conflict between rival political systems. Due to security policy reasons all kinds of international cooperation in the area was rejected while mutual suspicion was fostered (Stokke, Castberg and Østreng, 1992)

For the heavy expansion of economic activities in the Kola Peninsula was needed a considerable increase of workers. In the early phases of the expansion thousands of people were forced to migrate there from southern parts of the Soviet Union. In later periods industries in the area have attracted people by offering higher wages than in many other places further south. The wage levels in some sectors have been up to 120% higher than elsewhere in the Union. The welfare conditions have also been more favourable in terms of length of vacation periods, earlier retirement and other material benefits. Still, in May 1993, the average income per capita in the Murmansk county is far above the average for Russia - 61 000 Roubles (appr. 61 US Dollar) per month in Murmansk and 29 000 Roubles in Russia. In comparison with the situation in the western part of the Calotte these income levels are more than 10 times lower.

Since the late 1920th and up to the early 1990th there was a continuous population increase. In Murmansk county the population increased on average with 17 000 people per year. Even during the 1980's the Murmansk county was one of the fastest growing regions in Europe with a population increase of more than 15%. Due to the heavy immigration of Russians they are the dominating ethnical group in the region - 95%. Among the other 5% up to 30 different ethnical groups are represented.

Murmansk, which was founded in 1916, has developed into the biggest city of the Calotte and is with a population of 470 000 people a dominating administrative and economic core of the Kola Peninsula.

In the northern parts of the three Nordic countries the first part of the 20th century was a period with similar, but not as strong and large scale focussed development of extraction industries. During the last decades both primary and secondary industries have had a decreasing employment while the tertiary sector - to a large extent the public service sector - has expanded heavily. In Figure 2 is illustrated the national patterns of structural change.

As a consequence of the structural change towards a dominance of service industries the population numbers have been stagnating. In the most marginal areas with low comparative quality of natural resources the population decline during the last decades have been very dramatic.

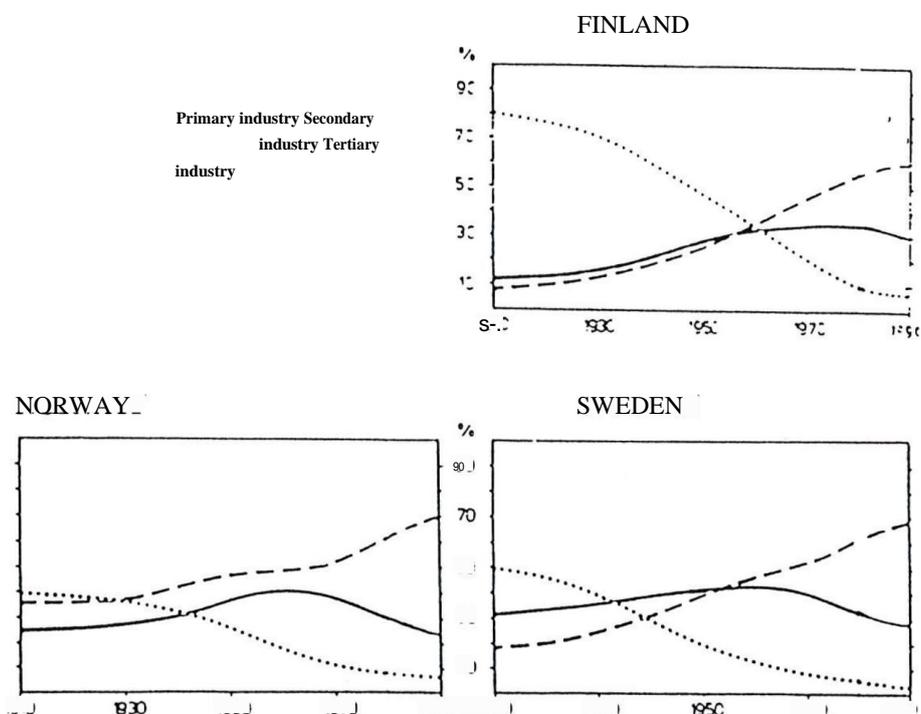


Figure 2 Employment shares of main sectors in Finland, Norway and Sweden 1910 -1990.

Source: Basprojektet (1982).

In Table 1 is illustrated the significant difference in economic structure, measured in employment shares, between the Nordic and the Russian side. The relationships between industrial activities and service activities in Murmansk county today are close to the situation in Sweden in 1970.

Table 1. Comparison of employment structure.

	Primary and secondary sectors	Tertiary sectors
	%	%
Murmansk county (1987)	49	51
Northern Finland (1988)	38	62
Northern Norway (1989)	26	74
Northern Sweden (1990)	34	66
Northern Sweden (1970)	49	51

Economic resources and production networks of today

The Calotte is provided with a wide range of natural resources - fish, forests, iron, nickel, copper, apatite (phosphate rock) and several rare minerals - which, in many cases, are exploited in large scale.

One resource of special international interest is the deposits of apatite in the Kola Peninsula. There we find the largest concentration of apatite in the world. The estimated volume is 2 billion tons (Adahl & Perlowski 1978). There has also been found large deposits of gas in the Barents Sea. Plans have been presented for exploitation of the Shtokmanovskoye gas condensate deposit. It is located in the ice-free part of the sea 650 km north of Murmansk. This provides a potential not only for serving the Calotte region with gas and oil but also for export by pipelines to Northern and Central Europe.

As a consequence of the iron curtain period the resource based industry of the Calotte territory is divided into one market oriented globally competitive category and another plan economically controlled category. That means that the dominant industries operating in the western part of the Calotte are holding positions in international production networks, while the industries in the Russian part are facing great uncertainties about competitive strength. Lack of regional data for the Murmansk county today makes it impossible to estimate the competitive strength of the mineral production there in an international perspective (Radetzki 1993). We have the same estimation problems for the other sectors of the economy.

In the perspective of free market orientation long distant transports in combination with depleted local deposits and inferior quality of some products competitive strength may appear low. Compared with central parts of Russia an additional problem is that the cost level for starting and running industrial production is higher due to higher wage levels and harsher climatic conditions.

A dominant part of the raw materials extracted in the Murmansk county are transported over long distances within Russia for further processing or consumption. This is especially the case within the non-ferrous and fishing sectors. Also on the input side there appear long distant transports of raw material to process industries in the Kola Peninsula. A good illustration to this is the nickel production which started based on local resources. These resources began to decline during the 1970's. Instead of closing down smelting works a shipping of ore from the much bigger resources further east in Norilsk, Siberia started. The distance is more than 2 000 km. The shipping was made possible through introduction of ice breakers driven by nuclear power. According to the Norwegian environmental organisation Bellona the shipping from Norilsk to the Kola industries cannot continue during market economy conditions. The opinion of the managing director for the company Norilsk Nickel is quite opposite; the transportation to Kola is a much cheaper alternative than investments in new smelting works in Norilsk. The company is the biggest nickel producer in the world - approximately 30% of the world production - and accounts for approximately 10% of the inflow of foreign currency to Russia. The company is now in a process of privatisation, which means that approximately 50% of the company will be owned by private shareholders and the rest will remain state owned. As a consequence of the privatisation process there are optimistic perspectives about possibilities to raise economic resources for investments in modern purification methods. But very big investments are needed and it will take many years to reach a level below critical levels for ecological safety (Ehrensward 1993).

Pollution has been a devastating side effect of the large scale geographically concentrated extraction industries in the Kola Peninsula. As a consequence of the plan economy their mission were to fulfill plans in the interest of the Union regardless of local and regional disadvantages. Lack of environmental concern and obsolete purification is not just affecting the nature, also the location of dwelling houses very close to the industrial operations are causing a very unhealthy microclimate for a large proportion of the inhabitants. Especially in the cities of Nickel and Montjegorsk the enrichment process is resulting in pollution of sulphur dioxide far above critical concentration levels. It is today estimated that the ecosystem within at least 700 km around these two cities is completely destroyed. The area suffering negative ecological impact through acid rain also includes large areas in Finland and Norway.

Even if we have much better information about the competitiveness of the western industries today several major ongoing changes in economy, political life and infrastructure makes it difficult to draw certain conclusions about future conditions. In the perspective of the efforts to elaborate a full market integration in Western Europe Keeble (1991) concludes:

"The complexity and variety of economic forces currently at work in Europe's regions are too great to be encompassed by any single all-embracing theory of economic change. The result is a 'regional mosaic' of different development trajectories within Europe, in the evolution of which both macro- economic forces and local socio-economic characteristics are important".

In a situation where Norway, Sweden and Finland will remain outside the European Community especially manufacturing industries with market orientation towards countries within the Community will lose competitive strength. Also an integrative perspective may result in problems of competitiveness. Border restrictions have to some extent sheltered the local economies. The marginality of the Calotte region will be further stressed as investments will become more concentrated to regions within the Community. During recent years many Nordic enterprises have made significant investments in EC countries in order to take advantage of the single market benefits and to avoid protectionism from the EC countries.

Within the Calotte we can anticipate a general increased speed of structural change resulting in decreasing employment in most industrial sectors as a consequence of a strengthened single European market. However, we should expect much more dramatic reductions in the resource based industries in the Murmansk county compared with the other parts of the Calotte.

To compete successfully in the new more open European society innovative and entrepreneurial ability will be strategic instruments. Such attempts are also focussed in regional policy on the Nordic side of the Calotte. Already today there are rather good prerequisites for a knowledge oriented strategy in terms of how much is spent on research and development per capita. As we can see from Figure 3 the northernmost part of Sweden - labelled Botniaregionen - has a high R&D intensity compared with several OECD countries. Another strong R&D region close to the Calotte is the university city of Oulu in Finland.

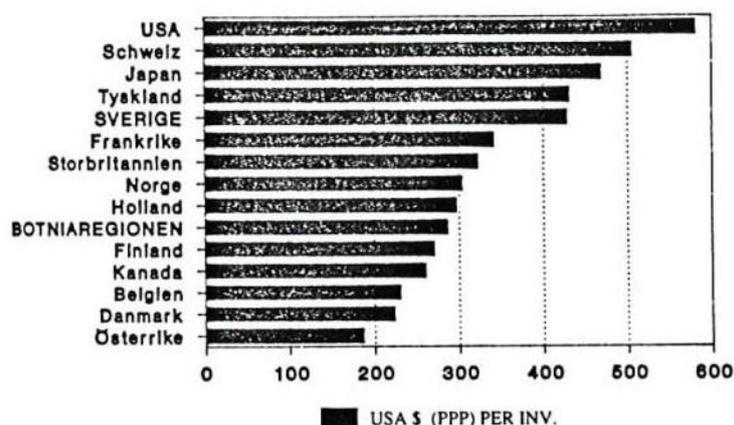


Figure 3 R&D-expenditures per person in 1989. Comparison between some OECD countries and the Botniaregion (the three northernmost counties of Sweden).

Source: Lundgren (1992).

The key problem for the Nordic parts of the Calotte is the high dependency on the public service sector which to a large extent is financed through transfers in the state budgets. Already today growing deficits in the state budgets are causing closure or reductions of services within the public service sector. A reduction of the tax level to adjust to the average level within the Community would either result in unemployment far above the average level in Europe and/or to a significant wave of outmigration. As the local economies within the Calotte are small and widely geographically separated a reduction of tax pressure will have much smaller positive effects on buying power and general stimulation of economic activities compared with what is possible in regions with high density and population figures.

Scenarios and strategies

Several alternative scenarios for the future seems relevant to discuss. A pessimistic scenario is that the Russian society will become more disintegrated as a consequence of decline of existing industrial activities. As most of the inhabitants in the Murmansk county are first or second generation immigrants we may assume that they have a rather high preparedness for outmigration as a consequence of reduction of job opportunities.

The Murmansk county has a vulnerable supply of food and consumer goods. The situation today is that demand exceeds local production, except for fish. Most of the imported products to Murmansk comes from other parts of former Soviet Union. Expansion of these types of industries seems not to be a viable option due to more unfavourable cost levels compared with central parts of Russia (Castberg, 1992).

The most serious problem in the Calotte is the deterioration of the ecology. Urgent efforts are needed to reduce industrial pressure on the nature and find a balanced use of renewable resources. Extraction industries and nuclear power waste are the most dangerous polluting sources. To reach a level of long-term sustainable development considerable changes must be made in production structure and refining. New investments must focus on environmental care. As a number of new

large-scale projects - megaprojects - have been suggested their implementation must become adjusted much more carefully to ecological limits than ever before.

An extreme positive scenario is that as a consequence of a free international market accessibility, convertible currency, economic decentralization and privatisation the Calotte will be more attractive to investors. Another possibility is that some of the big resource-based industries in Murmansk county can reach more favourable terms of trade than within the boundaries of the former Soviet Union economy and heavily expand import as well as export links to western countries.

Prerequisites for realization of a positive development are that especially the Murmansk region but also the regions of the Nordic countries can achieve a more independent position in relation to the central government so capital generated in the region can be used for transformation and elaboration of the economic structure based on regional and transborder interregional preferences.

With the fall of the Soviet Union political and economic transition processes have started in order to adjust to international market economic principles and playing rules. The first step is focused on various types of liberalisations. One important part is to abolish regulations so foreign trade relationships can be easier to elaborate. In several governmental decrees over recent years have been formed new possibilities for enterprises and organizations at a regional level to carry out direct foreign trade without any interventions from the government. In April 1992 the VI Congress of People's Deputies also approved a document about a new long term development model for the Russian European North. Privatisation of enterprises, making the ruble convertible and establishment of rules for international trade agreements are stressed.

In following steps problems of inflation, low productivity, resource waste, lack of modern infrastructure and weak state finances must be attacked to secure a stable long-term development.

During the first stage of "shock therapy" in Russia there has appeared a dramatic recession and disintegration. However, the recession has not been so deep in regions specializing on extracting and processing of raw materials such as the Murmansk region. Regions with manufacturing industries with more diversified input structures are more vulnerable to collapse of supplier-consumer linkages and have consequently experienced more negative consequences (Dmitirieva, 1993).

The main phenomena of disintegration in Russia are:

- changing patterns of interregional exchange and transport,
- strengthened regional differentiation of incomes and prices
- segmentation of market.

In a broader perspective the disintegration of the bipolar political system has opened the possibilities of attempting a global integration within the framework of a market economy and liberalisation of parliamentary democracy. In the process of structural transformation regions in former border zones between the rival political systems appear to be in a more favourable situation than before.

In the Calotte we may anticipate that the future character of sectoral change and economic development will be influenced by the Russian macroeconomic policy and reform strategy. Another important influence may come from the European integration process. The EC policy to

support integration programs for transborder regions, so called EC INTERREG programs, could be a most useful reference and guide to similar integration efforts (Jussila, 1993).

One important key to successful future mutuality is to train entrepreneurs and managers to operate in the different social, economic and political environments. Russian companies are lacking skills in how to operate during free market conditions and companies in the Nordic countries face problems to enter a rather chaotic and uncertain arena. A reliable joint-venture relationship seems quite necessary for western firms who want to develop business in the Russian part. Rikkonen & Männistö (1993) are suggesting the following pattern of industrial cooperation across the former iron curtain:

Prerequisites for industrial cooperation between:

West

East

Management and training

Labour

Technology

Production facilities

Financing

Raw materials

World market

Local markets

Throughout Europe recent patterns of diffusion of industrial innovations and spatial organisation of economic activities have led to elaboration of the network paradigm. This approach highlights the growing relationships within and between enterprises. These are related to the change in the structure of markets and consumers demand, the increasing role of innovation in production processes and the increasing internationalisation of the economies. An important characteristic feature of a network organisation is its flexibility to structural change - flexible specialisation. Compared with relationships according to a hierarchical organisation principle gradual adjustments can be made more easily and to lower cost. This network paradigm with flexible specialisation and focus on small and medium-sized firms corresponds well with the federalistic vision Europe of Regions based on considerable self-government and subsidiarity (Cappelin, 1993).

Among western companies we can find interest to cooperate with Russian companies in the exploitation of various raw materials, but there is also an interest to sell consumer goods and know-how. During recent years joint ventures between companies in Murmansk county and other countries have been developed but they still play a very marginal role. In May 1992 these joint venture companies employed approximately 3 300 people in the Murmansk county, which is less than 1% of the total labor force. According to a study by Kallio (1990) the special problems in starting and operating joint venture in Russia are the following:

- bureaucracy,
- legislation and
- differences in culture of management.

This implies that joint ventures often will suffer from problems with management and control of costs. Kallio (ibid) draws the conclusion that this stresses the importance of good preparations before establishments of joint ventures and the willingness and ability to adjust to the special cultural divergences.

Concluding remarks

Elaborated internationalization options will offer new strategic views for production and trade in the Calotte. Various subregions are facing promising challenges. However, there are also an urgent need to solve severe ecological problems. The future will be like a balance act on the edge of a knife. In this paper some key aspects have been stressed and alternative development paths have been indicated. A strengthened local and regional self-organisation and international support seems to be quite necessary for achieving a development path characterized by long term sustainability.

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Regionalism as a Tool for Economical Development and Equalization of Living Standard.

Oddrunn Pettersen

The Barents Euro- Arctic Region Cooperation celebrated its first anniversary a few months' ago. Two years ago, the name "Barents Region" had not yet come into existence. This cooperation is, a very young political project.

The Barents project can best be described as a mixture of political visions and practical politics. The vision was a peace promoting, confidence building cooperation in the North, where the Northern parts of the Nordic Countries together with the Northwestern part of Russia would play a decisive role. The practical politics of pursuing national interests firmly anchored in political realities, from a Norwegian perspective consisted of making this forum for multilateral cooperation involving other Nordic and European countries.

Another aspect of this cooperation is that it combines perspectives looking at the past as well as towards the future. The future perspective is directed towards the new European architecture and the role to be played by the Barents Cooperation in this aspect, and the past perspective involves making use of historical factors to provide a regional identity and mobilize local support.

Former Norwegian Foreign Minister, Thorvald Stoltenberg, wished to the previous hostility in the north with an active form of cooperation. Just as the E E C was established in the nineteen fifties in order to build confidence between the former enemies Germany and France, Stoltenberg wished to establish a network in the North that made conflicts less likely.

Along the borders of the Western part of Europe a zone of countries characterized by an unstable situation has emerged. This zone is unstable economically, ecologically and often politically.

What happens in this zone will effect the rest of Europe. It is unrealistic to imagine Western Europe existing as an oasis of affluence on a Eurasian continent strongly marked by poverty, upheaval and unrest.

Some of the major challenges facing the Nordic area are thus related to developments in the eastern half of our continent, especially the areas adjacent to our borders.

It is therefore vital for us to be on the offensive in meeting challenges that arise in neighbouring areas, rather than merely adapt to results of decisions made by other countries. The establishing of the Baltic Council and the Barents Council is an expression of a Nordic willingness to play an active part. It also indicates that the societies of the North are willing to consider new patterns of interaction.

Barents Council is the only permanent forum in which all the Nordic Countries meet Russia on a comprehensive political level. The cooperation will be part of a wider European pattern, part of the reconstruction of Europe and part a network of organizations with similar interests that presents a new framework for cooperation among Europeans.

Through the Kirkenes Declaration of 11th of January 1993, the Barents Council was established, in which the Russian Foreign Minister, all the Nordic Foreign Ministers and a representative of the EU are participants. A number of other countries also attended the Kirkenes-meeting in the capacity of observers. A total of thirteen governments were represented, including the USA, Canada and Japan. This placed the regional cooperation in the North in a broader European and Atlantic context. This will in our opinion will strengthen and deepen the confidence building aspect. The Barents Council operates on the governmental level, and consists of the Foreign Ministers. Within the framework of the Barents Council, other ministers, f.ex the Ministers of Transport, hold meetings and in this way take part in developing the Barents Cooperation. The Barents Secretariate and the working groups established by the Regional Council take part in the preparations of these meetings. The Regional Council consists of the political and administrative leaders of the seven counties and one republic in the region. One representative of the indigenous peoples in region has a seat in the Council. The Barents Secretariate primarily works for the Region Council, but we also work for the Barents Council. In this way, we are a "go-between" for the regional and the central level in the cooperation. We try to fulfill Former Foreign Minister Stoltenbergs main idea that the development of the cooperation shall be based on ideas created by the people who living in the region, or as he once said:

The cooperation is "to be anchored in the North and it is to develop in accordance with the with the region's own needs." The central level is meant to create for realization of ideas created locally.

The idea of a Barents Region represent in this way a new phase in Norwegian regional policy, a policy that since the last war has been performed to ensure that everyone enjoy equal standards of living regardless where in the country you live.

The most important instrument of this policy has been the transfer of economical resources from the centre to the periphery. Thus every year for the last fifty years a substantial amount of money has been granted over the State Budget.

As I have tried to show, the Barents Cooperation is, in some respects, based on a fundamentally new idea. It represents a cooperation across regional borders. Traditional regional policy functions within national borders. The Barents Cooperation has altered this way of thinking, Helping to ensure stable economical and social development in the Russian part of the Barents Region is defined as being of importance for the whole region.

For the region level, the delegation of more influence and responsibility for the development of the Region is of great interest. The Barents Cooperation is therefore also an important instrument for the people in the North to place themselves in relation to similar trends in the cooperation patterns in Europe. It is interesting to note that a similar model is now being considered for the Baltic Sea Cooperation, which so far has been purely governmental. A regional council where the countries and the indigenious people of the region are represented is a completely new structure in European politics.

There is another long-term aspect of the Barents Cooperation I would like to mention. We can regard the Barents project as a beginning of a new kind of strategy for the Northern Periphery of Europe. This is an aspect that deserves considerations. It raises some important issues.

The Western Periphery of Europe, from Portugal to Ireland and Scotland, has not fully enjoyed the vigorous economic growth of the postwar years. The northern periphery of Western Europe has been an exception. The standards of living in the Nordic Countries is notably higher compared with those areas. The same applies to the Russian part to the Barents Region compared with Russian areas further south.

Before the turn of the century the people in the Northern Periphery of Europe will have to come to grips with challenges that will arise from the new situation they will face. One challenge is opening of the Russian/Nordic border, a second is the possible extension of the EU to include the Nordic Countries in the Region and a third is the consequences if there is decisive negative changes in the traditional regional policy.

There is no guarantee that the Nordic governments will continue the present system of the transfer of economical resources indefinitely, nor that Moscow will continue to favour those who settle in North. In the West some people have voiced the fear that the elimination of borders in Western Europe may result in a draining of resources from the Northern Periphery, gradually transforming it into something more similar to the Southern and Western periphery. The North after all, represents the outer limit of European settlement, and it is more expensive to provide the population with the same job opportunities and welfare benefits than it is for the population in central parts of the countries.

This ; assumption bears any truths the inhabitants of the Barents Region have a common interest in safeguarding their share of the European prosperity. The Region has an advantage in its access

to substantial natural resources and in its role as a political and economical link between East and West. The making of an effective strategy for the Northern Periphery of Europe, depends on the people living in the region and how we are able to develop our own policy and the necessary political instruments. It is also a question of building alliances.

In many ways, the Regional Council and the Barents Secretariate are now working to find solutions to the challenges within the region, and on building alliances within the Nordic Cooperation and the EU.

The Regional Council has decided that an action programme for the region shall be drafted. Ten working groups are established and are expected to suggest projects that can be included in the Action Programme. The final proposal will be presented to the Council in Rovaniemi in June. The Programme will contain projects of various duration, volume, size and cost. It will hold projects of bilateral as well as of multilateral character, and projects involving financial support from the countries within the Region as well as projects involving financial support from outside the Region.

This Action Programme, is part of our strategy in using the regional cooperation as a tool for economical development and equalization of living standards. Many People and institutions in the Region are involved in developing projects suitable for the Programme. Contacts with institutions and persons outside the Region are established to help us financing the programme and to build a network of people all over Europe who are interested in supporting us in our work to substantiate the Cooperation.

An example is the establishing of an office in the Russian part of the Region, belonging to the European Bank of Reconstruction and Development. This office comes partly as a result of the work done at the regional level. The problems lack of capital within the region creates, were identified by the people at the regional level. The Ministers of Finance in Finland, Norway and Sweden addressed the problem. A fund within the EBRD, was established, and now we can draw from this venture fund to develop the industry in the region.

The meetings of Ministers in the Region is another important tool for development. The regional level participate in the preparations of the meetings and has an influence on the outcome. One month ago the Ministers of Health met in Bodo, in Norway. They signed a declaration which will be of great importance to the people living in The Barents Region.

Among the issues can be mention:

- improving understanding of the health effects of living and working in Arctic climatic and geographic circumstances
- monitoring health effects of working in Arctic climatic conditions, of industrial pollution, radioactive waste and nuclear installation, and identify possible interventions to alleviate adverse effects
- identifying the measures required to facilitate adequate preventive activities and health services to the indigenous people of the region in close collaboration with these peoples and taking into account their knowledge and experience in coping with Arctic conditions
- improving the quality of hospital based services and medical technology in the region.

The Ministers of Environment will in a couple of weeks sign an action programme on how to create better environmental conditions for the people in the Barents Region.

In August, the Foreign Ministers will meet in Tromsø.

The Ministers of Culture and the Ministers of Transport held their meetings in the autumn of 1993.

The Nordic Council of Ministers has decided that their Working Programme, which was exclusively directed towards the Baltic countries, will now also include the Barents Region. Several exchange programmes will now be available for civil servants, teachers and students in the Barents Region. In September this year, a person employed by the Nordic Council of Ministers will follow up the Programme and will be placed at the Barents Secretariate in Kirkenes.

Other results of the cooperation can be noted/The Russian Federation has established a consulate in Kirkenes. Norway has established a consulate in Murmansk. The efforts done by business companies in the Region to establish cooperation are now showing promising results. Norway, Sweden and Finland have granted money to be used in the Northwestern part of Russia.

How is the Barents cooperation likely to develop? This depends of course on the policy implemented by the Barents Council. It also depends on the ability of the Regional Council to take full advantage of the opportunities that are within their reach. The Barents Cooperation will depend on to what extent the people in the Region identify themselves as part of the Cooperation and take advantage of the new opportunities.

The Barents initiative has laid the foundation for a regional cooperation in the North. This unique project presents a challenge to everyone living in the region. In the years to come it will be a tool for economical and social development and equalization of the living standard in the Region.

The Action Zone in Nord-Troms and Finnmark

Sveinung Eikeland

The Action Zone in Nord-Troms and Finnmark was established in 1990. Even though the duration of this project is not limited to a specific period, it was recently evaluated in connection with an evaluation of the appropriateness of the individual measures involved. The analysis was performed at the Norwegian Institute of Urban and Regional Research.

During the Cold War the maintenance of a strong Norwegian civilian habitation in the northern areas of the country was considered to be of some importance to demonstrate a Western presence in the area. Today, this display of strength in the North is more connected to the possibilities of positioning oneself in respect of economic and political integration in Europe, the opening up of the Russian market, and with reference to potential access to the vast natural resources that characterise the area. The official action zone for Nord-Troms and Finnmark constitutes a response to the desire for a Norwegian presence in the Northern perimeters. It was established during a time coloured by the Cold War and a belief in the potentialities of national political governance and extends into a period where such a belief has lost much of its plausibility. The

future of the districts is now linked to possibilities emerging in a globalised economy, and the ability of the regions to conduct themselves as actors on an international stage - beyond their own territorial borders. In the north, The Barents Euro- Arctic Region is an expression of the desire of a multi-national area to find its own developmental pace in a global economy. The Norwegian efforts under the aegis of the “action zone” can thus find their justification in national security needs, but also with regard to the national economy, rights, and influence. Today, the latter are more important than the former, but the main question remains the same: what can a nation do to secure its presence in a region that lies far from traditional financial centres? The evaluation of the effects of the Action Zone from 1990 to 1997 is a contribution to an answer to this question.

The difficult eighties

The municipalities in Finnmark and the northern part of Troms county experienced a decline in population every year during the eighties. This was caused by a reduction in the numbers of people moving to the area together with a reduction in the birth rate but without any reduction in migration from the area. One of the main reasons behind this development was the condition of the labour market. High unemployment had characterised the whole region for some time, and at the turn of the year 1989—90, 13 percent of the work force in Finnmark were unemployed. In Nord-Troms the figure was 17 percent. The vital fisheries were confronting a collapse of the cod stocks in the Barents Sea. Fishing was terminated and strict regulations were introduced. This led to a dearth of fish brought to land which in turn led to problems for the fish-processing industry. In 1989, only five of 50 fish-processing factories had escaped disruptions in production. Such tendencies were ominous. The population sank and the prognoses were not uplifting. This chain of events in the fisheries could lead to the annihilation of one of the industries that was to form the basis for Norwegian activity in the North.

The action zone

The Action Zone was created in 1990. The aim was to lift the area out of the crisis in which it was foundering at the end of the eighties. The Zone is an overarching structure built over the following individual measures focused especially on the target areas of Nord-Troms and Finnmark: Exemption from payroll tax for employers, a reduction in the tax on the consumption of electricity for industry and households, exemption from investment tax for building and construction investments, a reduction in personal taxation, an increase in child benefits, cancellation of loans in the State Educational Loan Fund, and wage subsidies or study leave with pay for teachers and pre-school teachers. Some of the measures were targeted towards industry, others were directed at individual people.

The measures share three common features. Firstly, they apply only to people and industries localised in Nord-Troms and Finnmark. Secondly, they are generalised, which is to say that the mere fact of living within the Zone perimeter or running some sort of industrial activity is a sufficient precondition to warrant support. Thirdly, the measures are stable which means that it is not necessary to apply for them every time a developmental downturn becomes apparent in the region. The intention was that they were to be of such permanence that they could be considered as framework conditions.

The measures that were implemented must be understood on the basis of the prevailing political situation, the economic situation of the industrial sector in the region, and the region's history of interventions. But there are links to other countries as well. We are familiar with them there under the names of "enterprise zones", "employment zones", and "free zones". One important difference, however, is that the Norwegian action zone is first and foremost characterized by great distances to major population centres while zones in other countries are often created in connection with attempts to aid the readjustment of the industrial structure in a region (structural reforms).

Three features of the Norwegian zone may be highlighted:

- the combination of means and measures was formulated and decided upon by a government originating in the Conservative Party (Høyre) headed by the then Prime Minister, Jan P. Syse. Conservative governments are rarities in Norwegian post-war history, and this political change set its stamp on the formulation of the measures. At the hub of the arguments in favour of the measures we find the perspective of taxation dynamics, the idea being that tax reductions lead directly and indirectly to increased profitability and a rise in motivation, which, in turn, should lead to an increase in investments in both old and new areas resulting in stabilisation and an increase in employment. The state foregoes taxes and levies, and leaves it to industry and the populace to achieve the goals. This means that it is the level of activity in the zone more than the authorities which determines the distribution and extent of these resources;
- when the combination of measures turned out as it did, this was also a result of the long history of interventions in the region. This history of interventions is mainly a "social-democratic" history. Various economic measures had been implemented to further goals which proved more difficult to realise within the zone than outside it, but also to compensate disadvantages. Examples of the latter are the measures implemented to stimulate recruitment of skilled workers, measures to stimulate educational motivation, and measures to compensate increased costs. These measures were already introduced and justified primarily on the basis of the problems connected to recruiting skilled workers to specific jobs in the public sector such as physicians and teachers;
- the parliamentary elections of 1989 were particularly interesting because it was the first time in Norwegian history that a person with no party affiliation was elected as an MP. The long-serving Regional Commissioner of Finnmark Anders Aune began his own political campaign for a public commitment to the region so to avoid the loss of the region's talented people and the educated part of the populace, as had happened during the eighties. He was tired of the so-called "alms" which involved the necessity of applying for new transfers every time a new problem arose. He felt that it was disgraceful situation. He was therefore also a warm-hearted defender of permanent measures that could ensure that more money stayed in the region rather than economic transfers to the region. Aune's second important point was that the measures should benefit the populace as a whole. He wanted measures for everybody, not just for the experts who were need in key positions in schools, in the health sector, and in public administration. Anders Aune was the most important driving force behind the establishment of the Zone.

In line with the principles underlying the action zone, the national costs will vary in conformity with the level of activity in the region. A high level of activity results in higher costs, and, concomitantly, low levels of activity mean lower costs. We have, however, calculated that the effect in terms of revenues of the measures (reduced revenue to the state due to taxation reductions) for the past year were NOK 1,050 billion or NOK 1,660 billion respectively, depending on which regions one compares with. The reason for the difference is the graduated Norwegian payroll tax. It is the reductions in the payroll tax and in personal taxation that constitute the greatest reductions.

The effects of the Action Zone

The discontinuance of the payroll tax has had the largest employment effect. Based on our calculations, this has created 2,193 jobs, or, put in other terms, it stands for five per cent of the jobs in the region. Altogether, the measures initiated in the zone stand for 3,813 jobs or 8.4 per cent of all jobs. But the tax reductions have also benefited the public sector to a large degree. According to our calculations, the employment effect in the municipal sector constitutes 29 per cent of the total employment effect. And it is precisely the strong predominance of the public sector that represents the significantly characteristic feature of the industrial/commercial structure in the Zone. The dominance is strongest in municipalities in inner Finnmark where the public sector's share of jobs is now as high as 50 per cent. But the private industrial sector has also been strengthened without a doubt. And it has benefited much more inside the Action Zone than, for example, industry in Nordland county, which lies outside the Zone though in the same region. Inside the zone, however, not all sectors have improved their standing. The downturn in the mining and mineral extraction sector as well as in building and construction is especially strong. Mining was one of the targeted branches when the Zone was established, but here, the scaling back of the extensive state-owned company A/S Sydvaranger in Sør-Varanger municipality, in particular, has negatively affected the development. Nor has development in the various geographical regions been without problems. Worst affected is coastal Finnmark which has seen neither development in the public nor in the private sector as have the other areas in the region.

The employment situation has improved during the period. Gross unemployment is now as low as just over eight per cent. Unemployment has, nevertheless, remained higher than the national level throughout the whole of the period. The difference, measured as net unemployment, has not changed during the period either. During the last half of the eighties, the number of totally unemployed went up by three percentage points, in the nineties by one percentage point. This lowering increase in unemployment has been caused by a strong expansion of the public sector, but the private sector has, in general, become much sounder economically since 1990. In addition, a lot of the improvement in the first part of the nineties can be put down to a low level of activity in the national labour market, something which changed about midway through 1996, resulting in a weaker development in the Zone.

Demographically, the situation has varied. There was an increase in population from 1989 to a few months into 1994. The situation thereafter is more worrying. Out-migration has increased, and in-migration has declined. After 1993 the migration balance became negative, the main reason probably being the opening up of labour markets in the central areas. The population has decreased significantly during 1995 and 1996. During these years, the largest growth municipality in the Zone (Alta) has also had its share of problems, but the really problematic areas are primarily coastal

Finnmark and Nord- Troms which have undergone a population reduction also during the periods with a general population increase in the region as a whole. Our analysis shows, however, that as far as most people in the Action Zone are concerned, the person-focused measures have had small if any importance at all for their choice of place of residence. 60 per cent of the population say that the measures have had little or no importance for their residing in the region. This does not apply, however, to highly educated and recently educated people. In this case, the measures have been of great significance for people originally from the region moving back after completing their education, and for the duration of residence of the recently educated people in the region.

The years ahead

There is a great deal of focus nowadays on “out-migration” from the Zone. The migration rates for 1995 and 1996 are not pleasing to read for those who desire a demographic stabilisation in Nord-Troms and Finnmark. Most people seem to agree that the reason underlying this out-migration is the increased employment chances and offers of good job in other regions. It is in such a situation that the effects of the Zone under varying framework conditions are problematised. It would not be unreasonable to conclude that the measures worked well as long as unemployment remained high throughout the country. But changes in the Norwegian economic situation means that it will be interesting to observe how the measures in the Zone work during the coming years, as well as the fact that residence and employment issues will probably define the mixture of measures that will be emphasised in the future. What is important is, among other things, the definition of what is meant when we say that the measures are working “well”. We have shown that the Action Zone in relation to contributing to increased employment and probably also in relation to other trade and industry effects has worked well, but that the total demographic consequences of these improvements are still uncertain.

The establishment of the Action Zone is thus an example of an ability, on the basis of co-operation between national interests in an area and regional mobilisation, to establish national strategies which are beneficial for development in a region. This will be of significance as we now enter into a period during which the administration of development in the northern areas will be far more complicated than was the case in the time of the Cold War. While this was previously a question for the USA, the Soviet Union, Canada, and Norway, there are now an abundance of organisations which can have a say in the area. In a future in which the northern regions of Europe will become an area characterised by many different types of user and interest groups, action zones represent a strategy which may strengthen national interests in the region. The most effective measure is already under pressure, however, from international institutions: the EU commission wants the graduation in payroll taxation removed. National policies do have an effect, but it is unlikely that it will be as easy in the future to initiate national programmes as it once was.

The European North within a Broader Arctic Community: How Does One Build a Northern Network?

Douglas C. Nord

It has been observed by more than one scholar of the European North, that a key feature of the Barents Euro-Arctic Region (BEAR) is its status as a bridge between several neighbouring communities—east-west, north- south, center and periphery (Dellenbrant and Olson, 1994; Neumann, 1994; Nielsen, 1994). Much discussion has been focused on the question of whether there is likely to be expanded contact between the several societies that border upon this area as a result of the end of the Cold War and the expansion of the European Union (Baecklund, 1994; Joenniemi, 1997). Likewise, much has been made of the potential for bringing into existence a cohesive Barents Community that can act collectively in dealing with the real challenges of economic growth, environmental protection and social development that confront the various peoples who reside in this area (Käkönen, 1996; Stokke and Tunander, 1994).

Less attention has been given to the question of how the Barents Region relates to the other neighboring communities of the circumpolar north. While a steady stream of new studies regarding

the character and potential for intra-regional cooperation has been produced (Dellenbrant and Wiberg, 1997; Joenniemi, 1998; Hønneland, 1998), very little in the way of scholarly attention has been directed toward the potential of “connecting” the Barents area to the wider circumpolar community. No doubt this due to the fact that the real pulls of European integration and regionalisation are felt more strongly in the Barents area than are the more distant and less visible linkages to Greenland, Canada, Alaska and the remainder of the Russian north. Nonetheless, it is important that these connections not be forgotten as the process of community building in the Barents Region should, ultimately, be linked to the effort to create a true circumpolar northern community (Lipponen, 1997; Grimsson, 1998).

This essay will endeavor to discuss some of the opportunities and challenges that confront the various Arctic societies in their efforts to establish meaningful social, economic, environmental and political links. It focuses its interest on the specific efforts of both national and regional governments, and a variety of circumpolar non-governmental organisations (NGOs) within the region, to build a greater sense of community and a common agenda for action. Specific attention is directed toward the establishment of the new Arctic Council and its potential for building a framework of cooperation on northern issues across the circumpolar world. Comparisons are made between its structure and operation and that of the cooperation councils already established for the Barents Region. Likewise, similarities are noted regarding the manner in which specific political, economic and strategic forces have shaped the character of their agendas and arenas for action. The final portion of the essay considers how progress in community building in the Barents Region is of a major importance to broader circumpolar cooperation and how the latter is an essential ingredient contributing to the ultimate success of the former.

Building an Arctic Community

The past decade has witnessed an explosion of new community building activities in the circumpolar north. As a result of the end of the Cold War, the “top of the world” has become less of a zone of conflict and more of area for potential cooperation (Young, 1992). Over the last years there has been a steady improvement in relations between former Cold War adversaries which has allowed for new bilateral and multilateral collaborative agreements in the areas of the environment, tourism, scientific research and regional development. During this same time period, important steps have been taken by both governments and non-state actors to establish solid frameworks for cooperation in these and other fields by creating a variety of organisations directed towards meeting the needs of the north (Young, 1993). Among the most important of these organisations have been the Inuit Circumpolar Conference (ICC), the Northern Forum, the Barents Councils, and the newly created Arctic Council. In addition, however, important community building initiatives have been undertaken by a series of NGOs including the International Arctic Social Science Association (IASSA), the International Council for Scientific Cooperation in the Arctic, the International Union for Circumpolar Health (IUCH), the Winter Cities Association and the Circumpolar Universities Association (CUA) (Lee and Schmitz, 1996).

As a result of the multiple activities undertaken by such groups and organisations, the peoples of the circumpolar north have begun to consider one another as neighbours and potential community partners in a manner that would have been inconceivable only a decade ago. As new linkages are established, a process of new community building has started to evolve. It is one that

challenges traditional state-centric ideas of international relations and tends to empower efforts of regional cooperation across national boundaries. It is also one that confronts traditional notions of center and periphery by endeavoring to create a new focus of identity and pride around the common features of the northern community (Simon, 1997).

This process of northern community building has not been without its critics both within and without the region. Some have suggested that there has been more talk about cooperation in the north than actual collaboration. They point to the seemingly gulf between the promises made between politicians and bureaucrats and the actual funding provided for circumpolar initiatives and research (Huebert, 1996). Others have questioned whether the rhetoric of a common circumpolar identity masks the reality of significant—and perhaps unbridgeable—gulfs between the separate patterns of economic, social and political development that have been followed by the various peoples of the regions (Honneland, 1998). Still other commentators have noted that the goals and objectives of circumpolar community collaboration may often run into conflict with the political and security interests of the individual nation-states and may be sacrificed to them (Käkönen, 1996).

Despite such criticism, steady progress has been made in helping to forge such a circumpolar identity. The creation of the Barents Councils in 1993 has had a major impact in opening lines of common discussion and collaboration between the several societies of this most-heavily populated sector of the circumpolar north and has provided a useful model of cooperation for other regions (Young, 1998). The coming together in 1994 of the various northern states under the Arctic Environmental Protection Strategy (AEPS), or the Rovaniemi Process has demonstrated a common desire to act collectively to address a major concern of northern residents. Likewise, the founding of the Northern Forum in 1991 has provided new opportunities for regional governments across the circumpolar north to work with one another in addressing the common challenges of economic and social development. The subsequent formation of the Arctic Council in 1996 represents an additional framework for establishing a growing circumpolar consciousness among the peoples of the region.

The Arctic Council

Clearly one of the most interesting developments in the creation of a true circumpolar community has been the establishment of the Arctic Council in September of 1996. The Council came into existence after a five-year campaign by the Canadian government to interest its circumpolar neighbours in establishing an ongoing organisational framework for discussing and taking action upon issues of concern to all societies of the circumpolar north (Huebert, 1996; Nord, 1996).

The Ottawa Declaration founding the organisation identifies areas of interest quite similar to those spelt out in the earlier Kirkenes Declaration. It calls for cooperative action in support of environmental protection and sustainable development in the entire Arctic region. It establishes the Council as the oversight and coordination agency for the Arctic Environmental Protection Strategy and its subsidiary activities. It makes the Council the central international actor responsible for overseeing and coordinating sustainable development initiatives in the region. It also suggests that the Council will become a significant player in the dissemination of information about the circumpolar world and a key proponent for education and research about Arctic issues. As such,

the Arctic Council is poised to become a central organizational actor within an evolving Arctic Regime (Nord, 1997).

In addition to these similarities in mission and purpose between the Arctic Council and the Barents Councils, there is a degree of structural and functional commonality between the two organisations. The Arctic Council, like the BEAR, is an intergovernmental body with representation accorded to the eight Arctic nations. Unlike the Barents structural formula, however, there is no accompanying organisational framework allowing for the representation of regional governments of the area. Instead, the native peoples of the circumpolar north — represented by the ICC, the Saami Council, the Association of the Indigenous Minorities of the North, Siberia and the Far East of the Russian Federation and the Aleut International Association—are accorded Permanent Participant status. There is some possibility, however, that in the future, the regional governments of the north may be given participatory rights as Observers either in their own right or through organisations like the Barents Regional Council or the Northern Forum (Government of Canada, 1998).

The recognition of key roles to be played by the indigenous peoples of the circumpolar north is a useful step forward in the community building process for the Arctic. However, the continued subservient status that these native groups are given vis-à-vis the representatives national governments of the Arctic states, points to the reality that the Arctic Council represents only a partial step away from traditional nation-state centric understandings of relations in the north.

So too does the explicit reluctance of the Arctic Council— like the BEAR—to include traditional security issues on its agenda (Huebert, 1998). This significant omission has raised concerns on the part of some observers regarding the ultimate effectiveness of the organisation over the long- term. On a more positive note, it has sparked a vital debate regarding the various forms of security— environmental, economic and civic—that the circumpolar north is likely to wrestle with in the coming decades (Government of Canada, 1998).

The ultimate key to the success of both the Arctic Council and the Barents Councils, will be their ability to effectively articulate the needs and concerns of their various community members and their willingness to take action toward improving their social, economic and environmental condition. There has been a good deal of criticism leveled at the BEAR for its reluctance to take action on a variety of fronts—especially where significant resources or innovative administrative approaches are required (Käkönen, 1996).

It has been noted, as well, that the bright promise of the Arctic Council has been dulled somewhat by a prolonged debated over its terms of reference and rules of procedure during its first few sessions (Huebert, 1998). Effective community building in the circumpolar north will require a greater willingness on the part of national governments to provide resources to meet pressing concerns in the area and a greater acceptance of regional and local “bottom-up” strategies in addressing them.

Connecting the Barents Region to the Wider Circumpolar North

As was noted at the outset of this essay, there is always the possibility that by concentrating too much on the process of community building in one sector of the Arctic — e.g. the Barents Region — the full promise of true circumpolar cooperation may be overlooked or forgotten.

This is not to say that the important steps taken to build Barents Region cooperation under the auspices of the Barents Euro-Arctic Council (BEAC) and the Barents Regional Council have not been critical to the ultimate success of the broader initiative. The opposite is the case. Barents Region cooperation has provided a demonstration of the fact that northern communities can work with one another in addressing common problems.

However, it needs to be kept in mind that many of the collaborative efforts that may be initiated at the local level may well have true circumpolar implications and applications. This is particularly the case with environmental issues. It has been well documented that ecological problems rarely respect human-made borders of any type—national or regional. Thus efforts, for instance, to reduce air and water pollution on the Kola Peninsula need to factor in not only regional costs and benefits but also the broader circumpolar implications of such initiatives (Huebert, 1998). This means, as well, that broader circumpolar assistance and collaboration should be offered in support of such worthwhile undertakings.

The same circumpolar calculus needs to be applied in adjacent economic realms as well. Discussion, for instance, of an Arctic sea route from the European North to the Pacific needs to involve not only Barents community members but the broader circumpolar society on both environmental and economic grounds. Likewise the development of improved air transportation and communication linkages for the Barents Region needs to be seen in a broader circumpolar perspective. Such expenditures should facilitate improved contact with northern societies around the globe as well as with southern communities within Europe (Nord, 1997).

The well-established European Union principle of subsidiarity—as well as the more internationally intoned idea of “think globally and act locally” should be used to temper an overly demanding circumpolar perspective. However, it needs to be regularly remembered that Barents collaboration is ultimately dependent upon effective circumpolar cooperation. The history of the Cold War era clearly demonstrates this.

So too does the continuing reluctance of Russia and the United States to include traditional security issues of the agendas of both the Barents and Arctic Councils (Young, 1997).

In an era in which we are witnessing a slackening of the traditional political and social bonds between Europe and North America, the circumpolar societies of both regions cannot afford to be out of close contact with one another—or for that matter with the northern communities of Russia. Future distancing pressures arising from either renewed nationalism or competing economic memberships such as North America Free Trade Area (NAFTA) and the EU need to be resisted.

The important shared goals and opportunities that arise from effective cooperation in the Arctic across both national and regional boundaries need to be highlighted. Northern societies can and need to learn from the experiences of one another. These areas which have traditionally lacked appropriate attention from their own national governments, need, in the future, to work more closely with one another to jointly address their common economic, social and environmental challenges. This is the foundation for true community building—whether it be done on a regional or truly circumpolar basis.

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Russian Policy towards the BEAR: from ‘Hard’ to ‘Soft’ Security

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This paper examines the shift in Russia’s security policies in the Barents Euro-Arctic Region (BEAR) which took place in the post-Communist period. In particular, it focuses on the non-military aspects of Moscow’s policy or the so-called ‘low-key’ issues which are of increasing importance in the post-Cold War era. I also analyse how recent changes in Russian security thinking affected Moscow’s threat perceptions.

Threat Perceptions

During the Cold War period the BEAR was perceived by the Soviet leadership as a region of extreme strategic importance in the event of a global military confrontation with the West. However, with the end of the Cold War and disappearance of the threat of a global nuclear war the Russian leadership has found itself in a completely new situation.

The new Russian national security doctrine adopted in December 1997 emphasises that Russia faces no immediate danger of large-scale aggression. The document says: “An analysis of the

threats to the national security of the Russian Federation shows that the main threats at present and in the foreseeable future will not be military, but predominantly internal in character and will focus on the internal political, economic, social, ecological, information and spiritual spheres” (Yeltsin, 1997: 4). This is a distinct departure from the previous doctrines. For example, the draft of the military doctrine of 1992 and the military doctrine of 1993 were based on the assumption that the main threat to Russia’s security was posed by the external factors such as local conflicts, territorial claims or violations of rights of Russian-speaking minorities in the former Soviet republics (Ministry of Defence of the Russian Federation, 1992; Yeltsin, 1994).

The national security concept focuses in particular on the dangers posed by Russia’s economic woes, such as a substantial drop of production and investments; destruction of the scientific-technical potential; disarray in the financial and monetary systems; shrinkage of the federal revenues; growing national debt; Russia’s overdependence on export of raw materials and import of equipment, consumer goods and foodstuff; ‘brain drain’, and uncontrolled flight of capital.

The document also points to internal social, political, ethnic, and cultural tensions that threaten to undermine both the viability and the territorial integrity of the Russian state. Among these social polarisation, demographic problems (in particular, the reduction of the birth rate, average life expectancy and population), corruption, organised crime, drug trade, terrorism, virulent nationalism, separatism, deterioration of the health system, ecological catastrophes and disintegration of the common spiritual ‘space’ are singled out.

At the practical level, however, Russian threat perceptions of the BEAR represent a mixture of traditional and new approaches. On the one hand, the military and some defence specialists believe that despite disarmament and US-Russian rapprochement, the north is still important for Russia from the strategic defence point of view. According to this school, the Archangel Air Defence Sector is crucial for the prevention of surprise attack over the North Pole. The Norwegian Sea is the main launch area for Western seaborne attack, so, these analysts maintain, the Russian Navy should still be concerned about the readiness of its anti-submarine forces in the Arctic. They also stress that NATO naval intelligence operations in the area became even more active. The collision of an American and Russian submarine in the Barents Sea in the spring of 1993 supports Russian concerns (Dellenbrant and Olsson, 1994: 168).

In this view, the arms control process, particularly the 1991 US-Russian Treaty on the Reduction and Limitation of Strategic Offensive Arms (the START Treaty) makes the BEAR especially important for Russian strategic defence. Under the START I Russia should eliminate the greater part of its intercontinental ballistic missiles (ICBMs). The role of airborne and sea-based missiles will therefore be enhanced. The Kola Peninsula and White Sea coast are the biggest submarine bases in Russia: 18 of 29 (62 per cent) of Russian nuclear-powered, ballistic missile submarines (SSBNs) are based here (International Institute for Strategic Studies, 1997: 112- 113).

Moreover, the significance of the region has increased in relation to the redeployment of Russian nuclear and space facilities from Kazakhstan. On the other hand, the Russian leadership repeatedly emphasised declining significance of military factors and increasing importance of disarmament for the Russian North. The national security concept declares that in preventing war and armed conflicts Russia prefers political, economic and other non-military means. The document also emphasises importance of Russia’s strategic forces to the country’s security and again, as the

military doctrine of 1993 did, disavows the no-first-use principle. However, this hardly can be interpreted as Russia's orientation to preparations for a large-scale war. Rather, Moscow's emphasis on nuclear weapons could be considered as a compensation for its conventional weakness. In line with Western strategic thinking Russia views this weaponry as a political deterrent rather than a real military instrument. With regard to conventional weapons, the concept proclaims a policy of realistic 'deterrence' in discarding officially any effort to maintain parity with the armed forces of the world's leading states.

In the 1990s, Russia provided the Leningrad Military District (MD) with a more defensive configuration. In 1990-97 the number of motor rifle divisions in the MD fell from 11 to five, the number of tanks was reduced from 1200 to 870, and the numbers of artillery, multiple rocket launchers and mortars fell from 2140 to 1000 (International Institute for Strategic Studies, 1990: 39-40; 1997: 109). The district's contingency planning was re-targeted mostly to conduct non-offensive tasks.

Over the same period, in the Northern Fleet the number of submarines fell from 153 (37 strategic and 116 tactical) to 73 (18 strategic and 55 tactical) and the number of surface ships from 370 (60 principal combatants, 40 patrol and coastal combatants, 65 mine warfare, 15 amphibious and 190 support ships) to 269 (43 principal combatants, 18 patrol and coastal combatants, 30 mine warfare, 24 amphibious and 154 support vessels) (International Institute of Strategic Studies, 1990: 39-40; 1997: 112).

In 1997 Moscow launched a programme of far-reaching arms control and confidence-building initiatives. For example, in accordance with the Yeltsin's Stockholm initiative, Russia will unilaterally reduce by 40 per cent its land and naval groups in the North West of Russia. Only units not exceeding division and brigade levels will be stationed in the Kaliningrad Region and the Leningrad MD (Kvashnin, 1998). The entire Russian armed forces should be cut from 1.8 mln to 1.2 mln by the end of 1998 (RFE/RL NewsLine, 21 January 1998).

Explaining these Russian moves the Russian Defence Minister Igor Sergeev said that "Northern Europe is the most stable of Russia's borders, and Russia believes it is possible to make such a cutback" (The Electronic Telegraph, 4 December 1997). The troop reduction is also required by Russia's budget crisis, which has starved the armed forces of money, leaving conscripts hungry and officers unpaid for months.

Along with further unilateral arms reductions, Moscow favours multilateral arms control initiatives and confidence and security building measures (CSBMs) involving other countries of the region as well as NATO member states. Given the dramatic changes in the European geopolitical landscape after the dissolution of the Warsaw Pact and NATO enlargement Russia insists on revising the Conventional Forces in Europe Treaty. According to Moscow's proposals, a new treaty should include all OSCE states (i.e. the Baltic states, Finland and Sweden), zone limits should be dropped or replaced by subregional limits based on a quite different approach, and, generally, a new military balance on the continent should be restored (Segodnya, 5 May 1995: 3).

It is noteworthy that the CFE Treaty is applicable only to land forces. Naval armaments are mainly excluded from the negotiation process. Moscow is disappointed with NATO's reluctance to extend the arms control process on the seas. According to Volker Heise, the basic hesitancy of some NATO nations regarding naval armaments limitations on the Baltic Sea seems to be that if

you initiate naval arms control in one of the seven seas included into the NATO's zone of responsibility, this could lead to restrictions on maritime flexibility in the other seas as well (Heise, 1996: 219).

Some Russian and Western experts believe that along with the arms control process, extension of the CSBMs to the sea could be a useful addition to the Vienna Document 1994 regime in the region (Goodby and Morel, 1993: 262; Joenniemi, 1993: 114-117). Coordination of naval exercises schedules, any increase in naval power or essential naval activities by NATO, Russia and non-NATO Nordic countries, inspections and study missions, exchanges and visits between the fleets and military academies or discussions of the naval doctrine and force posture of all sea powers of the region could contribute to mutual understanding. One of the problems for the future discussions could be the issue of accident assistance. For example, assurances could be exchanged that help will be provided and accepted when needed. This could be codified in a special agreement between Arctic countries, or it could be done as an expansion of or in a protocol to the US-Russian Incidents at Sea and the Prevention of Dangerous Military Activities agreements.

It should be noted that the radical change in Russian threat perceptions and security thinking created a completely new atmosphere in the region which may be conducive not only for further arms reductions and developing confidence and security-building measures but also for introducing new models of security.

The Changing Meaning of Security

Similar to the Law on Security of 1992 (Yeltsin, 1992: 5) the new Russian national security doctrine is based on a broader understanding of the notion of security in which the non-military issues such as economy, social problems, environment, demography, information, culture and religion are included. The document underlines that indivisibility of security, interconnection and balance of its different types is one of the main principles of Russia's national security policy.

In line with the democratic principles, the concept acknowledges the need for ensuring national security at three levels - the individual, society and the state. The doctrine underlines that Russia has no intention of entering into confrontation with any state or alliance of state, nor does it pursue hegemonic or expansionist objectives. Russia will maintain relations of partnership with all the interested countries of the world community.

Both the benign security environment in the BEAR and the fundamental changes in Russian security thinking facilitated Russia's shift from the 'hard' to the 'soft' security domain. A number of 'soft' security issues and simultaneously potential areas for cooperation between Russia and the Nordic countries can be identified.

Economic Security

According to the Russian national security doctrine, economic troubles pose the main threat to the country's security. At the regional level several problems can be highlighted. (1) *Disparities in economic development of regions*. The Russian North does not represent a homogeneous region in terms of economy and well-being. Regions (oblasts), republics and national autonomies differ by their specialisation, economic and social structures, productivity of labour, efficiency, industrial, technological and scientific capacities, export-import orientations, etc.

While the Karelian Republic, Yamalo-Nenets and Khanty-Mansi autonomous districts are doing relatively well, there is a deep economic recession in Archangel, Murmansk and Vologda Oblasts, Komi Republic, Evenk, Koryak, Chukotka and Komi-Permyatsky autonomous districts. For example, in Yamalo-Nenets and Khanty-Mansi autonomous districts and the Karelian Republic average family income exceeds the living wage 2.90, 2.39 and 1.56 times respectively. However, in Archangel Oblast, Evenk, Koryak, Chukotka and Komi-Permyatsky autonomous districts this indexes are 0.96, 0.8, 0.85, 0.73 and 0.5 respectively. Chukotka autonomous district, Komi Republic and Archangel Oblast are on the top of the list of regions where wage arrears are particularly high (Argumenty i Fauty, N 50, 1998: 12).

Some regions such as the Karelian Republic, Murmansk and Archangel Oblasts are rather active in foreign trade and attracting foreign investments. For example, more than 80 countries are trade partners of the Karelian Republic. Starting from 1992 this republic received over \$43 million in foreign investment. There are over 200 joint ventures in the Karelian Republic. From 1991 to 1997 the exports increased 25 times and reached \$600 million in 1997 (Ministry of Foreign Relations of the Republic of Karelia, 1998: 4-5). At the same time, many northern regions (Vologda Oblast, Evenk, Koryak, Komi-Permyatsky, Yamalo-Nenets and Khanty-Mansi autonomous districts) are nearly isolated from international cooperation.

While the Karelian Republic, Komi Republic, Murmansk and Archangel Oblasts have got a solid scientific and educational base (dozens of universities and research institutes are located there) which facilitates developing a high-tech industry, many northern regions have no higher education institutions at all and their economies are mainly oriented to extracting national resources.

In turn, economic disparities between regions are detrimental to subregional cooperation and, moreover, fuel inter-regional rivalry.

(2) *Capital flow.* While some northern regions (the Karelian Republic, Archangel and Murmansk Oblasts) managed to prevent capital flow and channel money to the local economy, other regions (even relatively wealthy or donor regions such as Yamalo-Nenets and Khanty-Mansi autonomous districts) were literally devastated by Moscow-based financial-industrial groups (FIGs). For example, the Khanty-Mansi autonomous district lost 100 billion roubles during the first three months of 1993 due to machinations of the Moscow commercial banks (Baranov and Pirozkov, 1993: 57). Apparently, the capital flow undermines both financial resources and economy of a region and increases disparities between the members of the Russian Federation.

(3) *Overdependence on import of foodstuff and natural resources.* All the northern provinces (even relatively stable and economically viable the Karelian Republic) are dependent on import of foodstuff, fuel, energy and consumer goods from other Russian regions and foreign countries. For example, petrochemical products, foodstuff and clothing and footwear constitute 28, 10 and 3 % of the Karelian Republic's import respectively (Ministry of Foreign Relations of the Republic of Karelia, 1998: 5). Some regions, such as, for instance, Chukotka or Taimyr have to import nearly 100 % of foodstuff and fuel.

This makes the Russian North dependent on the federal centre, on the one hand, and exposed to any crisis or disruption of economic, financial and trade connections with 'mainland' Russia and foreign countries, on the other hand. The ongoing economic crisis in Russia is especially grave in the North. Among the twelve 'energy crisis regions' identified as particularly vulnerable six are

located in the Arctic area. These include Archangel, Kamchatka and Magadan Oblasts, Chukotka and Koiyak autonomous districts and the north of Krasnoyarsk Province (Kray) (ITAR-TASS News Agency, 4 September 1998). In late September 1998, the Russian government adopted a special programme to provide the Russian North with foodstuff and fuel for the winter season.

The recipients included Republic Sakha- Yakutia (579 million roubles), Kamchatka Oblast (123 million roubles), Magadan Oblast (182.7 million roubles), Koryak autonomous district (114.8 million roubles), Taimyr autonomous district (151.5 million roubles), and Chukotka autonomous district (286 million roubles) (Rossiyskaya Gazeta, 3 October 1998: 5). However, this programme was unable to cope with numerous problems of the Russian North.

As a result of Moscow's inability to meet economic challenges, the rumours about evacuation of northern territories circulated in the Russian and foreign mass media. Some regional leaders called for international humanitarian assistance. For example, the Murmansk governor asked the Norwegian, Swedish and Finnish governments to supply foodstuff to the troubled region. In October 1998 the Kamchatka legislative assembly called on the UN to provide local thermal electric power stations with 120 000 tons of fuel oil and 30 000 tons of diesel fuel (Rossiyskaya Gazeta, 31 October 1998; 3).

(4) *Militarisation of the region.* Since the Soviet period the economy of the Russian North was highly militarised and oriented to arms production, repairing military equipment, and providing the military, space and atomic agencies, and border guards with infrastructure. With the end of the Cold War the Russian military-industrial complex found itself in a deep crisis. Many defence enterprises failed to adapt to the new realities and stayed idle.

Because of the strategic importance of the Russian North many areas on the Kola Peninsula and Arctic coast are closed not only for foreigners but sometimes also for Russian citizens. There are, for example, six closed towns on the Kola Peninsula, which are directly subordinated to Moscow and are not properly integrated into economic, social and political life of the region. After the October 1993 conflict between the President and the Parliament Moscow tried to strengthen its control over the regions' foreign relations. For example, in the Archangel Oblast the town of Severodvinsk (a submarine base) was again closed for foreigners, some sections of the White Sea were closed again after having been opened, and the visa regime was sharpened for the whole oblast (Goerter-Groenvik, 1998: 103)- Novaya Zemlya, where a nuclear testing ground is located, was put under direct military control from Moscow.

Moscow is extremely reluctant to allow the northern territories to establish free economic zones (FEZs). Despite the long-standing idea to create a FEZ in the city of Kostomuksha near the Finnish border the government of the Karelian Republic is still unable to overcome numerous 'technical difficulties' some of which were generated by the tacit resistance of the military. This hinders development of economy and cooperation with foreign countries.

Environmental Security

Along with economic troubles, numerous ecological problems are characteristic to the Russian North. The environmentalists have distinguished a number of ecological problems affecting Russia, its neighbours, and the global environment:

(1) *Forest (taiga) and bog destruction.* Industrial and agriculture activities destroying forests and bogs in Siberia and on the Kola Peninsula violate the regional ecosystem balance, deteriorate animal and human living conditions, and increase the 'greenhouse effect' (Heininen and Käkönen, 1991: 129-149). The latter may result in a long-range climatic change. Because of the greenhouse effect, biologists predict that tundra areas will shrink and forests will creep north along coasts, up mountain slopes, and into former tundra areas (Osherenko and Young, 1989: 125- 126). These processes would likewise change the composition of plant and animal communities. This warming trend has major implications for human activities in the North (offshore and onshore oil drilling, hydroelectric projects, and agriculture).

As Russian forests make up 25 % of all the world's forestry, they play a tremendous role in the functioning of the global biosphere and the climate of the planet. The Siberian taiga absorbs as much, or even more, carbon dioxide as the planet's rain forests, thereby stabilising the atmosphere ('A Transformed Russia in a New World', 1992: 96). Scientists also point out that an additional effect of deforestation consists of the soil releasing more methane into the atmosphere than before. Methane is a powerful gas which alters the atmosphere to a far greater extent than carbon dioxide, thus speeding up the greenhouse effect.

Despite the significance of the taiga for the biosphere, the Gorbachev and Yeltsin administrations have allowed Russian companies and joint ventures to increase their timber exports to Finland, Japan and South Korea. Consequently, the taiga has shrunk rapidly threatening both the world-wide ecological balance and the traditional culture of some national minorities (Deinichenko, 1996: 10).

Reflecting international concerns, a parliamentary conference was held in 1992 in Washington, DC. Initiated by EU representatives, a special resolution on Siberian forests was adopted ('A Transformed Russia in a New World', 1992: 96).

(2) *Water pollution.* According to some data, Russian oil companies pour some 20 to 30 million tons of oil into Siberian forests and rivers ('A Transformed Russia in a New World', 1992: 96). The daily waste of local industries in the St Petersburg area amounts to 120 tons of ammonium, 40 tons of nitric anhydride, 132 tons of oil products, 36 tons of phosphor, 50 tons of iron, and 2 tons of phenol (Kukk, Jervell and Joenniemi, 1992: 114). Barely some 2/3 of industrial waste water is purified. Further, the sediment that is created after the cleaning is usually thrown into the Neva river or the Gulf of Finland. As a result of a dam construction near St Petersburg, coastal water pollution has increased 1 and 1/2 times (now being 1500 mm/m³) during the last 5 years.

The Kola Peninsula, another northern region of Russia, is in real trouble too. According to the hydrometeorological service in Murmansk County, of the 514 water samples taken and analysed in the first half of 1991, one third were classified as containing a high degree of pollution, and of these, a further one third contained an extremely high degree of pollution (International Challenges, 1992, vol. 12, no. 4: 36). The industrial centres most exposed to water pollution are Murmansk, Monchegorsk, Nickel and Kandalaksha.

(3) *Terrestrial pollution.* Major mineral and metallurgy exploitation activities in Siberia and on the Kola Peninsula have disrupted the land scape in many places. Exploration for oil and gas, the development of new fields and other activities connected with petroleum affect heavily the

interests of reindeer herding. Military exercises and transport are very damaging to the environment as well.

(4) *Radioactive waste.* The environmentalists believe that the northern part of Russia and the Arctic Ocean are most vulnerable to nuclear contamination. Radiation emanating from nuclear munition factories in Krasnoyarsk, Tomsk, Chelyabinsk used to float into the Arctic Ocean down the great Siberian rivers ('A Transformed Russia in a New World', 1992: 97).

From 1964 to 1991, fluid and solid radioactive waste has been dumped in the Barents and Kara seas. According to the Yablokov Commission's report, the Soviet Union has dumped 16 nuclear reactors in the Kara Sea (including 6 with nuclear fuel). Also, a container with nuclear waste from ice-breaker 'Lenin' has been dumped. General radioactive waste amounts 319 000 curie in the Barents Sea and 2 419 000 curie in the Kara Sea (Izvestiya, 1993, April 20; International Herald Tribune, 1993, April 28; Gizewski, 1995: 25-41).

The Yablokov Commission remained very pessimistic with regard to the prospect of either reducing or completely stopping the dumping. Still, the first plant for fluid waste processing was planned to be ready by 1997 provided the government keeps to the current level of funding. Even so, the problem of solid waste processing has not yet been resolved even on the theoretical level.

Reactor operation involves the transport, processing, shifting and storage of radioactive fuel and waste. According to the Norwegian State Nuclear Inspection, the storage of highly radioactive used fuel on board vessels, as was the case in Murmansk City, represents an unacceptably high safety risk (see Heininen in this volume).

In 1996, the Norwegian environmental organisation, Bellona, issued a report singling out the Northern Fleet as a main source of ecological threat. After the dumping was stopped in 1991, the storage facilities for liquid and solid waste were filled rapidly. The development of stationing systems, and the technical maintenance and repairs of naval nuclear-powered ships lagged far behind the production of those ships with the new requirements. The report describes several accidents which have occurred at spent nuclear fuel storage locations. It provides a detailed description of the accident which happened in Andreyev Bay in 1982, only 45 kilometres away from the Norwegian border. The authors of the report conclude that the situation has become disastrous because the stored nuclear fuel cannot be removed for at least another 30 to 40 years (Tereshkin, 1996: 6).

Meanwhile, the report has evoked a fierce reaction from both commanders in the Northern Fleet and Russian counterintelligence, Bellona was accused of being the Trojan horse of the Western intelligence services. Alexander Nikitin, a retired Russian naval officer who co-operated with Bellona and contributed to the said report, was arrested as a spy after supposedly gathering secret information on Russia's nuclear submarines (Tereshkin, 1996: 6; Gordon, 1996: 6).

Other Security Challenges

(1) *Organised crime and drug-trafficking.* Given the social instability in the country, weakness of the Russian law enforcement system, corruption and numerous mistakes in the course of privatisation organised crime became a serious threat to the Russian society. It should be noted that the Russian North is a particularly lucrative area for criminals because the region is rich in natural resources and some of its parts are located in the border areas. Criminal groups tried to

use privatisation of some companies to establish control over the local economy (for example, privatisation of the Norilsknickelkombinat in the Taimyr autonomous district). The Russian mafia also aims at creating a 'Nordic corridor' for smuggling and drug-trafficking from the Russian northern territories to Europe. This is perceived as a threat not only by Russia but also by the Russian neighbours. According to some polls, 89 % of Finnish respondents consider the spread of professional crime from Russia to Scandinavia as a serious or fairly serious threat (The Finnish Institute of International Affairs, 1992: 29).

(2) *Indigenous peoples.* The social modernisation and industrialisation of the region during the 20th century as well as numerous political upheaves and the lack of attention to the problem posed a threat to the ethnic identity and culture of national minorities in the Russian North. The deterioration of the health and welfare systems, the reduction of birth-rate and average life expectancy, and the spread of alcoholism posed a real threat to the physical existence of some of these peoples.

While, for example, Karelians, Komi, Lapps and Saami managed to preserve and develop their cultures and languages, other ethnic groups may well lose their identity or be assimilated. The lack of finance in the context of the ongoing crisis aggravates the situation.

(3) *Demographic problems.* With the reduction of federal financial support to the northern territories, cuts in the military personnel, abolition of some special privileges for the inhabitants of the High North and the hardship of life under the economic crisis led to mass migration from the region to 'mainland' Russia. Depopulation of the region became an important economic, social, demographic and cultural problem. It is impossible to complete reforms and revive the Russian North without a skilled and well-educated labour force, and motivated and dynamic leaders. It is obvious that both the local and federal authorities badly need a special programme to stop further depopulation of the region and attract specialists to the Russian North.

Regionalism: a Proper Solution?

Despite the numerous economic, social, ecological, demographic and cultural problems there are no existential threats to the Russian North comparable, for example, to the threat of a global nuclear war in the Cold War period. 'Soft security' challenges to the region could be met without military preparations or mobilisation of the entire country. Many Russian and foreign experts believe that given the weakness of the federal centre regionalism could be an adequate response to the above challenges.

It should be noted that several concepts of regionalism, often mutually exclusive rather than complimentary, are circulated in the Russian scholarship. Prior to the economic crisis of 1998, regionalism was mainly understood as Moscow's policy towards the members of the Russian Federation based on redistribution of resources between regions via the federal budget and subsidies (the so-called budgetary federalism). However, this top-down model of state intervention in a region proved to be inefficient in the light of systemic crisis in Russia and new concepts interpreting regionalism as a phenomenon stemming from civic society (the so-called down-top model) took root.

Remarkably, with the 'help' of the crisis of 1998 many Russians discovered that civic society, albeit in an embryonic form, really exists in the country and is much more reliable than the state which

failed to follow its commitments and deceived its citizens once again. The crisis stimulated individuals, groups and organisations to form a system of non-vertical, horizontal networks and connections which is a basis for civic society. Subregional, interregional and transregional cooperation can be considered as a part of this endeavour.

Operationally, three main levels of regionalism in Russia generally and in the Russian North particularly can be distinguished.

The first level is bilateral cooperation between members of the federation ranging from economic, social, environmental to cultural and even security issues. Such cooperation is developed by both neighbouring regions (for example the Karelian Republic and the Murmansk Oblast) and regions which have no common borders but share common interests (for example, the Komi Republic and the Karelian Republic). The bilateral cooperation used to be institutionalised in the form of agreements between local governments and/or individual companies, enterprises, universities, NGOs, etc. This level is a basic unit for other forms of regionalism. The second level of regionalism in the Russian North is subregional cooperation. There is a number of subregional associations in Russia, such as the Greater Volga Association, Chernozem Association, Ural Association, Siberian Accords Association, etc., which mainly deal with economic and social issues. The Northwest Association is the only one of this type of organisations in the northern part of Russia. This association has been created in the Soviet times and, in fact, has not changed its functions fundamentally since then. The members of this association (the Leningrad, Murmansk, Archangel, Vologda, Pskov, Novgorod and Tver Oblasts, the Karelian and Komi republics) meet several times each year to discuss issues of common interest which need coordination, such as transport, communication, foodstuff and fuel supplies, and joint projects. The Northwest Association is administered from St Petersburg and is seen by some analysts as its tool in the struggle for regional domination (Goerter- Groenvik, 1998: 96).

However, on the other hand, the members understand that this association is rather useful in managing the Russian North, a vast area which is a natural economic and historical region and has many common economic, social, environmental and cultural problems to share. It is remarkable that after the crisis of 1998, along with other subregional organisations, the Northwest Association intensified its activities.

At the same time, the institutional framework (Northwest Association) does not necessarily correspond to the economic complexes which emerged in the Soviet period and still remain effective. While the association includes members from the Baltic, Central Russian and Ural regions and is administered by St Petersburg, a city with a double - Baltic and Nordic - identity, economic constellations are mapped in a different way. St Petersburg was traditionally a centre of the Northwest Economic District which included the Leningrad, Novgorod and Pskov Oblasts. According to the Soviet scheme, the Karelian Republic, the Murmansk, Archangel and Vologda Oblasts and the Komi Republic formed the so-called Northern Economic District. The latter consisted of the two subregions: the Karelia-Murmansk and Dvina-Pechora economic subdistricts. The Tver (Kalinin) Oblast belonged to the Central Economic District (Lappo, 1983: 328-347).

These districts had independent or semi-independent economic, transport, social and administrative structures and fulfilled different functions in the Soviet highly centralised economy. These Soviet-designed regional differences still affect the local economies and division of labour

between regions. For this reason, the Northwest Association, albeit it reflects a new 'correlation of forces' in the Russian North and addresses a new set of economic and social problems, is unable to meet the whole range of challenges and satisfy all the needs of subregional actors.

Along with the legacy of Soviet economic regionalism, inter-regional rivalry and power ambitions of regional elites pose challenges to the existing institutional framework. For various reasons, Petrozavodsk, Murmansk, and especially Archangel, are discontent with the leadership of St. Petersburg and looking for alternative options. The idea to create a White Sea Council, strongly supported by the leadership of the Archangel Oblast, is one of the signs of the growing need for a new institution. The formal initiative for the establishment of this council was taken by the academic organisation Solovetskiy Forum in September 1997 in Arch angel, on the occasion of the 70 year anniversary of the Archangel Oblast (Goerter-Groenvik, 1998: 97).

The Archangel and Murmansk Oblasts and the Karelian Republic have already officially expressed support for the idea. Also the Nenets autonomous district, which used to be a part of the Archangel Oblast, is said to have given positive signals so far, but have not confirmed it in a written form. However, there is strong opposition to the inclusion of the Komi Republic into the new association because of ethnic reasons as well as its relative economic strength (compared to Archangel) and 'special relationship' with Moscow.

The third level of regionalism is international cooperation in the BEAR context. Similar to the first and second levels, international cooperation develops both in bilateral and multilateral formats.

The Nordic countries pay a lot of attention to bilateral cooperation with the adjacent Russian regions. For instance, in May 1996, the Governmental Committee on Foreign and Security Policy adopted a document titled 'Finland's Strategy for Cooperation in the Neighbouring Areas of North-West Russia and the Baltic Republics' which became a conceptual basis for the Finnish-Russian cooperative effort (Heininen, 1998: 30-31). In 1992-97 Finland spent 540 million marks on cooperation with the Karelian Republic, Murmansk Oblast and St. Petersburg. Over 400 projects were completed and 170 were in 1997 still in progress (Moshes, 1998: 8). Trade between Russia and Finland was growing dynamically in the 1990s. If in 1992 it was about 10 billion Finnish marks, then in 1997 it exceeded 25 billion (7% of Finnish and 3-6% of Russian foreign trade) (Moshes, 1998: 4-5). Russia became the fourth largest economic partner of Finland. Trade between the two countries is facilitated not only due to the common border, but also due to lower transportation costs.

Finland and the Karelian Republic traditionally cooperate in areas such as economy, transportation, communication, tourism, ecology, culture and so on. Even in the Soviet period cooperative relations prevailed over the politics of confrontation. A number of joint projects were implemented in the Karelian Republic that were unique for the Soviet relations with the West, such as the establishment of a large-scale ore-processing enterprise and the city of Kostomuksha on the border in the 1970s. In the post-Communist period Finnish-Karelian economic and cultural cooperation has been successfully continued. Fifty-six per cent of joint ventures were established with the Finnish participation. It was decided that Kostomuksha FEZ would receive an international status in the framework of a special agreement between Russia and Finland. The unique geographical location of the republic on the border of Russia and the EU, the historical specialisation of the Karelian economy made it one of the leading exporters among the members

of the Russian Federation, where the share of exports exceeds 40% of the total volume of output (Ministry of Foreign Relations of the Republic of Karelia, 1998; 4). In fact, the Finnish and Karelian economies are complimentary and an embryo of the mechanism of interdependency has been created.

There is also some progress in Russian-Swedish economic cooperation. During Yeltsin's visit to Stockholm (December 1997) the two countries signed an agreement that called for studying the question of gas deliveries from Russia to Sweden. Yeltsin praised Swedish businessmen for being active on the Russian market. Swedish investments in Russia are now bigger than those of France, Spain and Japan. Only eight countries are investing more (Johnson's Russia List, no. 1408, 4 December 1997). Trade between Russia and Sweden increased from \$1.1 billion (1995) to 1.9 billion (1997) (Moshes, 1998: 5). Most of the municipalities in the Nordbotten County have established twin-town cooperation with municipalities in the Russian part of the BEAR. A number of Russian companies are sub-contractors to Swedish companies, for instance, in the electronic equipment industry. Joint research projects are running, including the field of Cold Climate Technology (Sundström, 1997: 86-87). However, the lack of a common border between the two countries and Russia's traditional orientation toward cooperation with Finland prevent more close cooperation between Swedish and Russian northern regions. In turn, Stockholm is more interested in cooperation with the Russian regions located in the Baltic Sea area rather than in the BEAR.

Russian-Norwegian economic cooperation developed rather success fully in the 1990s. Trade between the two countries accounted for \$428,6 million in 1995 and \$612,2 million in 1996. The share of the Russian north-western regions was \$226,5 million (52.9%) and \$306,6 million (50.1%), respectively (Sutyryn, 1997: 216). Development of the Russian gas and oil resources is one of the main priorities for the two countries. For example, together with the Russian RAO Gazprom the Norwegian company Norsk-Hydro participates in the project of the Shtokman gas field development. In 1997 RAO Gazprom conducted seismic works in the Varandei Sea oil field with the help of the Statoil. Since 1990, every season, the joint expeditions of Russian, Norwegian and Finnish specialists have been organised to study ice conditions and their impact on offshore units and vessels (Nikitin, 1997: 93-94).

Development of telecommunications in the Russian North is another priority of Russian-Norwegian cooperation. The Norwegian Telenor AS is gradually increasing its activities in Archangel, Murmansk, Petrozavodsk and St. Petersburg. For example, Telenor introduced telephone directories in these cities. In 1996, Telenor has, in cooperation with the Russian long-distance operator Rostelekom, taken the initiative to establish a new Russian public international switch in Murmansk. This could facilitate seamless cross border routing of tele-traffic and improve the situation for international calls from the north-western Russian regions (Hermansen, 1997: 111-115).

Russia cooperates with the Nordic countries not only in the field of economy but also in other areas. For instance, Finland and the Karelian Republic exercise a joint monitoring of the ecological situation on the Finnish-Russian border. Norway pledged NOK 300 million (ECU 37 million) for a modernisation of the Pechenganikel metallurgical combine to reduce transboundary pollution (Sigurdsson, 1997: 133-134; Sawhill, 1998: 66). A Russian-Norwegian agreement on cooperation concerning cooperation on the combat of oil pollution in the Barents Sea was adopted in 1994, introducing notification commitments in emergency situations and requiring the two countries to

elaborate a Joint Contingency plan (Stokke, 1997: 170). Russia and Norway also have an arrangement pertaining to the fisheries of the Barents Sea.

Moscow signed a number of quite promising agreements with Sweden and Norway on handling nuclear waste and nuclear safety issues. According to these documents priority should be given to the following concrete projects: the Nordic Environmental Finance Corporation (NEFCO) to remove hazardous nuclear waste stored on board the vessel *Lepse* in Murmansk; the Arctic Military Environmental Co-operation (AMEC) which also aims at treatment of radioactive waste in Murmansk; the joint Norwegian- Russian arrangements on environmental co-operation in connection with nuclear submarine dismantling; and multilateral energy efficiency projects under the Barents Euro-Arctic Council, International Atomic Energy Agency (IAEA), Economic Commission for Europe (ECE) and Energy Charter auspices (Rossiyskaya Gazeta, 13 March 1997).

The Russian, Finnish and Norwegian border guards and customs services also develop rather intense programmes of cooperation to prevent illegal migration and smuggling.

Along with bilateral channels some multilateral institutions are available in the region. Among them the Barents Euro-Arctic Council (BEAC) is the most important one. It should be noted that the Russian government supported an idea of a Barents Sea regional co-operation from the very beginning. In January 1993, the then Russian Foreign Minister Andrei Kozyrev told the conference in Kirkenes which set up a regional organisation, that the idea of broader Euro-Arctic cooperation proposed by Norway was for Russia “a prototype of a future system of interrelated cooperation zones stretching from the Barents Sea through the Baltic states to Central, Western and Southern Europe” (Izvestiya, 12 January 1993).

Kozyrev has also expressed a desire to reduce the level of military concentration in the Russian North. Prior to the Kirkenes meeting, he declared that “the Arctic will cease to be a theatre of military competition”. In Archangel in April 1993, he said it was “high time to open up the Russian North for equitable international contacts, to restore the ancient importance of Archangel as Russia’s northern gate”. He added that the time had come to “wrest the Russian North once and for all from the clutches of the legacy of Soviet policy” which, he said, had turned the region into a “besieged fortress” and a zone of concentration camps. He also expressed the hope that “the Northern Fleet would be able to exploit the opportunities for merchant shipping in the region” (Dellenbrant & Olsson, 1994: 168).

The BEAR cooperation regime has a two-level decision-making structure. On the national level, the BEAC, consisting of the foreign ministers (or other ministers, e.g., ministers of environment or transportation) from the four founding states (Finland, Norway, Russia and Sweden) as well as representatives from other interested nations, makes strategic decisions. The leaders of regional governments meet in the Regional Council to discuss more concrete problems. National secretariats in each state coordinate activities of these two bodies.

Since the creation of the BEAR in 1993 a number of the Russian regions participate in the cooperation process. In addition to the Karelian Republic, the Murmansk and Archangel Oblasts, the Nenets autonomous district joined the process in 1996. This created some confusion in the BEAR because the Nenets autonomous district is an integral part of the Archangel Oblast but it claimed an equal status in the BEAR (Goerter-Groenvik, 1998: 96, 106). It was no accident that a

proposed White Sea Council should include the four Russian members of the BEAR. This was a clear message to the Nordic partners that the Russian participants were going to establish an institutional infrastructure compatible with the BEAR format.

The BEAR process mostly aims at areas such as economic cooperation, environment, regional infrastructure, science, technology, education, tourism, health care, culture and the indigenous peoples of the region. Some progress has already been made. For example, the two working groups established under the auspices of the BEAC - the Environment Task Force of the Barents Council and the Environment Committee of the Barents Regional Council - proved to be successful in identifying ecological problems in the BEAR and seeking funds for the implementation of joint projects (Ojala, 1997: 154-155).

However, some experts believe that in practice the BEAC and its bodies had a little impact on a growing activities across the Nordic-Russian borders. According to these assessments, the BEAC lacks financial, institutional and procedural strength. This institution is dependent on the decisions of the respective governments. Very limited decision-making powers have been delegated to the BEAC by its members. Financial resources are provided by each member-state and not put together in a common budget (Wiberg, 1998: 61-62).

The BEAC does not address some important areas of 'soft' security, such as conversion of the Russian defence industry and fighting organised crime, smuggling, drug-trade and international terrorism. Moreover, despite some documents, such as the Kirkenes Declaration (1993) and the Barents Programme (1994-95) the Council lacks a comprehensive programme comparable with the 'Visby process' (an ambitious 'soft' security project adopted at the 1996 summit of the Council of Baltic Sea States) which could be a driving force behind the Barents regional cooperation. In other words, as a multilateral institution, the BEAC has a long way to go before it can affect the regional states' continuing preference for bilateral mechanisms and become an authoritative transnational body.

Nordic multilateral institutions also contribute to the BEAR process. In 1990, the Nordic Council of Ministers created the above-mentioned NEFCO, a risk capital institution with a total capitalisation of ECU 80 million. The purpose of this corporation is to facilitate the implementation of environmentally beneficial projects in the Nordic region. Along with the above-mentioned nuclear safety project in Murmansk, NEFCO invested ECU 245 000 in waste treatment and recycling in St Petersburg, provided the St Petersburg local government with an ECU 1.2 million loan for a municipal waste water treatment, and provided the Kostamuksha iron pellet plant with a ECU 1.8 million loan to carry out a modernisation programme (Sawhill, 1998: 66-67).

The Nordic Council of Ministers also established a special fellowship programme for the Russian northwest regions, giving Russian scholars and teachers an opportunity to work at the Nordic universities and research institutes. In 1996, the Nordic Council established a special environmental lending facility within the Nordic Investment Bank, with an initial capitalisation of ECU 100 million. This facility aims at the reduction of transboundary pollution in the BEAR and the Baltic Sea area by providing long-term loans and loans guarantees for public and private projects.

Since Finland and Sweden joined the EU in January 1995 the Union's regional policy became an important factor in the European North. Finland is particularly enthusiastic about the Northern

Dimension in the EU policy. Helsinki hopes to use its expertise on Russian affairs and generally be a bridge between the EU and Russia (Heininen, 1998: 33-34, 37- 38).

To promote economic cooperation between the EU and non-EU countries of the region, Brussels allocated certain resources for investments and other projects. In 1992-96, close to 90 million ECU of the EU grants have been made available to the Russian part of the BEAR (Summa, 1997: 67). One of the EU programmes aimed at regional cooperation has been named Interreg. In this programme Finland and Sweden are free to involve Norwegian and Russian regions if this suits their own border regions and if partners are able to provide 50 per cent in matching funds. At present two of four Interreg programmes cover the northern parts of Russia. Interreg Barents includes Nordland, Troms and Finnmark in Norway, Lapland in Finland, Nordbotten in Sweden, and the Murmansk Oblast in Russia. The programme's total budget is ECU 36 million. Interreg Karelen includes the Finnish Karelia and the Karelian Republic in Russia. Its budget is approximately ECU 32 million (Rawlingson, 1997: 139; Wiberg, 1998: 57-58).

Another important venue for the EU regional policy in the BEAR is the TACIS which is a special programme for restructuring technical, administrative, and legislative infrastructure in the former Soviet Union. The programme was launched in 1991 to involve governments, companies, private bodies, and individuals in the ex-Soviet countries together with partners in the EU member states. One of the TACIS programmes of interest in the BEAR is the annual TACIS cross-border cooperation programme which began in 1996 with an ECU 30 million budget for projects along the borders of Russia and its neighbours, including Finland (Rawlingson, 1997: 142). In the period 1992-96, TACIS has contributed over 35 million ECU to different projects in north-western Russia (Summa, 1997: 67).

In combination with INTAS and TEMPUS programmes which are oriented to support of universities and individual scholars, these EU programmes could be very helpful in reforming the Russian North. In contrast with other foreign assistance programmes, TACIS, INTAS and TEMPUS are oriented to investing in the future and reforming the very structure of the Russian economy, political system and education rather than to getting immediate results.

The European multilateral institutions pay particular attention to the protection of environment and nuclear safety in the northwest Russia. The Nuclear Safety Account (NSA), as a special grant facility within the European Bank of Reconstruction and Development (EBRD), has been established to serve as a mechanism to finance operational and near-term technical safety improvements for Soviet-designed reactors in the former socialist countries. The NSA is capitalised at ECU 257.2 million, provided by fourteen donor states, including Finland, Norway, and Sweden, and the EU. The NSA provided grants for safety upgrades in the Kola and Leningrad nuclear plants (ECU 45 and 30 million, respectively). The EBRD provided the Komi Republic with a ECU 19,7 million loan for an oil spill recovery programme (Sawhill, 1998: 66-67).

Conclusion

To sum up, the post-Cold War era both opened up new horizons for international cooperation in the European North and, at the same time, posed new challenges to regional actors. Fortunately, these challenges stem mainly from the 'soft' rather than the 'hard' security domain and can be successfully met by means such as quiet diplomacy, negotiations and regionalism. It is important

for Russia which changed dramatically its threat perceptions and security strategy in the region to be engaged in cooperative projects in the BEAR. This can help to remove the remnants of the Cold War epoch and set up a new constructive agenda for future regional cooperation.

Notes

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Norway, Sweden and Nordic Cooperation

Ola Tunander

Above all, Nordic cooperation is an informal community of decision-makers in the Nordic countries. If a Swedish politician or government official does not understand a Norwegian decision he or she can bypass the Ministry of Foreign Affairs and directly call a Norwegian colleague who can explain. The same applies if a Norwegian cannot interpret the meaning of a Swedish, Danish, Finnish or Icelandic decision. The Nordic interdependence, the language similarities and the extensive acquaintances among Nordic public servants, politicians and military officers have contributed to non-bureaucratic and personal procedures. Nordic cooperation is comprised of a broad network of informal contacts which are often stronger than formal hierarchies.

This system has developed within the Nordic Council. Moreover, the Council has facilitated it through its numerous branches and committees and by means of an array of decisions which have provided flexible relations between the states: a common labour market, a passport union, harmonisation of the different countries' laws, and a Nordic social security convention that guarantees Nordic citizens' right to public health insurance, social welfare, unemployment benefits and pensions in the neighbouring Nordic countries. No Nordic minister can make a decision which has direct consequences for any of the other countries without discussing the matter with ministers in the affected countries. Within the Nordic area, international decisions about business policies, labour market policies, and social policies are not primarily matters to be handled by foreign

ministries, but rather by the individual countries' respective ministries that they apply to, almost as if the Nordic area was a loosely organised confederate state.

The Origin of the Nordic System

Voltaire described Karl XII and Peter the Great as Nordic rulers, while we still call the war between them The Great Northern War. In the early 18th century, there was no clearly defined Nordic area. It seemed to have been comprised by Denmark, Sweden and Russia, which included the Norwegian, Finnish and Baltic provinces. In other words, "Norden" (the North) or the Northern countries applied essentially to the maritime region north of Germany and Poland. The area that we currently define as "Nordic" crystallised much later.

It was created in the beginning of the 20th century but its roots are in the 18th century literary "Nordism" and in the 19th century "Scandinavism", which attempted to transform former enemies into allies to defend against external threats. The latter movement harboured a nation-building ambition based in a common Scandinavian language and partly common history. The struggle for Scandinavian unity was carried out in parallel with the struggle for a German and Italian unity.

Compared to contemporary Germany and Italy, Scandinavia was relatively unified linguistically, religiously and politically, but, contrary to the others, the Scandinavian state-building project foundered. A Swedish dominance aroused Norwegian apprehension, while Sweden was (contrary to Prussia in the case of Germany) too weak to guarantee Denmark's security. But attempted approaches between these small and linguistically similar countries continued with the 19th and 20th century Nordism — largely because Nordism provided Danes and Swedes with a way of dealing with their disappointment. Denmark's and Sweden's territorial losses were traumatic events that could be tempered by the creation of "Norden" — which included the independent Norway (1905) and Finland (1917) and the autonomous Iceland (1918), as a "symbolic regaining of lost provinces".

The Nordic Association was started by Swedish initiatives in 1919. Note that a phrase in the Swedish national anthem is "I will live, I will die in Norden" — not in Sweden — as if Sweden's greatness was beyond its borders, in the Nordic region.

This is not the whole truth. Several Nordic initiatives have been forwarded by Denmark with the support of Norway and Iceland with reference to cultural ties and historical attachments. The Scandinavian language, the Protestant religion and common judicial system, the common Viking history, pre-Christian mythology and joint — albeit disputed — territories, which have been controlled by first the one and then the other, have combined to create the basis for a common Nordic identity.

Denmark of the Middle Ages included Norway and large parts of today's Sweden and present Estonia. The Kalmar Union of the 15th century was comprised of the entire Nordic area, while the Swedish Baltic Sea realm of the 17th century encompassed the former Danish territory in southern Sweden and the Baltic while still including Finland and today's St. Petersburg area. The Swedish, or rather the Swedish-Finnish-Baltic East Nordic, kingdom faced the Danish-Norwegian-Icelandic West Nordic kingdom.

The Nordic region of the last centuries has been characterised by the transfer of people and territories from the one power to the other along with the weakening of first Denmark and later Sweden and with the splitting off of Norway, Finland and Iceland. The new states rose up against their former mother countries while, for the lack of administrative experience, they more or less copied their political and administrative system. The Nordic region evolved in the 20th century into a system of small homogeneous states without any strong central power that could hold them together.

Sweden, which in many instances assisted the other states militarily and potentially could have acted as such a central power, refrained from defending Denmark in 1864, Finland in 1918 and 1939, or Norway in 1940. The smaller Nordic states acted as an outer shell which buffered the Nordic core country Sweden against attacks. In the Scandinavian Defence Union negotiations of 1948-49, the Norwegian negotiators were sceptical of Swedish pragmatism, and at the same time Sweden was too weak to protect the Atlantic-Nordic region with its islands, waters and coastal areas. These negotiations broke down in 1949-

The Nordic Council and other Nordic Cooperation

The Nordic Council with its cultural and political cooperation was founded in 1952 as a collaborative forum for the Nordic parliaments and governments as a compensation for a lack of security policy arrangement. The Nordic Council attracted Danish, Norwegian Swedish and Icelandic delegates. After the Finnish situation stabilised in the mid-1950s, Finland entered as a member in 1956.

In the 1970s, partly self-governed areas such as Åland and the Faroe Islands received their own delegates within the Finnish and Danish delegations respectively. In 1984, Greenland was included, again as a part of the Danish delegation. Since then, Sweden and Norway each have 20 delegates, Finland 18 (plus two for Åland), Denmark 16 (plus two for the Faroes and two for Greenland) and Iceland has had seven.

The Council's decision is not binding for members, but national governments have often chosen to follow its recommendations. After Finland's position was clearly defined after a crisis in 1961 (when Moscow sent a note requesting military consultations with Finland), Nordic cooperation developed in a majority of policy areas: cultural, social, economic and judicial. Collaboration grew particularly strong among Nordic officials and between Nordic political parties.

By this time, the Nordic Council had already created a Nordic passport union, a common labour market, and a Nordic social insurance convention covering all Nordic citizens. These measures contributed considerably to closer ties between the Nordic countries. A harmonisation of national laws was pragmatically motivated and resulted from informal contacts between decision-makers. Nordic cooperation projects were supported by the Nordic Investment Bank (NIB) and Nordic cultural activities were supported by the Nordic Culture Fund.

The Nordic Council of Ministers was created in 1971 and it serves as a meeting place for heads of corresponding ministries. The Council of Ministers has a secretariat based in Copenhagen. A unanimous decision in the Council of Ministers is binding for the individual governments, but more importantly, it provides a channel that facilitates relations and communication between the ministers. The Nordic Council and the Nordic Council of Ministers have evolved into a forum for

formal and primarily informal contacts between Nordic politicians. Contacts among representatives of the Nordic sister parties (the Labour parties, the Conservative parties, the Center parties etc.) have often been more intimate than contacts between competing parties within the separate countries. Similar ties developed at the senior government official level. These informal contacts are the core of Nordic cooperation.

Cooperation in the economic area was more limited in many ways. The failed attempt in the 1950s to create a Nordic customs union was followed up in 1959 by the creation of the European Free Trade Association (EFTA) — by British initiative — essentially as a British-Nordic trade bloc along side the European Economic Community (EEC), which later became the European Community (EC) and ultimately the European Union (EU).

During the late 1960s the Nordic states attempted to bolster economic collaboration by means of a plan for Nordic economic cooperation (NORDEK). But negotiations broke down, because, within the framework of NORDEK, Denmark's EC application was incompatible with Finland's close ties to the USSR. National security differences limited the development of Nordic economic cooperation.

In 1973, after Great Britain and Denmark (in 1972) had left EFTA and joined the EC, the EFTA countries succeeded in negotiating a free trade agreement with the EC and this tied EFTA closer to the EC system. But the economic and military policy differences added momentum to conspicuous centrifugal forces. Denmark was drawn towards the south as a result of the EC, Finland to the east because its increasingly tighter economic cooperation with the Soviet Union, Norway to the west due to its roots in an Atlantic identity while Sweden continued to position itself in the "elevated centre" in keeping with its neutrality policy. In economic policies the Nordic countries pulled in various directions while informal political ties, the common labour market and the passport union intensified Nordic unity.

Intimate formal and informal political cooperation created a relatively unified Nordic area with coherent political solutions and a Nordic identity, which was also recognisable in the foreign policy sphere. The Nordic countries played a vital role in the UN with support of the Norwegian and Swedish secretary generals, Trygve Lie and Dag Hammarskjöld. The Nordic countries often operated as a bloc and divided work and duties between themselves. In this connection, the traditional split between an East and West Nordic sphere was no longer existent.

Security Policy Splits and Unification

When it came to defence and security policy, the Nordic area was a horse of a different colour. During World War II and the first post-war years, Sweden developed — unscathed by the war — a considerable military capacity which surpassed the combined might of Norway and Denmark. During the 1950s, Sweden with its over 1,000 fighters and bombers had created an air force which in Western Europe was second to only the UK's Royal Air Force. For Norway and Denmark, Sweden appeared too strong for a balanced partnership and too weak to defend the Atlantic part of Nordic area. From a Danish, Norwegian and Finnish viewpoint, a military unification of the Nordic region would be little more than an extended Sweden, which in good times spread over the Nordic area but at times of war retreated into its "core area" while its neighbour countries engaged in battle.

In 1949, after the Scandinavian Defence Union negotiations failed, the West Nordic states (Denmark, Norway and Iceland) sought membership in NATO with Great Britain and the United States as their closest allies. These great powers had powerful navies as well as air forces which could provide decisive assistance in battles over the northern seas. Sweden, which had succeeded in avoiding the destruction of World War II, did not feel that the situation called for any radical reassessment of its neutrality policy. The situation was different for Finland. The Finns had managed to prevent total Soviet domination by accepting a Soviet military base in Porkkala near Helsinki and by signing a Finnish-Soviet treaty of "Friendship, Cooperation and Mutual Assistance", which guaranteed Finnish military support in the event of an attack on the Soviet Union via Finnish territory. The Soviet Union abandoned the Porkkala base in 1955.

The West Nordic and East Nordic appeared to be heading in different directions. The notion of a Scandinavian Defence Union was replaced by an ostensibly irreparable split between NATO membership for the West Nordic states and various forms of neutrality for the East Nordic states. At least formally speaking. In reality, the Nordic countries developed in the direction of a unified structure. A strong argument for Swedish neutrality was that Swedish NATO membership would immediately cause the deterioration of the situation in Finland. It was assumed that Finland could no longer retain its relative independence with American presence so close to Finnish territory. A similar argument was used to justify the Norwegian and Danish base policy. By declining to deploy standing American forces on Danish and Norwegian soil in peacetime, it was believed that strong tensions could be averted in the Nordic area.

An informal Nordic security policy community existed during the entire Cold War, and, as a result, the Nordic states did not always act in the interest of their alliance or partners but often in the common Nordic interests when the two appeared to be at odds.

The Norwegian researcher Arne Olav Brundtland has called this reciprocal Nordic consideration "the Nordic balance", the Finnish author Gustav Hägglund has referred to it as "the Nordic stability" while Swedes have chosen neutral terms such as "the Nordic pattern".

We now know that the Nordic Defence Union negotiations led to a secret decision about informal defence cooperation. The biannual defence minister meetings discussed joint Nordic positions in UN operations, and, more discretely, a coherent defence policy for the Nordic countries. Sweden's informal and covert collaboration with the USA has given rise to a conception of its neutrality policy which can be compared to the Danish and Norwegian base policy. In complete secrecy, Swedish air bases were prepared for receiving American aircraft and high-ranking officers were prepared to guarantee a Swedish coordination with NATO's forces. Informal meetings between Norwegian, Danish and Swedish officers played a key role. Conversations with Finnish officers were also important.

Contrary to the official version, the Cold War's Nordic region was relatively unified in defence and security policy. From a geostrategic and military geographic vantage point, the Nordic countries were divided not only by east and west, but also by north and south. Both NATO's and the Soviet Union's forces were divided for northern and southern tasks, primarily because the military geography is so affected by clear natural geographical considerations such as land connections contrary to sea connections. Military geography neither coincides with national nor bloc

boundaries. From a military viewpoint, the Nordic area was far more unified than the impression given by the various alliance and treaty obligations.

In this Nordic system, Norway eventually played a key role. As early as the early 1950s, Washington sanctioned the idea of letting Swedish ties to NATO go through Norway (and to a certain degree through Denmark) to prevent these sensitive contacts from gaining attention. Information about the Soviet Union and NATO's decisions and evaluations were to be fed through Norway and Denmark to Sweden and thus indirectly to Finland.

Norway and Denmark were evidently highest placed in the Nordic information hierarchy. Swedish politicians, government officials and military officers received vital information from their Norwegian colleagues. Paradoxically, Norway appeared as the most centrally placed Nordic country. Simultaneously, Norway was a pillar which the more neutral Nordic countries could build on. Norway as a NATO country was thus obviously considered to be a prerequisite for Swedish policies, which in turn made Finland's relative freedom possible.

With the Swedish defense gradually weakening during the 1970s and 1980s, the centre of gravity in the Nordic system moved from the centre to the periphery. As the Swedish central power deteriorated, its attractive force was reduced and the traditional centrifugal forces gained power: Finland's in the east, Denmark's in the south, Norway's in the west. By the mid-1980s the notion of the Nordic countries as an "extended Sweden" with Sweden serving as the Nordic core or central power was out-dated. Sweden's military decline had created the conception of the Nordic countries as a political power "grey zone", which was subject to American as well as Soviet activities.

The Fall of the USSR, the EU Enlargement and the New Nordic Area

Since the end of the 1980s, the Nordic countries have been marked by two fundamental processes of change: one is the increasing integration and expansion of the EC, later the EU, which since the beginning of 1995 has included Sweden and Finland. The other is the dissolution and collapse of the Soviet Union which has created a more unified Nordic region, reduced focus on its Atlantic parts and extended the Nordic sphere of interest to the east coast of the Baltic Sea.

At the same time there is a connection between these two processes. The Soviet collapse reduced military tension which automatically increased the importance of the European political-economic power bloc par excellence, the EU. The Nordic state leaders thus tried to jump onto the "train to Brussels" either to extend membership in the political-military bloc of NATO with the EU's political-economic power or simply to latch on to this power sphere alongside NATO.

Nordic cooperation appeared to be a more viable alternative after Sweden's and Finland's applications for EC membership 1991-1992. The Nordic countries with their shared welfare system, language similarities, informal dialogue and strong geopolitical ties — despite divergent interests in economic issues or law of the sea — would apparently be able to act as a possible bloc within the EC. With 13 votes against Germany's 10, the Nordic countries could exert a disproportionately strong influence. Meetings of Nordic ministers could precede those in the European Council of Ministers. Hereafter, Nordic cooperation could gain more influence than ever before, both domestically and in foreign policy.

For the first time since the discussion of a Scandinavian Defence Union in the late 1940s, Nordic ministers of foreign affairs started speaking in terms of a common Nordic foreign policy. Politics of the 1990s appeared to have completely uprooted the conceptions that prevailed during the Cold War.

After the Danish referendum on the Maastricht agreement in 1992, it became clear that Denmark would not partake in the security policy co-operation of the West European Union and would thus stand outside the EU's inner circle. After the EU membership referendums in Finland, Sweden and Norway in 1994, Finland and Sweden joined the EU but like Denmark, reserved themselves from WEU (West-European Union) participation (as neither of the two new members were NATO members). Norway and Iceland remained outside the EU, retaining a looser connection by means of the European Economic Agreement (EEA).

The Nordic region appeared to be divided into an East Nordic or Baltic Sea sphere which operated within the EU and a West Nordic or Atlantic sphere which operated outside it. But as during the Cold War, we can expect the Nordic countries' real structure to be far more unified than its formal structure. The East Nordic countries have opted to place themselves outside the core area of the EU, while the West Nordic Atlantic ones (at least Norway) will attempt to achieve an EEA connection and informal Nordic cooperation which places it as close as possible to the EU and to the East Nordic countries. Just as Swedish officials, politicians and military officers turned to Norway for information on NATO, Norwegians now turn to Sweden, Finland and Denmark for EU information.

After the end of the Cold War, the EU plays a greater role in the individual countries' placing in the hierarchy of information. Finland's membership in the European Monetary Union (EMU) would appear to place it closest to Brussels and highest on the Nordic ladder. As mentioned, the non-NATO countries Sweden and Finland often found it necessary during the Cold War to turn to Norway for background information or sensitive political or military information as a basis for making their own decisions. Swedish and Finnish dependence on Norway was a Norwegian advantage which could be exploited in other contexts. The importance of pure military or security policy information has diminished, while civilian political and economic power structures have grown more vital to political decisions and diplomatic initiatives. The reduction of the military threat and Finland's and Sweden's EU membership seem to have reversed the Nordic hierarchy.

Since the middle of the 1990s, the discussion about the inclusion of new NATO members has again put focus on the Alliance and created more equality among the Nordic states. Nordic military cooperation has been intensified in connection with NATO's peace-keeping efforts in the former Yugoslavia. One Nordic battalion — NORDBAT I — was deployed in Macedonia while a second — NORDBAT II — was given duty in Bosnia within the framework of the Nordic- Baltic-Polish brigade NORDPOLBDE.

Nordic military cooperation, formerly carried out under the US banner, has now developed into an open collaboration on military initiatives in Europe under UN and NATO leadership. Since 1997, the Nordic countries have staged joint military manoeuvres, Nordic Peace, inside the framework of NATO's Partnership for Peace. The Nordic countries have also played a key role in

training the military forces of the Baltic states in preparation for the Baltic battalion BALTBAT, which is serving in Bosnia as part of NORDPOLBDE.

The Nordic countries have accepted a special responsibility for the Baltic states. Russian apprehensions about Germany and NATO have given the small Nordic countries a special role. For various reasons they consider themselves related to the Baltic states, and this has led to comprehensive economic and political exchange. Norwegian early involvement for the independence of the Baltic Republics was soon taken over by the Nordic Baltic Sea states,

Denmark, Sweden and Finland, with their historical and partially linguistic ties with the area. Finland's proximity to Estonia, linguistically and geographically, and the number of Estonian refugees in Sweden, have widened the informal ties of the Nordic area to include the Baltic states.

The Swedish, Finnish and Danish focus on the Continent and the Baltic Sea Region could seem to imply a marginalisation of the West Nordic area. The Nordic area is extended eastwards and its centre is shifting from its West Nordic to its East Nordic Baltic Sea area with its links to the dynamics of the Continent. In 1992, as a response to the East Nordic Baltic Sea cooperation, Norway took the initiative to establish the Barents Euro-Arctic Region, which incorporates the Nordic countries and Russia. The idea stemmed from the formerly extensive trade in the Barents Sea, the so-called Pomor trade, which created ties between North Norway and Northwest Russia, Archangel and the Kola Peninsula, until the Russian Revolution cut off the connection after World War I.

Iceland has also taken an initiative to counteract the increasingly evident Nordic focus on the Continent and the Baltic Sea Region. This West Nordic cooperation consists of Iceland, the Faroe Islands and Greenland. In 1994, Iceland sent queries to Great Britain and Norway regarding the extension of the cooperation to the ancient West Nordic seafaring region including the Scottish isles and Western Norway. At the same time, it is obvious that the importance of these Atlantic islands has diminished after the Cold War, and so has their political clout.

Conclusions

Several parallel Nordic projects evolved during the 1990s that would have been unimaginable during the Cold War. First of all, there was a more or less unified Nordic Region, which could exercise a degree of power within the EU. Secondly, a militarily more unified Nordic Region, perceivably independent of the EU, but a prerequisite is a continued link to American naval and air forces which can be deployed in Northern Europe. Thirdly, the Nordic Region as a historical, cultural, and economic community with roots tracing back to medieval Baltic Sea trade and the trade in the Barents Sea area. The latter implies an extended Nordic Region, which has begun to unfold with new Baltic Sea cooperation and with the Baltic countries' liberation and participation as observers in the Nordic Council meetings.

The Northern Dimension: Allegiance or Revolt?

Pertti Joenniemi

*“The North is as much a creation of the imagination as it is a physical or human reality”.*¹

The European Council noted in a report, accepted in December 1998, that the Northern region is of special importance to the European Union (EU). The status of the North was bolstered by enriching the vocabularies of the Union with the concept of a “Northern Dimension”. Northernness is not treated - as has usually been the case - as something separate, remote and backward. The European Council outlined, in endeavouring at translating a policy of naming into different social practices, a variety of policies to be pursued in addressing “the specific problems and needs of the North”.

The decision has an impact on the figure of the Union as a whole. It signals that the EU does not just hover around centrality or consist of Atlantic or southern dimensions. It also contains features of northernness. The move challenges some previous distinctions between centre and periphery. It has become possible, under the new conditions, to be both European and linked to northernness. Two concepts that previously invited an oppositional reading are treated in the new EU parlance as being on par with each other.

¹ Kenneth Coates, “The Discovery of the North: Towards a Conceptual Framework for the Study of Northern/Remote Regions”. *The Northern Review*, No. 12/13, 1993/4, p. 39.

The Changing Rules

Thus, with the inclusion of the North, the EU is furnished with a new attribute to describe its essence. One may note, however, that northernness is changing as well. There is less estrangement present once the concept is extended and turned into one of the constituting aspects of “Europe”. The peripherality of the North decreases and there is less reason to complain that the relation is the one of “Northern nations being seen but not heard”. Northernness gets new qualities and does not signal isolation, peripherality, remoteness, exceptionalism and a frontier mentality to the same extent as before. It is not just a “sideshow” and a sphere detached from the politics of the core. The previous connotations of marginality grow thin once northernness is brought, by altering the discourse, into the inner sphere of politics within the European Union and used as one of the labels that outline what the European configuration is basically about.

Northernness is quite obviously in the midst of a crucial transformation, and my aim here is to probe into this process of change. The idea is to explore the background of the somewhat surprising move of northernness being attached to “Europe”, review the symbolism at play, and to chart some of the consequences of the alterations underway.

Above all, the intention is to pose questions about the relationship between the core and the periphery. In principle, the transformation may reflect a weakened capacity of the North to stay aloof, the centre thereby being provided with an opportunity to define and discipline a sphere previously at the fringes of its grasp. The change could thus reflect, as to its background, an increasing subordination and something similar to the former “East-European” countries now insisting that they are “Central-European”. “East” becomes a marker applicable only at the remote parts of the European system and is seen as a frame to traded something more hegemonic.

Along similar lines, has “Europe” now become so strong that it has gained the power to qualify and take over “northernness”? Does the formal recognition of northernness as an integral part of the EU imply a kind of take-over and a confirmation of the peripherality of the North? Or is it, on the contrary, to be seen as a sign of a previous periphery now being increasingly able not just to define itself on terms of its own but also impose some features of itself on the way the whole European configuration is conceptualised?

The former stand would correspond to what can be expected on the basis of historical experience. It would, in essence, signal allegiance. The core may still have the power, as has been the case during the modern period, to extend the European project on terms of its own and also define what the periphery is about.

However, the interpretation could also be one of the core having lost its standing. The power of the core is perhaps no longer intact. The increased plurality of the European configuration, with northernness as one of its ingredients, may indicate that the constitutive rules influencing the way political space is unfolding in the new “Europe” have changed.

The borderlines carving out centrality and peripherality may have turned permeable. The emergence of a rather pluralist configuration would indicate that the upheavals in the politics of naming and conceptualising space - as exemplified by the new northernness - are quite profound. They may point to a revolt and, more generally, to important changes in the constitution of political space.

A Fixed Image

The attribute of “new” is quite well placed to describe the relevant changes as there was hardly any room for northernness at the core of the modern, state-centred Europe. The place of the North was outside Europe or at most at the fringes.

In order to become part of “European” space, the North has been forced to change. Many borders had to be crossed in order for northernness to appear on the agenda of the EU. Images of the North are less linked to backwardness. Within the modern either-or thinking the North had features of otherness and opposition - or it was admired as a land of adventure and opportunities beyond the ordinary. The North had to remain outside Europe’s core having connotations of a rather distant region with negative - or in some cases rather positive (i.e. various exotic Klondyke-type) images. Either northernness signalled profound difference or it did not exist in any autonomous sense. A certain detachment and an un-tamed position as to statist strategies of control allowed the North to defy, within limits, the power of the centre. This was, however, possible only if the North appeared as something remote and detached.

Such an either-or pattern also prevailed during the years of the Cold War. With the struggle being primarily conceptualised as one between “East” and “West”, the “North” could stay at least to some extent at the sidelines in the role of a “third” or, in being conceptualised as being void of any subjectivity of its own, the region was seen as forming just another sphere of the East-West confrontation. It assumed, in this latter context, features of a principal battle-ground.

The pattern purporting northernness with such a bifurcated position seemed, during the immediate post-Cold War period, rather durable. It was perhaps more frozen than any other configuration. Northernness appeared to be rather immune to the European upheavals of the late eighties and the beginning of the nineties. It stood, in a number of ways, aloof and resided in a category dictated by a modern, binary logic. The impact of the changes was an immediate one on those of “East” and “West” while the “North” - due to its nature of a sideshow - reflected the old rather than the new and the incoming. In being less central, it was also somewhat less sensitive to major alterations such as the demise of the Cold War and the emergence of new and more co-operative constellations. The images of a sphere of danger, heavy militarisation, clearcut distinctions into “we” and “they”, strict lines of demarcation and a residual sphere of traditional power politics prevailed.

However, over time changes have also had an imprint on the political landscape in the North. Various arguments related to ‘hard’ military security still enjoy a certain standing and the legacy of the Cold War has some impact, for example, by limiting the spread and applicability of various notions of ‘soft’ security (a phenomenon to be discerned particularly in areas where inter-state war has lost in credibility). Yet space has been opened up for discourses that pertain to environmental hazards, the status of the indigenous peoples, utilisation of various natural resources, linkages to other parts of Europe, and economic growth or the avoidance of marginalisation as to the northernmost Europe, although these discourses tend to remain less securitised in the North than in many other places.

These themes have furnished northernness with a new and more inclusive meaning. It has turned less distant, unique and isolated. It has gained, instead of being a boundary marker or a battle-ground between East and West, features of a meeting-place. It is depicted as a joint endeavour

among a variety of actors either taking stock of some opportunities or counteracting problems specific to the region.

Already the Barents Region Cooperation Initiative, launched by Norway in 1992, undermined some of the previous debate. It replaced much of the frozen crust. The North was suddenly communicated as something interesting and purported as a politically relevant sphere of cooperation. Visions were generated which then rather quickly turned into structures and political-economic processes. "Europe lies here!" argued Foreign Minister Thorvald Stoltenberg in launching the initiative in the northern town of Kirkenes.

The Finnish proposal concerning the EC's Northern Dimension followed a similar logic in creating a unifying perspective, although it has been more explicitly linked to the EU as the inner circle of proximity. It is also less structuralist and project-like. It constructs the North as something future-oriented and holistic, not just as a specific region or some particular cross-border project. It is viewed as a part of a Europe with rather flexible boundaries. Space is provided for identities that are not urban but linked to storm, ice, whale hunting and such like; there are both romantic and popular themes as well as expert-oriented, specialized and elitist elements involved.

In essence, previously fixed and bordered representations are blown open by providing room for an image of the Northern Dimension that transcends any representations of a Europe with very strict external borders. The proposal is inherently pluralistic in calling for shifting and overlapping patterns of cooperation across the previous divides. The idea consists of a network of images with very different spatial shapes. It does not play the core against the periphery but introduces close linkages, among other in the form of EC's structural funds, between these two entities.

A Move of Desecuritisation

The concern for security is still there, although it functions differently in being transformed from an argument on bordering into one for de-bordering. Security is a prime mover of the Northern Dimension, but not in any 'hard' sense. Instead of being divisive in character, security turns into a motivation for transcending borders and creation of common space. In other words, northernness is less disciplined by a modern understanding of security and less constrained by statist borders. The region is provided, as arguments pertaining to security and in some cases statist interests more generally decline in importance, with possibilities to return to its own traditions of rather loose boundaries.

This debundling is particularly important for Russia as most talk about "Europe" tends to contain moves of bordering, exclusion and isolation. The talk on a Northern Dimension functions, in this regard, very differently. It has features of a countermove that tends to increase Russia's subjectivity on the European scene. Russia is granted with features of being one of "us". It gets treated as a potential partner of cooperation, thereby creating images that link "Europe" and "Russia". Russia is offered focal points and a route that it may feel at home with - having essential northern aspects itself. It may turn, in the context of northernness, "European" on rather familiar terms without first having to change into some exclusive category of Europeanness.

Some of the debate is still anchored in a rather modernist understanding of political space. The North is provided - in some of the interventions - with a certain otherness and depicted as an arena wailing for modern development to arrive and take over with the help of the resources of

the EU. It is viewed as “the last white spot” on the European map. Within such a view also the Northern Dimension is provided with some missionary connotations. It becomes part of a perception that leans on a rather firm division into spheres that are either developed or underdeveloped. The task becomes one of transferring the North from the category of an underdeveloped region to that of the developed ones.

However, there is also much that speaks for a profound breach in the discourse.

Northernness, which for long was deprived of any subjectivity of its own, is increasingly provided with such properties. The North gains, while being part of “Europe”, a standing of its own. Northernness assumes features of a broadly unifying concept and it is attached to various connotations of something real, original and natural, but these qualities do not turn into images of something primitive, backward and underdeveloped. Instead they are provided with a rather positive reading and not treated as negativities to be remedied by the medicine of modernity. They are conceptualised in terms of positive difference - this indicating that the image of “Europe” is evolving in ways that are largely beyond the control of the modern story.

Moreover, unilinear understandings of the North have to cope with a challenge posed by the parallel appearance of both premodern and postmodern conceptualisations, “Ultima Thule” (used by the ancient Greeks) being an example of the premodern ones. The relationship is no longer exclusively one of “the South talking and the North listening”.

A Voice in the Margins

It is important to note, I think, that the idea of the Northern Dimension has gradually evolved in the Finnish debate on Europe. The discourse has been initiated in the North. One could argue that now also the North talks and there is hence more dialogue between the North and the South.

The concept has been coined in a number of scholarly texts and appeared in various political speeches. There is no single “founding father” but an exchange of views - with a broad variety of voices - pertaining to the Finnish identity and the country’s position in an integrating Europe. Various ideas have been aired since the mid-1990s and a more formal proposal was launched in the international conference organized by the regional actors of Lapland in Rovaniemi and tabled at the Luxembourg meeting of the European Council in 1997. The approval of the idea, reached at the Council meeting in 1998, constitutes an important landmark, but no doubt the process will continue in the form of further speeches, research, conferences and a dialogue with a number of actors wanting to influence the unfolding of the Northern Dimension.

The initiative implies that Finland itself is increasingly viewed in northern terms. Northernness turns into something that defines Finland’s position in the Union and Europe at large. It becomes even more than previously “the country of the Northern Star” and part of the “snowbelt”. Modern and urban conceptualisations provide room for less modern and urban ones, and the super modern may at times be combined with some rather exotic images.

This is actually nothing self-evident and may also come as a surprise to a number of Finns. The country has traditionally defined itself as part of the West or located oneself between East and West. The attitudes to northerners have been quite detached. Finland has northern parts, but these have been imbued with various images of a peripheral position and the core regions, as to the

Finnish identity, have been conceptualized as being located in the central or eastern parts of the country.

This may, however, be changing. Already the discourse on the Northern Dimension could be interpreted in such a light. It is possible to think that the strategy chosen reflects the fact that claiming for a position as a Central-European country is out of reach. Finland is located too far at the fringes to be able to argue along those lines. Besides, too many countries are competing for such a standing having previously been defined as East-European - and Finland does not want to be identified with this grouping. What was previously aspired for was the identity of an actor in-between and Finland is now unwilling to join the ranks of those countries that want to get rid of their previous easternness by appealing to the hegemony of centrality. Joining in would give false signals but also "East" is out of the question having become a marker of a very remote position and may even be seen as indicating a location outside "Europe".

It is hence understandable that the appeal of northernness has increased. It opens up the prospect of a distinct identity and one that does not function - in the present-day Europe - in terms of exclusion. The previously detached position of northernness implies that there is some openness present. The concept is permeable and it has the advantage of not being pre-defined in any categorical manner. It has an old European history dating back to times before "East" and "West" becoming the key attributes for defining crucial positions in Europe. Northernness has actuality in purporting something new but yet carrying a historical legacy.

There has hence been good reasons for Finland to explore the potential of such a concept. It may be utilised as a resource in the search for a rather durable posture. Northernness offers Finland an opportunity to engage itself in the contest of what the new Europe is about. The concept appears to have the strength needed for the destabilisation of the established symbolism. Centrality may be provided with new meanings. It can be used to open up previous definitions, provide the core with features which for long had connotations of marginality, and thereby to have an imprint on the figure of Europe.

A Northern Country?

This points to a revolt rather than allegiance. Finland, has been able, as a newcomer to the European Union, to chart itself a position on rather favourable terms. Instead of just restricting itself to the established criteria and prevailing frames for interpreting what the EU is about, it has managed to establish some departures of its own. A rather peripheral actor has succeeded, it seems, in adding to the plurality of the EU. The core formally accepts, in the shape of a decision taken by the European Council, that the EU has dimensions favourable to Finland. A peripheral actor is allowed to extend the repertoire of departures. A frame broader than the previous one is inserted enabling a newcomer to feel European on rather familiar terms.

But to what extent is Finland at home with northernness? Is it really an established identity and a signifier with deep roots?

It appears, at a closer look, that northernness has - in the case of Finland - a rather recent history. It has certainly been there over a considerable period of time but it has generally assumed a rather marginal position. The occasional outbursts of interest do not compensate for long periods of forsake. Finland discovered its northern parts in a more serious manner only after the Second

World War and the loss of the Karelian Isthmus and a part of the Eastern Karelia. The spirit was then one of searching for compensation and gaining new meaning by “conquering” the undeveloped North and claiming it to modernity. As a result the northern parts of the country turned quite developed and became rather industrialised. There are considerable urban populations, universities and centres of high technology, although they still appear alongside some rather backward areas.

More recently the interest in the northern parts seems to have increased. Northern aspects have been provided with a somewhat more central position in the Finnish self-understanding. Various frontier-images as well as perceptions of wilderness and untouched nature are sought for rather than avoided. They are no longer synonymous with danger and the unknown but represent opportunity, openness and purity. They call for adventure and offer opportunities to explore. A number of elements previously repressed or defined in negative terms now invite a far more positive reading.

The coining of the Northern Dimension reflects such a process. The political elites no longer suppress northernness but co-opt it to be used as symbolic capital in the contest between different Europes. A previous sign of peripherality is provided with very different connotations. These moves appear to correspond with fluctuations in the popular culture with northernness turning exotic. Elements that previously scared off have become interesting, perhaps even celebrated. The image gets spread - in contrast to previous representations - that in Lapland one may discover some of the fundamental characteristics of Finland. “The northern lights” increasingly label the whole country.

To take one particularly outstanding example: Finnish ice hockey fans could - in the context of major international tournaments - for a number of years be recognised as those using Viking helmets. The image portrayed was one of little Swedes as also the supporters of the Swedish team used similar helmets. The Finns differentiated themselves merely on the basis of colours; instead of the Swedish yellow-blue their helmets were painted white-blue. However, recently the picture has turned more nuanced. The fans of Finnish teams are still using helmets but instead of Viking horns these helmets are equipped with images of reindeer antlers. Viking horns seem to have been traded for very Lappish symbols. Such symbols have been around before but they have carried images of something far-away, exceptional, primitive and naive. They have marked something local rather than general. An element previously subdued and hidden rather than elevated has been turned into a symbol for Finnishness at large at least in some parts of the popular culture.

Something similar can be traced in the sphere of football. Recently, towards the end of 1998, a Finnish team Helsinki Football Club was playing the Portuguese Benfica. In promoting the game an advertising

bureau used extensively the slogan “Does the Northern Ice succeed in slowing down the Portuguese Explorers?” In other words, a team from Helsinki (usually equipped with rather southern connotations) was equated with a northern ice. The symbolism used seem to suggest that a rather profound shift has taken place in the symbolic structures. Finns locate themselves by contrasting their North with the otherness of the South. The core is utilising signs, in its self-representation, that previously marked peripherality and northernness has changed - contrary to previous usages - into a frame that allows the portraying of positive difference.

More generally, previously negative representations have become loaded with far more positive potential. Northernness extends far beyond its previous reach. It does not only refer to something local but covers Finland in general, including some of its most southern elements. Finland is no longer just a country with some northern aspects. Instead it shows signs of turning into a country with northernness as one of the defining elements.

Epilogue

It may thus be concluded that the previous bifurcated discourse with the North as something different than - and perhaps even opposite to - "Europe" has now come to a halt. Both the concepts of "North" and "Europe" are changing. They have been equipped, in the more recent discourse, with new meanings. Northernness seems - due to a conceptual metamorphosis - to expand, become more central and increase in political relevance. The image is no longer one of entrenched opposition and grievance towards the South. It has less connotations of a hinterland with scant prospects for development.

The North reaches increasingly outside its previous boundaries, it is less entrenched and the dominant images are those of connectedness rather than isolation. It does not shrink - as might be expected on the basis of modernity conquering and covering ever larger areas - but expands. Images of the North are not just coloured by the short summers, i.e. some negativities if the conditions are to be compared with those prevailing at the more southern latitudes, but by long and dark winters with plenty of snow. It is these deviant features that now seem to attract interest and invite a positive reading.

Moreover, northernness does not just qualify some fringe locations. It also stands out, in the form of the Northern Dimension, as one of the defining elements of Europeanness. In doing so, northernness further undermines representations of any unicentred Europe/EU and adds to the credibility of a multicentred one. It is elevated into a representation on par with many others in the struggle about the essence of the European Union.

By operating in terms of inclusion, the Northern Dimension challenges images of the EU a fortress. The Schengen-Europe, and various other security-related Europe's with strict and tightly controlled external borders, are complemented with conceptualisations of a Europe with a rather fuzzy eastern border by striving to open up for a free movement of capital, services, goods and people. The North is depicted as a meeting-ground rather than a marker of outer boundaries. Instead of an outer limit it gets features of a bridge. More particularly, the distinction between members and non-members with the EU gets relativised as the Northern Dimension attaches considerable importance to the Union's cooperation with Russia.

The core seems to accept, as indicated by the approval of the European Council, northernness as a key parameter for Europeanness. Europe-making obviously moves north. However, there is little proof that the concept would be - once again - advanced and promoted by the core. The concepts used in describing northerners do not seem to originate, it appears, in the classical literature or in the idealised and romantic images of the Renaissance. The core may find some attraction in adding northernness to the attributes of Europe, but it would be an exaggeration to argue that the move has been initiated by the core itself or reflects some themes that are close to the heart of the centre. The explanations concerning the Northern Dimension hardly reside with the core. The increased centrality of northernness does not stand out as a kind of take-over and a

reflection of the power of the core to cover and impose meanings on spheres previously beyond its reach. This would hardly be a truthful interpretation of the new linkage.

The initiative seems to have an even more interesting background. It appears to be rather unique in having been coined in the periphery, with Finland having grasped the opportunity to influence the European setting as a whole. It has been done by exploiting an unconventional theme and the leverage provided by the Finnish and Swedish memberships. Instead of utilising discourses already firmly anchored in the centre, Finland has chosen to initiate a new one. A previous negativity has been - after some soul-searching - provided with new meaning. Northernness has been made, by a policy of naming, into an asset to be exploited in the contest between different "Europes". By introducing northernness as one of the defining elements of the European configuration, Finland has been able to strengthen images that are to its own liking. Being part of a European Union with strong northern elements makes membership much more attractive, acceptable and rewarding. The European Union turns less "foreign" once it can be credibly argued to contain aspects that one may also recognise - at a closer look - in oneself.

The enhanced standing of northerners in the context of the EU lowers significantly Finland's threshold to "Europe". The concept also provides linkages that the neighbouring countries may use in approaching Europe and the EU, thereby increasing the prospect of region-formation in the North. Instead of being just "there", Europe is also "here". It is on the spot. The distance between "here" and "there" is made to shrink in the sphere of symbolism. Consequently, the northern actors can feel that their prospects for being part of the core, and even more importantly, their changes of influencing what the core is about and where it is located, have increased.

Taken together, Europe appears to be less closed and predetermined. It is no longer to be defined by the centre alone. There is also space for some of the more peripheral actors to influence the constitutive rules and frames of reference. These actors may contribute, on terms of their own, to the establishment of some of the key attributes defining what "Europe" is about. These actors can, in the best of cases, influence the way their own identity unfolds and utilise some of the elements used in that process by imposing their meaning on the broader European constellations.

The traditional core may retain, or even increase, its power in some other spheres, but the periphery appears to have been able to challenge - as indicated by the Northern Dimension - the formation of what constitutes the centre at least in some regards. This is yet another sign that the constitutive rules underpinning the formation of political space seem - perhaps due to the new power relations of the 'information age' - to be - changing significantly.

A small introduction to Tornio and Tornio River Valley - A border that never existed

Katri Kulmuni

1. Introduction

A symbol of international mobility

Tornio is a border city between Finland and Sweden that forms a twin city with its Swedish neighbouring town Haparanda. Since 1952, the Nordic Passport Union has granted free mobility of Nordic citizens within the Nordic countries. This was later added with the right of Nordic citizens to reside and work in another Nordic country without residence or work permit. Since the twin cities have largely grown together, the border crossing in Tornio-Haparanda is both a very busy and an inconspicuous one as most border crossings in the Schengen area are.

In 2015 the nature of the border changed when it became Northern hotspot of the refugee flow that entered Europe. Suddenly the remote city became a symbol of the refugee crisis in Finland. Asylum seekers that had entered Sweden continued their journey north and ended up at the Finnish border.

Besides an administrative challenge - that was handled well by the authorities - the big numbers of asylum seekers were a mental challenge. Demands for strengthening or even closing the border

were heard in many places. Some who had peacefully lived with an open border rapidly became suspicious towards those who had just crossed it. Most Finns were undoubtedly taken by surprise by the volume of the asylum seeker flow, but what surprised many local people was the hostility towards foreigners expressed by people from elsewhere in Finland. Tornio saw a few “Close the borders” demonstrations, and people even travelled from Southern Finland to attend.

Last autumn, the position of Tornio as a hub for registering asylum seekers reflects its role as a centre of mobility in a broader sense. Tornio is the biggest town in Tornio River Valley, and also right in the middle of the Bothnian Arc that stretches from Skellefteå in Sweden to Kokkola in Finland. This commuter belt is striving towards greater integration of economy, which also requires investments in transport infrastructure. The train connection between Oulu and Luleå is still a future prospect. Investments in economy partially define the future of the region. China’s leading bioenergy operator Kaidi is planning to build a biorefinery in Tornio’s neighbour town Kemi - if the plan will be realized, the size of this investment alone will probably set many other projects in motion.

2. History

Tornio - A gateway to Lapland

Tornio is a Finnish border municipality in Lapland. Tornio is the place where the river bordering Finland and Sweden, the Tornio River, runs into the Bothnian Bay. Tornio’s excellent location in the middle of the Bothnian Arc is the reason why it has been a trading town for centuries, and its great wealth was based on trade. Tornio was and still is a gateway to Lapland. Tornio got city rights in 1621 under the rule of King Gustav II Adolf. Tornio River became a border between Finland and Sweden only after the Finnish War in 1809. Until that Tornio had been the most important town in Northern Sweden. (City of Tornio 2011).

Today, Tornio has about 22 000 inhabitants (VRK 2016). Tornio forms an international twin city together with its Swedish neighbour Haparanda. The two municipalities form the core of a well-developed border region that has altogether some 32 500 inhabitants. Tornio and Haparanda have for example a common tourist information centre and a travel centre. Also, the towns operate a common primary school, a wastewater treatment plant, and a district heating network. Many associations offer borderless activities.

The biggest employers in Tornio-Haparanda area are Outokumpu (steel manufactory City of Tornio and City of Haparanda, Norrbotten’s regional administration, Kemi-Tornionlaakso Municipal Educational and Training Consortium Lappia, and IKEA. Nanso Group has also been a big employer but they will close the fine hosiery factory in Tornio in the fall 2016 (Nanso Group 2016). Then, the last Nordic textile factory will close as part of a long-lasting structural change of industry.

Along with metal and wood industry, Tornio is home to many companies in tourism and trade. The biggest recent investments have been in the Outokumpu steel factory, wind power, trade, and travel. Worth mentioning as a single project is the LNG gas terminal that Finnish industrial companies Outokumpu and Ruukki Metals, energy company EPV Energy and gas company Gasum are building in the Röyttä industrial site. The terminal should be in function by 2018 (Manga LNG Oy 2016).

Tornio River Valley - a region where borders never existed

If one looks at a map of Europe, Tornio River Valley can easily be described as periphery. The region is remote and rural. Indeed, there are no bigger cities from north from Tornio, but instead the riverside is dotted with settlements on both sides. Compared to many other areas of North Calotte, Tornio River Valley is actually quite densely populated.

The small villages and towns reveal the borderless nature of the region. Settlements on opposite sides of the river have same names. For example, Karunki and Ylitornio on the Finnish side have their counterparts Karungi and Övertorneå in Sweden. Historically, the most important unifying factor in the region has been the common language Meänkieli that is a dialect of Finnish spoken mainly in the areas west of River Torneå. Nowadays the number of those who speak Meänkieli as their first or only language is declining, though passive understanding is still quite common. Meänkieli has the status of an official minority language in Sweden. (Mantila 2000.)

Tornio River Valley has always been an integrated and unique region with a distinguishable culture. Until the war between Sweden and Russia in 1808-1809, the region practically had no borders. People lived, worked, travelled and married on both sides of the river. Families and farms reached out to East and West. The area was thus international long before the border came and created the need and forums for international cooperation.

The creation of the official border led to a forced cultural, social and economic division. Finland had become a part of Russia, and the Swedish crown slowly became to fear that in the case of a possible conflict, the Finnish-speaking northern areas might rather show allegiance to the Eastern neighbour where a similar language was spoken. Sweden thus introduced measures to swedelize the people living in the current Norrbotten region. Finnish was no longer taught at school and it was even forbidden to speak it in public. In the private sphere, Meänkieli continued to be used, though it diverged from the development of standard Finnish. (Mantila 2000.)

3. Current challenges and possibilities

3.1 Structural change of economy

As already mentioned, Tornio has been a merchant town for centuries. Merchants and explorers from all over Europe were a common sight in Tornio. Under Russian rule, Tornio's connections to Sweden were diminished but it gained an important position in Russia's foreign trade and could also benefit from its new position as Finland's gate to the West. Yet, during the 19th century, the relative importance of Tornio was reduced by the development of other merchant towns in Finland, the creation of the Veitsiluoto harbour in Kemi and the construction of a railway network in Finland.

Structural change of economy can be seen in Tornio and the River Valley. After the Second World War, Tornio was industrialised, Outokumpu steel and ferrochrome factories being the biggest employers. Kemi-Tornio area is today the industrial core of Lapland and accounts for the vast majority of industrial revenues and exports in Lapland (Regional Council of Lapland 2015). Although many industrial companies have lived and died throughout the last decades, the big ones have kept the overall development on the positive. Tornio has also profited from its not being dependent on one business field alone. Besides heavy industry, Tornio has the biggest number of farms of all municipalities in Lapland.

North of Tornio, Tornio River Valley has not kept up with the economic as successfully as the bigger cities. Agriculture has diminished, there is no big industry and the population has been in steady decline. The more north you go along the river Tornio, the more the region is dependent on tourism, which sometimes creates tensions between different land users and interest groups, especially if appear plans to utilise land space for industrial purposes. The challenge is to accommodate the needs of all parties for the good of the whole region and to handle the structural change so that the Tornio River Valley region remains lively concerning both economy and the unique culture.

3.2 Reforms in state administration and social and health care sectors

Finland's current centre-right government led by Prime Minister Juha Sipilä is running major changes in regional administration and social and health care sectors. The main idea is to create 18 administrative counties based on the current regions. This is a step towards the common European model of three levels of government: national, regional, and local. Until today, national and local levels haven been strong, in addition to multiple different structures that have taken care of regional functions.

The biggest changes will be in healthcare and social welfare services that will in the future be on the responsibility of the 18 counties to organise. This includes the reform of the freedom of choice and the multichannel funding system, the details of which are yet to be decided. The reform will bring a huge change to the current situation where in the whole Finland hundreds of municipalities have so far been organisers of social welfare and health care services.

What does this mean for Tornio and Tornio River Valley? As Lapland will be one administrative county, single municipalities will no longer determine alone how the services will be run. Also, in addition to public service providers, private companies and NGOs will have somewhat equal access to the social and health care service market. Due to long distances and sparse population though, in areas like Tornio River Valley, competition is unlikely to realise to the same extent as it might in bigger cities, and the area will most likely keep the current health care centres. The threat experienced at the moment is that as financial resources are pooled and reallocated at the county level, the functions of health care centres or hospitals might change and certain operations be centralised in specific units, thus reducing the selection of services offered locally.

From the perspective of Tornio River Valley, the region should be viewed as a common region in the social and health care service reform. This means taking into account that although there is already a remarkably high level of cooperation between the municipalities on both sides of the Finnish-Swedish border; the EU has not meant a complete reduction in border hindrances. Public services do not move across the border as effortlessly as they should, nor do people who look for the services. The EU has recently introduced a directive of patients' rights in cross-border healthcare, but this has not had any remarkable increase in cross-border service use. Service reforms should have a perspective of cross-border mobility in order to make the system more efficient and flexible.

In Tornio, health care service availability is rather good since the nearest 24-hour service hospital is relatively close, only around 30 km from Tornio. But if you live in the neighbouring Ylitornio, the next municipality northwards of the Tornio River Valley, the distance grows up till 100 km.

And even more north, if you fall seriously ill during nighttime in the municipality of Kolari, emergency duty is 170 km away in Rovaniemi.

3.3 Challenges of international cooperation

As multiply mentioned, Tornio River Valley is an international region with natural ties to Sweden over the River Tornio. One might think that these centuries-long connections would have been recognised by the national authorities in order to allow the freedom of movement in goods, services and people and to encourage cross-border business cooperation and employment. Yet, the region's integration is hampered by still existing border hindrances regarding employment, pension, business, schooling, etc. There is still work to do for politicians and civil servants until the four fundamental freedoms of EU are realised in this border region.

Optimistically thinking, structures for cooperation are already in place. Indeed, the multi-faceted organisational environment might confuse someone coming from the outside. The Nordic Council of Ministers operates Crossborder Tornedalen, an information centre located at the Tornio-Haparanda border that provides specific advice on border problems, provides information and guidance to individuals, businesses and organisations that have cross-border activities in the North Calotte area of Finland/Sweden.

Another office is located in Skibotn, Sweden. In addition, Council of Tornio Valley is a lobbying organisation funded by 13 border municipalities from Finland, Sweden and Norway. Its main tasks are to represent the region's interest in decision-making, to develop business cooperation and labour market, and to improve the region's image for tourism.

Also, Tornio is part of the Bothnian Arc, another cross-border organization financed by Nordic Council of Ministers. The Bothnian Arc includes the coastal zone from Skellefteå in Sweden to Kokkola in Finland. The total population of the area is around 700 000, and the organisation aims at opening up new opportunities "to build a strong and competitive region that sets high international standards in technology, enterprise, tourism, expertise and networking" (Bothnian Arc). The potential is there to be part of the current international trends concerning Arctic areas, but this requires a common goal among the parties.

Although the structures are in place, an important challenge is still the mental borders. Not all people living in Tornio River Valley speak both Finnish and Swedish, and although many have families spread on both sides of the river, many do not. The threshold for founding a company or extending business across the border has become high, partly due to differing administrative procedures or deficiencies in language skills. Tornio River Valley region remains a region of both possibilities and challenges.

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Section IV: Traditional & Indigenous (knowledge) vis-à-vis Modernization, Science & Technology

The Traditional Way of Living, and the "Modernization" of Production.

Steinar Pedersen

Introduction

It is possible to spend much time on defining what is a traditional way of living, or what is meant by modernization. The definitions will also depend on whether you are a scholar or a politician, and furthermore - what scholarly profession you are familiar with, or as a politician - what overall aims you have for the development of society.

My background for talking about this issue is that I for some years have been working as a researcher at the Nordic Saami Institute, especially with historical processes, concerning the use of resources in the Saami areas, and laws and regulations connected with that use. Presently I also have the possibility to experience those things from a political point-of-view, being a political advisor to the Norwegian Minister of Local Government - the ministry which coordinates the Saami matters within the government.

My political background is one of the main reasons why I will make a practical approach to the subject. It means that the theme will be limited to a description of some traditional Saami livelihoods in Norway, what problems "modernization" creates, what measures are taken to secure

those livelihoods, and thereby promoting a living Saami culture, also in the future, based on a sustainable use of the natural resources.

Saami livelihoods.

First of all it is necessary to give a definition of what the Saami livelihoods are. The Nordic Saami Conference, the cooperating body of the Saami people in Finland, Sweden and Norway, has given a definition in three parts:

1. Saami ways of maintenance are primary livelihoods (farming, reindeer-herding, fishing, hunting, and other ways of using the nature) which are in accordance with Saami ecological tradition of using the resources, and carriers of Sami culture.
2. Saami ways of maintenance are secondary and tertiary livelihoods, using or refining products from the Sami primary livelihoods, or producing to implement the needs of those.
3. Saami ways of maintenance are combinations of livelihoods, which, besides livelihoods mentioned in number 1 or 2, can be run in accordance with those.

Here I will concentrate on the primary livelihoods, and their resource base. It primarily means point 1 in the definition given by the Nordic Saami Council.

If we look at history, the oldest written sources show that the Saami people is known as a hunting and gathering one. That impression is also confirmed by archeological excavations of dwelling sites, inhabited more than 2000 years ago. The results of those excavations clearly show the wide range of resources, on land and sea, used by the ancient Saami.

Later on, the maintenances of living got more "specialized". Today one can speak of at least three or four main traditional livelihoods. They are:

- Reindeer-herding
- Husbandry
- Sea-fisheries
- Other nature livelihoods.

Examples of other nature livelihoods are freshwater-fisheries, salmon-fisheries in some rivers - even hunting and trapping are still pursued to some extent. In years with favourable meteorological conditions, the nature also provides a great quantity of wild berries. They are of importance both for own consumption and for sale.

Reindeer-herding.

To the outside world, reindeer-herding and the Saami are very often looked upon as being parts of the same concept. The fact is, however, that only a smaller part of the Saami are occupied within that livelihood. But, true enough, reindeer- herding is the most significant Saami way of maintenance today.

One of the reasons is that keeping of reindeers, by law, is reserved for people of Saami descent. At least that is the fact in most of Norway.

The main resource-base of the reindeer-keepers, is the grazing area, where the flocks, followed by their herders, migrate seasonally, between the winter and summer pastures.

There is no doubt that the modern times, with new installations of many kinds, have reduced the pastures. Those installations are e.g. roads, hydro-electric plants, electric lines, leisure-time huts, military installations and training-fields, and so on. It may also be that the use of equipment, vehicles, by the reindeer-herders themselves, have exceeded the ecological limit.

Another factor is the change of leisure-time activities, where many others than the reindeer-herders, summer and winter, use motorized vehicles in the grazing-areas.

The mentioned factors, are contributing to a situation where reindeer-keeping can't expand any more, and the pastures in some areas have reached the limit of how many reindeers they can carry.

It means that young Saami people must leave the reindeer-holding activity, and try to adjust to new occupations, which are not easy to obtain these days - with a relatively high rate of unemployment in Norway, as well.

But there are also other more frightening threats, created by the modern world - which many of the Saami reindeer-herders in the mid- and southern parts of Norway have been taught in a very grave manner. In 1986, one of the reactors at the nuclear power-plant in Tsjernobyl in the Soviet Union, got out of control, and the radioactive downfall contaminated the reindeer-pastures in great areas in Mid-Scandinavia.

In the county of Finnmark, the main reindeer-keeping region, Tsjernobyl had no effect, but the pastures in that district, as well as in northern Finland, were already in the 1960's, negatively affected by the Soviet nuclear tests in the atmosphere, not far from here.

Husbandry.

Many Saami are occupied within husbandry. Especially in the branch of keeping domestic animals - mostly cows, sheep and goats, depending on the topographic conditions.

The institutional frames of Sami husbandry are the same as those other farmers in Norway are offered. But the Saami farmer has more often than his Norwegian neighbour a greater degree of combinations with other livelihoods, e.g. small-scale fishing.

Combining many forms of primary livelihoods, or using all the available resources in the actual area, is also a real trademark on a Saami way of living. Historically that has meant a very stable Saami population in the northern regions of Norway, because the Saami, due to their broad exploitation of the resources, haven't been so vulnerable to the fluctuating rates of market economy - especially within fisheries.

This close binding between man and nature, also has had emotional consequences, which e.g. was remarked by a well-known author, already more than 200 years ago. He stated that a Saami was as little inclined to leave his homeplace, as a criminal sentenced to death, was to go to the scaffold.

Sea-fisheries.

The greatest part of the Saami population in Norway, however, live along the sea and the fjords. They are therefore, in some way or another, dependent on the resources in the Barents ocean.

Here, the resource situation has been very grave, and could be described as an ecological disaster. Only a few years ago, sea- birds died from lack of food. The seals obviously did not find enough to eat at the arctic ice-edge, where they usually stay. As a consequence, thousands and thousands of seals invaded the coast and the fjords of the northernmost parts of Norway yearly for about ten years, until the winter 1987/88. The local Saami and other fishermen, at that time caught mostly seals in their cod-nets.

It is likely to think that these frightening things, to a great extent were the negative results of the modern fishing activity with big vessels, and the most sophisticated technology. This fleet has had access, not only to the open ocean, but with few restrictions, also to the narrow fjords, where the Saami, and local Norwegian, have had their traditional fisheries.

The impact of the modernization of the fisheries, was that specie after specie was nearly eradicated. The misuse and overexploitation, due to greed, and lack of ecological understanding, almost led to a break-down also of the stock of cod - the most important among the species of fish in the Barents ocean.

This tragic development was not caused by the Saami, or other fishermen with small boats, and non-active fishing-gear. They had always used the resources in a sustainable manner, and with an eye to the fact that there is a limit of exploitation which cannot be exceeded.

Other nature livelihoods.

The use of different niches in nature, has created a material culture, based on combining a great variety of livelihoods. To the oldest ones belongs of course, hunting, fresh-water fisheries, berry-picking, and so on. But modern times also have influenced these ways of maintenance.

As a result of new technology, motorized means of conveyance, and lack of regulations adjusted to the new way of exploiting the nature, there is as a strong competition on the scarce resources of freshwater-fish, game, and wild berries.

This also means that old customs, manners and ecological rules, are broken down, and the experience and skill to use the nature in accordance with nature's own measures, is vanishing. Among the youngest generation, an alienating in relation to old Saami values, is taking place.

Official measures.

Is then everything going wrong, and nothing done to improve the state of things?

To answer that I find it necessary to say that Norway has both internal acts concerning the Saami minority, as well as it has obliged itself to follow international standards of protecting minority-cultures, as well as of indigenous peoples, and the Saami are accepted as both.

In other words the main task today is to build a functional system to secure that the principle framework is carried out in every-day politics. The most vital regulations are:

- The Saami Act, 1987
- The addition to the Norwegian constitution in 1988, about the basic rights, and status of the Saami people.
- Article 27 in the UN convention on civil and political rights from 1966.
- ILO-convention nr. 169, concerning indigenous and tribal peoples in independent countries.

And - political work is being carried out in Norway, to build up a system of Saami participation and influence on how things concerning the traditional ways of livelihood should function.

I have already mentioned that only persons of Saami descent by law to have the right to keep reindeers in most parts of Norway. It is in other words an ethnic right to a certain kind of livelihood.

As you may know, two years ago there was erected a Saami commonly elected assembly in Norway. What is now being discussed, is what influence that assembly shall get on the official reindeer-herding policy.

The Saami Assembly has already stated some principles which are controversial in - e.g. that the biggest flocks of reindeer should be reduced, in order to provide room for more people in reindeer herding.

An address to the Norwegian Parliament, concerning reindeer- herding, is now being written in the Ministry of Agriculture, and it is a fair reason to anticipate that the role of the Saami Assembly in the future official policy in this field, there will be thoroughly discussed. A guideline to what may be expected, is that the social democratic group in the Norwegian Parliament, recently has expressed that the Saami Assembly shall obtain decisive influence on the reindeer keeping policy.

If we then look at husbandry, and Saami interests, that is a very up-to-date question these days. The Parliament will in a few weeks decide what economic conditions should be granted to the farmers in Norway. From the Saami Assembly it has been said that small-scale farming, which is very prevalent in Saami areas, has not been offered good enough conditions from the Government, and that the Parliament therefore has to improve those conditions'.

The underlying, and also clearly expressed arguments, are that Norway is obliged, by international conventions and internal acts, to provide that the material basis of Saami culture, the primary livelihoods, are kept intact.

That principle point-of-view, was for the first time heavily underfilled of the Saami Rights Commission in 1984, and has since then been a very important factor in the public debate on securing the Saami primary livelihoods.

Among else it in 1989, contributed to the ban of drifting-nets within the Salmon-fisheries in the open ocean - because that kind of salmon-fishery had a negative off impact on the traditional Saami salmon-fishery along the fjords and in the rivers.

But the real break-through for the principle, that there is an obliging link between the material basis livelihoods, and culture, came in 1990. The background was a legal report from Professor

Carsten Smith - who documented that the Norwegian state, by legal standards, is obliged to take the Saami interests into account, when regulating sea-fisheries in the areas where the Saami live.

That principle is accepted by the Ministry of Fisheries, and the ministry has a dialogue with the Saami Assembly on the practical arrangements attached to it. Only a few days ago some practical results also emerged. Then it was decided that 1000 tns of cod should be transferred from the trawlers, to the smallest boats in the main Saami-area in Northern Norway.

The decision has been criticized for being inadequate, but, it takes some time to develop routines in such a new political field.

What matters the other nature-livelihoods, the Saami Rights Commission also right now is dealing with land-rights in the county of Finnmark, and thereby also with rules and regulations concerning freshwater-fisheries, hunting and berry-picking. A fair assumption is that the commission will have finished it's work in a year or two, and come up with constructive proposals which can both benefit the Saami and local use of the national resources, and a sustainable development.

Conclusion.

Here I have pointed at some factors creating problems to a Saami "traditional" way of living - implicitly assuming that "modernization" is one of the reasons creating those problems. I have also tried to say that arrangements, based on minority and indigenous rights, now, more and more are becoming a topic on the political agenda in Norway.

Results have already been reached, aiming to find a balance between a traditional way of living and "modernization". A positive interaction between the Saami Assembly, and central authorities, will be very decisive to the level of success of the development which now has started.

The Status of the Sami People in the Inter-state Cooperation

Elina Helander

1. The Sami people as political actors

1.1 When we discuss the Sami identity, the thoughts fly firstly to the Sami clothing, reindeer, yoik and other cultural expressions. And it is actually in the area of culture, that the Sami people are gaining autonomy. Along with the establishment of the Sami parliament (Sametinget) in Norway, the process of the development of the Sami cultural self-determination got a new turn. In Finland, there is a suggestion concerning the Sami cultural autonomy. It is suggested that the Finnish Sami is granted cultural autonomy through law-making. Accordingly, the Sami are suggested to have the right to influence decision-making and law-making when it concerns their culture, language and society. If we continue the analysis, we can see, that the Sami people regard the lands where they have lived and now live, as their own. The political documents show, that the concept of own territory among the Sami people and other indigenous peoples has also a spiritual-philosophical content. The Sami people think, that they have inherited their lands from their forefathers, and in the principle of ownership a responsibility is included to take care of the lands for future generations. No one can prevent the Sami from completing this task.

1.2 The Sami people live in a geographical area, which they call Sápmi. A great part of the Barents region is located within the Sápmi. Ole Henrik Magga, the president of the Sametinget (the Sami Parliament in Norway) stated in January 1993 in Kirkenes (1993, 1), that "sámi álbmot leat dán guovllu eanás osiid álgoássiid eaiggádat" (the Sami people is the indigenous people in most parts of this region and the owner of it). According to Thorvald Stoltenberg (1992, 11), the Sami people constitutes the historical majority in this region.

1.3 The ethnicity of the Sami is politicized in the sense, that they appear in public as distinct political actors with political demands of their own. A radical change in relation to the Sami political debate and behaviour occurred in the 1970:s with the crystallization of the Sami political demands in 1971. The Sami cultural and political program of 1971 showed that the Sami regard themselves as one people and pursue a unified policy. This was very important bearing in mind the experienced assimilative policy of the states, and considering the attempts made by the Swedish state to split the Sami unity. In relation to the international declarations it was favourable to define the Sami group as a people. Internationalization of the political work took place, for example, through the membership in the World Council of the Indigenous Peoples, which was established in 1975.

1.4 Now, there are so-called representative political bodies among the Sami. In Finland the Sami Parliament was established in 1973, in Norway (Sametinget) in 1989 and in Sweden (Sametinget) in 1993. There are also plans to institute a parliament among the Russians Sami. This development is expected to lead to a higher formal status of the Sami because the parliaments can negotiate and play the indigenous part on behalf of the Sami people.

2. Sami political goals and international declarations

2.1 The traditional states think, that they have a monopoly of self-determination and ownership of a territory. The same claim is now made by the indigenous peoples. Thus, the Sami regard themselves as the legitimate owners of their lands and natural resources. They are working towards self-determination and towards ownership of their traditional lands and waters. The Sami feel that the national governments are not doing enough in order to safeguard the Sami rights. Therefore, much trust is placed in the international declarations. In the so-called ILO Convention No. 169, article 14 respectively 15 it is stated that "the rights of ownership and possessions of the peoples concerned over the lands which they traditionally occupy shall be recognized", and that: "the rights of the peoples concerned to the natural resources pertaining to their lands shall be specially safeguarded. These rights include the right of these peoples to participate in the use, management and conservation of these resources."

The principle of self-determination is included in the International Covenant on Civil and political Rights, and in the International Covenant on Economic, Social and Cultural Rights.

2.2 The Sami Council is working on the creation of a special declaration of Sami rights. The document is called "The Sami Convention". The aim is, that the Nordic governments, and perhaps also the Russian government, in due time ratify this agreement. The aim of the Sami Convention is to guarantee the Sami people the land ownership, and give them self-determination. The aim is also to protect their right to the natural resources, and to develop their linguistic and cultural rights. It is also assumed that the governments identify the Sami region together with the Sami

parliaments. The surrounding states, Finland, Norway, Sweden and Russia lack unified policy and lawmaking, and the Sami Convention offers the possibility of harmonized laws.

2.3 The identification of the Sami territory and the wish to control the resources and the claim of the right of self-determination does not mean that the Sami people want to have a state of its own. I would like to emphasize, that the Sami are not demanding the possession of the ultimate authority within a certain territory, e.g. sovereignty in relation to other states.

3. The Barents co-operation and the Sami expectations

I have measured during February 1994 the opinions of Sami top- politicians concerning the Barents co-operation.¹ These persons are involved both in national, Nordic and international work, and they represent the following organisations: Sametinget in Norway respectively Sweden, The Sami Parliament in Finland, Sami Council, The Sami Womens" Organization Sáráhkká, The National Association of Norwegian Sami (NSR), The Kola Sami Association, The Swedish Sami Association (SSR) and the Same-Ätnam organization in Sweden. I have also checked, if the Barents co-operation is discussed at their meetings, and I have discussed the issue with a number of employees in public administration. I would like to emphasize that the material is limited. For example, all Sami organizations are not included in the survey. The Sami Reindeer Herders "Association in Norway (NRL) is not interviewed although they have had a project as regards the reindeer-herding in the Kola peninsula.

3.1 I cannot claim that I noticed any great enthusiasm among the Sami politicians concerning the Barents co-operation.² One of the reasons for this could be that the Sami people have not forgotten their own history. The Sami people have been subject to colonialization, missionary activities, racism and assimilation (Helander 1993a, 6). Their lands have been taken away, and many of the resources that they used for their survival have been exploited by others (cf. Helander 1993b, 76-77). The Barents co-operation can be understood as one atage of a continued colonialization. In this connection, some politicians claimed to have more faith in other types of political options, such as international declarations and other alternatives of co-operations via international networks.

The expectations at the highest levels are that the Barents co-operation will indirectly lead to the identification of the Sami region, and to beneficial law-making for the Sami. Some expect that in the case that the resources in the Sami areas are exploited by others than Sami then a share of the profit should be reserved for the Sami. At the lowest level, the expectations include only some amount of influence or some sort of educational and cultural exchange.

However, the general goals for the Barents co-operation, like improvements in environmental security, regional stability, regional network, and the possibilities of the active influence of the indigenous peoples, are met positively by the Sami politicians. These strivings actually coincide with the Sami political work (see also 3.1 below).

3.2 One of the issues that is discussed in Sami circles is the representation. In February, when I made the survey, the Sami people and other indigenous groups in the area were represented in the

¹ The results of this survey are presented and discussed in Helander 1994.

² The opinions of the politicians are expected to change after there has been more discussion, investigation and information about the issue.

Barents Regional Council by one member. Several working groups have indigenous representation. There is also a special working group for indigenous issues, which received criticism because of its passivity.

Many politicians have argued that there should be a greater indigenous representation in the different kind of bodies and at all levels within the Barents system. Also the Sami women have demanded through Sáráhká that the women should have their own representatives in the Regional Council and in its working groups. The contents of the possible co-operation was a less discussed issue (see also 5.1 and 5.2 below).

3.3 I would also like to state, that there is relatively little awareness among the Sami in Sweden and Finland of the possibilities offered by the Barents co-operation compared with the Russian and Norwegian Sami. One explanation could be that there has not been so much information or discussion in the national and local newspapers in Sweden and Finland about the issue. Among some Sami politicians, there is also doubt about the willingness of certain counties, for example the Norrbotten county in Sweden, to support the Sami strivings.

3.4 According to my observations, there has been little discussion about the Barents region within the national Sami organizations. The organizations that differ from others in this respect are: NSR, Sametinget in Norway, Sami Council, and Sáráhká. The Sami Council has made up a program of aid to the Russian Sami. It is obvious, that the situation of the Russian Sami is very distressing. This applies to all sectors of their life. According to the Sami Council's report the most severe problems are alcoholism and lack of housing accommodations (Afanasjeva & Rantala 1993, 10). The report suggests all kind of help, from humanitarian aid to aid to industries, culture and education.

Generally speaking, all politicians are concerned about the situation of the Russian Sami, and many express the opinion, that the Barents cooperation is going to be beneficial for them. Sáráhká is the organisation, that has made up the perhaps most well-defined program among the Sami organisations with respect to the Barents co-operation. Sáráhká wishes to strengthen the co-operation between the Sami women, and promote the common Sami cultural and social development. Sáráhká suggests several kinds of activities in order to reach its goals: improved social welfare, women's information centre, etc.

Also the Sametinget in Norway and Sweden respectively and the Sami Parliament in Finland have made common statements on this issue. They have decided to continually follow up the process with respect to the possibilities of the indigenous influence on their common issues. NSR has discussed Barents at its annual meeting in 1993. NSR, for example, does not want the non-Nordic states take part in decisions about the use of the natural resources in this area. NSR is also against the exploitation of the Barents region.

4. About the influence of the Sami people

4.1 The representant of the Norwegian Sami Parliament (Sametinget) stated in January 1993 in Kirkenes, that the Sami participation depends on which kind of representation they get in the Barents system, and how the indigenous interests are taken into account. It is obvious that the Sami people are not content before their demands for strengthened influence are taken seriously. Many activities in the region, like economic and military activities, tourism, etc. also have a direct or indirect influence on the Sami life. The Barents region is rich in natural resources and raw-

materials, and thus can easily become over-exploited. Therefore it is understandable, that the Sami people as political actors in the region wish to expand their area of influence.

The political influence of the Sami is increasing, but on many crucial issues, the Sami do not have the possibility to take part in the decision-making. Let's take an example from Norway. The Norwegian authorities gave the multinational mining giant, Rio Tinto Zinc via its affiliated company Rio Holding Norway A/S, permission to search for minerals in Finnmark in Norway. This took place without negotiations with the Sami people and the local authorities. The Norwegian authorities also appropriated 500.000 Ncr. for the search activities. Consequently, the search was started in Karasjok in April this year. Sami people and local people reacted and mobilized themselves in co-operation with for example Bellona-organization in Norway. The president of the Sametinget asked Rio Tinto to leave the Sami areas. The Norwegian Minister of Local Government, Gunnar Berge, criticized the Sami president for going too far in the use of authority. Berge said, that the Sametinget or its president cannot stop the company that has received a permission from the Norwegian authorities. In this connection Magga, the president, stated that "we do not have any influence at all other than by screaming on the barricades."

Rio Tinto decided to wait with its search activities, because they do not want to be in conflict with the Sami and other local people.

5. The Sami people within the Barents organization

5. 1 The Sami people are represented in the Barents Regional Council (Alf Nystad). Also the meetings of the administrative regional committee are attended by a Sami, Heidi Salmi from Sametinget in Norway. There is also a special indigenous working group with Sven Roald Nystad as its leader. Other members are Matti Morottaja (Sami Parliament in Finland), Ingvar Ähren (Sametinget in Sweden), Nina Afanasjeva (Russian Sami), Evdokija Telekova (Nenets from the county of Archangelsk) and Galina P. Alekseevskaja (Nenets). The working group also has a project leader (a Sami from Norway), Martin Urheim.

The mandate of this group is to draw up an action plan for the indigenous peoples in the Barents region. The mandate from 22-23 April 1993 is:

- to give new status to the present co-operation
- describe the organizational ways of the indigenous peoples in the region
- make suggestions on how to improve the status of the indigenous
- peoples and their cultural and economical development in the region
- make suggestions on how the Regional Council can support the development in a positive direction
- analyse the economic and organizational consequences of the suggestions made.

At the meeting of the Indigenous working group in April 1994 the members decided to demand reorganizational actions entailing that the working group is reorganized to become an independent indigenous council, which is equal to the Regional Council. The indigenous council is thus subordinate to the Barents Council and has its own administration. The concrete projects with

respect to the Barents co-operation have been discussed, and they are going to be presented to the Regional Council in the beginning of June 1994. The action program is called EAMI, the Barents Euro-Arctic Region Masterplan for Indigenous peoples 1994- 1998. Action, Restructuring and Development. The political contents and standpoints resulting from the discussions of the indigenous working group is also going to be presented at a seminar in Bodo in the middle of June.

5.2 Sami people are also represented in 5 other working groups: research (Pekka Aikio), knowledge development (Liv Östmo), environmental issues (Aslak Nils Sara), education (Rune Stormo) and culture (Emilia Dobrineno).

6. Continued colonizing process or decolonizing?

6.1 Many general ideas and goals with respect to the Barents co-operation are satisfactory from the Sami point of view. The Barents co-operation can lead to greater stability in the area, and it opens up the possibilities for the Sami in the east and west to co-operate. Sami people are also interested in sustaining a development that is biologically acceptable, and which takes into account the knowledge, values and interests of the indigenous people.

6.2 But, what about the Sami's vital interests as an indigenous people? What about the Sami region, land rights and self-determination? I assume, that the Sami are not going to get territorial rights without any kind of conflict. But who is going to be a threat, the national states in the neighbourhood, Europe, multi-national companies and banks or authorities and people at the local levels? Where is the Sami region going to be located, in Finnmark in Norway, in the Nordic countries, somewhere in the Sami area? Who is going to have the power to control and administer the natural resources? The questions are many, and the Barents process does not seem to provide any definite clues so far. The answers can be given through discussions, investigations and conflicts. The states have so far a key position in this connection.

6.3 The possible identification of the Sami territory with some sort of native control over its resources is a part of the decolonizing process

which is going on worldwide. As already said, the Sami people are not interested in the creation of own state. The Sami are claiming their right to own territory, and they demand that the states identify this territory.

6.4 It seems to me, that Sami people have several strategies in order to reach their goals. One strategy is to work with the State within the nation states. If the Sami wish to be in the future united in a same territory, this might not be a good way to work with. Their lands are also in the future going to be part of the national states as it is now. Finland is by the way the state, that easily could lead the development here, because it has already defined the Sami home region although self-determination is not yet connected to this area.

A second possibility is that the Sami as a collective unit try to convince the Nordic states and possibly also Russia to ratify an agreement according to which the Sami territory is identified. Sami people are already working with this through the so-called Sami convention mentioned above. The increasing attractiveness of the Sami area and the Barents area as the land for tourists, as supplier of raw-materials, as a key to stability, as a place for economic investment and expansion, can lead to a state constituting a threat to the Sami interests. The Barents cooperation is then in this light an obstructing factor for the Sami region.

6.5 At the same time and depending on the states concerned, the Barents area may instead become an avenue of a dialogue. Resource- management is one of the keywords in this connection. The case of the Rio Tinto in Norway shows that the local people must be allowed greater political influence concerning the use and management of resources. The development that threatens the ecological system of the Sami area is understood by the Sami as a cultural threat, a threat against the survival of the people. This kind of thinking or rhetoric gives the Sami people a role, which is also interesting for other groups living in the Barents region.

The Sami people cannot either accept the fact that the juridical analysis of the ownership of the lands is entirely based on the non-Sami conceptions and vision of the state.

Thus, I hope, that the Barents process leads to the decisions and actions that promote solutions which are favourable for all parties.

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New Divisions of Labour and Regional Innovation Systems in the Barents Sea Fisheries.

Jørgen Ole Børenholdt

The field of investigation: Aspects of new divisions of labour.

During the last years new types of trade and cooperation have emerged within the Barents Sea Fisheries. Russian vessels have sent large amounts of raw fish (mainly cod) into the European market - mainly Norway and Denmark. This has been crucial to the continuation and development of the Norwegian and Danish as well as for example parts of Faroese and Icelandic Fishing Industries. In exchange, Russia has gained first of all foreign currency - but also services and new equipment on Russian vessels. A certain kind of new division of labour between Russian vessels and Nordic land based industries can now be seen. This division of labour of course has some negative effects - on the conditions of Nordic fishermen (lower prices and problems in selling catches of lower value to industries) - and on the development of the Russian home market and Russian processing industries of white fish species.

Joint ventures between Russian and Western firms have developed within different fields. In the case of large fishing centre of Murmansk, joint ventures within processing have mainly been with partners within (he European Union (Germany. Spain. Portugal or trans nationals such as

Unilever). Joint ventures with Norwegian firms have to a larger extent been within equipment and technologies related to fishing rather than to processing. One explanation is of course that Norwegian firms are more competitive within fishing technologies, e.g. auto-lines, than within processing technologies. The Norwegian processing industry itself produces mainly semi-processed products transportable to the fishing industry of the "resource centres" around the North Sea (Symes, 1992). But another explanation - which must not be overseen - is that Norwegian interests in the development of a modern Russian processing industry would be competing on the landings of the same fish catches, as Norwegian processing industries have been very much dependent on the last years (Davidsen, 1992, p. 18). The growth of quotas in the Barents Sea these years could change this pattern, not at least when other Western firms are already formally established in Murmansk. But until now the real content of the regional cooperation has been developed to a very limited extent; if one looks at e.g. the number of jobs within joint ventures. The large Danish firm Foodmark preferred to establish itself within the Barents Region by opening an office in Murmansk and at the same time taking over processing industries in Northern Norway (Nordkinnhalvöya, Finmarken) having the direct possibility of getting the advantage of Russian landings (Fiskeribladet, 2. September 1993) - but without having any risk due to the political instability of Russia. Apparently, Foodmark is now continuing its operations in Nordkinnhalvöya, in spite of a severe deficit (Fiskeribladet 10. February 1994), so it seems important to Foodmark to keep this bridgehead to the Russian fisheries. At the same time, Nestle is developing its processing industry in Hammerfest based on landings of both Russian and Norwegian vessels, and Nestle apparently does not have any plans for establishing industries in the Kola Peninsula (Fiskeribladet, 3. February 1994).

In addition to the traded dependencies within landings of Fish and services on vessels, the forms of cooperation so far seems to be a kind of discursive Potemkin village: A lot of meetings, agreements, cooperation within fishery inspection, scientific cooperation and reports are important signs of possible future development. To what extent deeper and large-scale trans-border forms of cooperation are going to be realized, is very much depending on whether or not a number of constraints can be overcome: That is the development of stability within the Russian political and economical system as well as potential changes within institutional practices and habits within the organizations and firms of North Western Russia. On the Nordic side the final decisions whether or not the Nordic countries are going to join The European Union could indirectly affect the interest of new forms of cooperation in the North. The possible - but maybe not probable - Norwegian membership of the European Union could make the Norwegian processing industry more interesting from a Russian point of view. But on the other hand, such a membership could very well produce problems of the resource management regime of the Barents Sea succeeding the Joint Norwegian-Russian Commission.

To discuss the future possibilities of a deeper trans-border cooperation between the fishing sectors of North Western Russia and (especially Northern) Norway, this paper is stressing the delicate question, whether or not the Russian and Norwegian fishing sectors have the capabilities to complement each other in more fruitful combinations than other possible patterns of cooperation. In other words: Could the Barents Region within (the Fisheries (North Western Russia and Northern Norway) develop a balance of functional and territorial integration - or will other possibilities of functional integration be more attractive - especially for the Murmansk fishing industry?

Two main questions are discussed:

1. What are the potentials and barriers of the North Western Russian and North Norwegian fishing sectors in respect to three aspects: a) supply of raw materials, b) production costs and productivity, and c) technological and marked positions?
2. What are the future possibilities of a regional trans-border innovation system within fisheries between Northern Norway and North Western Russia?

As these questions are rather hypothetical problems of future development, I might be posing more questions than I'm answering. But to have the possibility to act before it is too late, it is important for economical, political and scientific decision-makers to put and discuss questions, which are not necessarily put in the routinized practices of everyday life and institutionalized economical and political structures. In fact, the questions of the limits and possible risks for Norway of the development of the Barents Region are already being discussed in Norway (Reiersen, 1993 and Landsdelsulvalget..., 1993).

Potentials and barriers for the Barents fishing sector. - point of departure:

The crisis of the Soviet economy - which was the pre-condition rather than the consequence of the dissolution of the Soviet Union - was a product of the systemic neglect of the importance of the social integration of the social division of labour. Soviet economy - as well as Marxist theory - had a strong tendency to focus on technical division of labour within the production process. The question of the social division of labour between different production processes of different products was mainly put as a question of planned allocation and priority of resources into sectors and regions, while the question of how to integrate this social division of labour was mainly put as a question of logistic coordination. In a capitalistic system this integration is first of all working through the unintended consequences of the development of markets and prices. But there are other types of integration mechanisms than market and planning working all over all types of economy - more or less formally: that is customs, authority, coercion, negotiation and networks - and the price mechanism of markets cannot work isolated from such other mechanisms. To quote the interesting book "The New Social Economy" by Andrew Sayer and Richard Walker - as many other social scientists being critical to neo-classical economics and stressing institutional factors - maybe would clarify this fundamental point of departure:

"Contrary to a common view in economics, markets are not self-sufficient, but presuppose acceptance of a certain moral order (custom, authority), rely on the coercive threat of the state, and involve plenty of negotiation. Planning has similar preconditions. The converse is not true, however: custom, authority, coercion, and negotiation can integrate some divisions of labor without market or central planning." (Sayer/Walker, 1992, p.229)

The general advantage of using markets as allocation systems, is the advantage of minimizing information costs (such as surveys, meetings and political negotiations). But in the modern economy, it is still more obvious from a micro-economie perspective, that the price mechanism does not at all communicate all information needed and/or that firms are often unable to interpret price information (Sayer/Walker. 1992, p.232). What is important here is not only simple data or

samples of information, which are more and more free of charge in Western countries, but to have and develop the ability to transform data and information into knowledge adequate to practical action (Krogh, 1994).

a) fisheries and landings (supply of raw materials):

Within resource economies as well as economics, the limitations of the market as a mechanism of social integration is well known (i.e. the theory of the Tragedy of the Commons). The problem of ownership of natural resources has led to different practical concepts of resource regimes such as quota or co-management systems. A central question has been the role of regions in these resource regimes; could regions within nation-states possibly control their own natural resources? (Granberg et al. 1992, Lindkvist 1993, Sandersen, 1993).

The spatial division of labour is playing a major role in resource based economies. But due to the mobility and invisibility of fish stocks, the spatiality of fisheries is 'of a special character. The spatial division of labour within fisheries was very much intensified through the introduction of 200 nautical miles Economic Exclusive Zones (EEZs) in the late 1970s. To implement different kinds of resource management systems, the sea was nationalized - no longer being a common property for everyone. The world wide oriented Soviet fishing fleet was among the losers of the new system of national territories in the sea (EEZs), although the Soviet fishing industry for years had an innovative power to take up fisheries for new species - often outside EEZs (Globefish, 1993). Besides parts of the rich Barents Sea went to the Soviet EEZ.

The resource regime of Norwegian and Russian EEZs within the Barents Sea - including the unclarified grey zone - has been managed by a joint Norwegian-Soviet/Russian commission since 1975. Through negotiations every year quotas were exchanged: quotas of valuable cod were transferred from Soviet Union to Norway in exchange of quotas of "volume species" from Norway to Soviet Union. But this specific kind of division of labour has changed since 1987; since then exchanges of quotas have decreased (Davidsen, 1992, p. 56ff). One reason is of course the declining fish stocks in the Barents Sea in the late 1980s. This was apparently combined with political pressure from medium-sized vessels of the Murmansk Region geared for cod fishing¹ (Stokke/Hoel, 1991, p.57). In the last two years a growing share of quotas have been allocated to the kolkhozes, to the association of private companies and jointventures and to the "Coastal fishing programme", and these kinds of companies are exactly characterized by their control of medium-sized vessels, suitable for (the Barents Sea Fisheries. In 1993 and 1994 cod fishing in the Barents Sea is only to be carried out by medium-sized vessels - in 1994 only for vessels less than 70 m (Globefish, 1993, p.44 and Fiskaren 27. January, 1994). Russia's fishing fleet is now generally going to be restructured towards medium- and light-tonnage vessels adjusted to coastal waters, and orders on the construction of such fishing vessels have been given to Severodvinsk shipyard as well as to Spanish companies (World Fishing, March 1994, p.5).

Basically, the division of labour between Norway and Russia in the Barents Sea remained the same: The only but rather important change, is that Russian cod quotas (in growth due to the better resource situation in the Barents Sea) are now caught by Russian vessels to be exported for foreign

¹ Medium-sized vessels are smaller trawlers compared to large Russian vessels specialized in fishing of pelagic fish in high sea. But the "medium" is a relative concept - while these vessels having a crew around 30 persons and a tonnage around 1500 (Nilssen, 1993, p.28) are still big compared to most Norwegian or Icelandic trawlers.

currency. Russia's rapid realization of its natural resources on the world market is of course leaving the Russian whitefish processing sector lacking behind. The fish processing industry in Murmansk is concentrated on smoked and canned fish primarily for the home market (Nilssen, 1993, p. 77).

We may want to question about the future rationality of this realization of natural resources on the world market (e.g. Barents-Nytt, January 1994, p.19). For the mining-industrial complex in the Murmansk Region the situation seems desperate: The resources are non-renewable, the costs of transport of nickel ore from Norilsk to Monchegorsk and Nikel are not likely to be accepted in the future, the continuous smelting of nickel ore in Nikel and Monchegorsk has severe environmental consequences, and at the same time it is likely that future world market demands for minerals as well as fertilizers made from apatite are decreasing (Bærenholdt, 1994b). Compared to the desperate situation of the mining-industrial complex, which has been the basis of growth in the Murmansk Region during 1970s and 1980s, the Murmansk fishing sector has better future prospects, if it is possible to follow a route of development including regional accumulation of capital (Bærenholdt, 1994b) and innovation processes.

The large exports of raw fish to Norway, Denmark and other countries in 1991, 1992 and 1993 (Nilssen, 1993, fig. 6. 6 p.66 and Fiskeribladet/Fiskaren) have to some extent contributed to a regional accumulation of capital. The export incomes of the fishing industry and the Russian state (taxes) have been a compensation for the breakdown of the Soviet economy in several vital fields of the fishing sector (Nilssen. 1993. p. 39-40 and p. 52-55):

- the breakdown and incapability of the Murmansk sector of maintenance, repair and services to fishing vessels (lack of spare parts etc.)
- the abolition of state subsidies to the northern fisheries association Sevryba
- the decrease of Sevryba's fisheries in remote areas such as the Pacific Ocean and the Bering Strait, because of raising costs of fuel.

But parts of the Murmansk fishing industry seem to gain good profits, which are invested in new medium-sized vessels and factory ships or in conversion of older ships. Murmanrybprom, the second biggest fishing Heel i Murmansk, made a good profit in the first months of 1993, and the fleet is now converted, among others, on the Gdyansk shipyard, Poland (Fishing News International, December 1993). At the same time, parts of the profits made from exports - often in illegal ways - are placed in western banks. Russian authorities are trying to investigate hidden money in the West, and lately an export tax (2,50 NOK pr. kg cod) has been introduced. But such regulations are bypassed, e.g. by sea trans-shipment of catches from vessels to transport ships going to foreign markets (Fiskeribladet 17. February and 1. March, 1994).

We don't know for sure the future development of renewable resources in the Barents Sea; it is depending on the level and way of human exploitation, the possible threats from dumped nuclear waste and projects of energy resource extraction, and the dynamics of fish stocks. Apart from the possible extraction of gas deposits later on, the renewable resources of the Barents Sea could themselves represent valuable incomes to the Murmansk Region or to Russia. But unfortunately, the Murmansk Region's fish export was not the main reason to the decline of fish prices on the world market during since 1991. The strong competition from the Pacific Ocean fisheries of first

of all Alaska pollack was the main reason. One of the main actors in this expanding Pacific fisheries is the only "Big Brother" of Sevryba: Dalryba². Therefore the national fisheries policy of the Russian fishing committee maybe could play a role in the game.

What is needed under all circumstances, is to reduce the large exports of raw fish at low prices. This is not only a risk for Russia or for the Murmansk Region. It is also a task for the Nordic fishing sector, where coordination of price policies, exports networks etc. are lacking behind in relation to the very concentrated trans-national buyers of fish on the European market (Friis, 1992). In fact, the total North Atlantic fishing sector is characterized by an outstanding lack of coordination between Nordic "brothers and sisters", and this is part of the explanation of the tendency to marginalization of the North Atlantic fishing regions in relation to the world market. Nordic fish industry missed the opportunity to introduce a radical new division of labour after the introduction of the EEZs in the late 1970s. The EEZ of the North Atlantic regions had dramatic effects on the English, German and other fishing communities; at that time European fish buyers had no other alternatives than to buy fish from the North Atlantic (Friis, 1993, p. 22). Today, (the Pacific Ocean fisheries are taking the leading role.

Seen in this global perspective, the Murmansk fisheries cooperation with Norway and the North Atlantic Region is a cooperation of equals. Of course this makes the production of territorial integration and new regional ("Pomor") identities much easier. But it is very much a question of whether or not regional cooperation between such equals is functional to a sufficient level?

b) Spatial patterns in the processing industries (production costs and productivity):

Competition on production costs and productivity is the classical mechanism of capitalist economy. But it is very questionable how much these factors mean in modern resource based sectors, which tend to be based on supply of (and shortage of) raw materials (a) but compete on technological and market positions (c).

Competition on production costs and productivity is in fact playing a major role in many Nordic fish processing plants producing frozen filets for the bulk market. It is this type of processing plants, which is dominating the fishing industry of Norway, Faroe Islands, Iceland and Greenland³. The production process can easily be characterized as Fordisi mass production of standard products in big quantities, trying to economize with the amount of unskilled and cheap labour power (Friis, 1993, p.22).

The main purpose of the Fordisi fishing industry is to make the fish easier to transport. Therefore in fact, it is wrong to characterize this kind of production as value-added, because new transport and processing technologies and world market demand tend to increase the role of two very opposite products: fresh fish and ready-prepared dishes. Both of these products are much more valuable on the market than frozen filets. The blocks of frozen filets produced in the North

² The 1991 total landings of Alaska pollack in the Northern Pacific Ocean amounted 5900 thousand tons, of which 3020 thousand ton by Russia. These figures should be compared to landings of total 1352 thousand ton of North Atlantic cod. of which Norway and Russia landed only 160 thousand ton each (Landsdelutvalget..., 1993, p. 13).

³ The Greenlandic economy is very dependent on exports of shrimps, as cod stocks in Greenland declined in the late 1980s.

Atlantic fish factories is today still more often only a semi -processed product for further and real value-adding processing of ready-prepared dishes ordered by highly concentrated transnational retail trade cooperations. A market for frozen filets could develop in Russia as a potential for export from the Norwegian fishing factories. But this kind of production might be relatively easy to introduce in Murmansk in respect to qualifications of management and workers. In this way Russia could substitute potential imports of standard food goods, although such a strategy only has a relatively short time perspective.

The Norwegian export of frozen filets to the European market has its own problems. Compared to Denmark and Iceland, Norway's export of frozen filets during the 1980s generally gained the lowest export value per kg (Nyheim, 1993). From 1992 to 1993 the per unit export prices were still declining. Apparently Norway's many fish exporters have much to learn (Fiskeribladet, 20. January).

The flow of fish from Russia to the European market is part of a general spatial division of labour, which can be described in general terms as such:

- Russia exporting mainly raw fish (fresh to Norway - frozen to Denmark)
- Norway exporting mainly frozen filets
- parts of it through Denmark, which is an entrepot nation in fish trade also for Greenland and the Faroe Islands
- Denmark producing a higher amount of value-added products
- the biggest concentration of production of ready-prepared dishes going on in Germany, the Netherlands, Belgium, and France

It would be easy to propose a traditional geographical transport distance model (like Von Thiinen) to explain this pattern. But transport is not the main problem any longer, apart from fuel costs and environmental impact of transport. The service supply is much more important:

"The geographical location of resource centres is perhaps less important than the overall quality of service they are able to provide to both 'upstream' and 'downstream' sectors of the industry. It matters little whether entry to the internal distribution system occurs close to the supply areas or to the final markets." (Symes, 1992. p. 158)

But for David Symes (University of Hull. UK), this argument is only used to show, that a Danish harbour (Esbjerg) "in theory" (!) could be competitive to Cuxhaven (Germany), IJmuiden (Netherlands), Zeebrugge (Belgium). Boulogne (France) and Hull-Grimsby (England). A "resource centre" is able to receive large volumes of fish and fish products with very good port facilities, effective handling, sale, processing and distribution of fish in a integrated cold store environment in accordance to EU's food hygiene regulations (Symes, 1992, p. 157).

One can try to pose a most interesting and difficult "theoretical" question: What would be the chances for Murmansk (or Sevromorsk?) to develop into such a "resource centre" including an effective (railway through Finland and Sweden) distribution system to the European market? Murmansk was a resource centre of the former Soviet home market, having direct - but

problematical - railway connections to central European Russia. The controversial question is, whether the already existing, specific structural pre-conditions - built environments, economical structures, agglomeration of labour force, social networks and socio-cultural habits/qualifications would be potentials or barriers to the development of a modern resource centre. If anyone has, Russians have experiences with mega-projects - positive and negative. In contradiction to a mega-gas-project (Stockmanskaya project) a resource centre should be a combination of

- a mega-project of integrated port facilities, buildings and distribution systems
- and a lot of entrepreneurs leasing facilities.

The regional authorities of Murmansk are trying to negotiate with central authorities about giving the Murmansk Region status as a free enterprise zone (Barents-Nytt, January, 1994, p.4). This project could both be very dangerous and very exciting to the development of business within the fishing sector. If the perspective was concentrated on attempts to "sell the region" on low costs - low wages and low taxes - Murmansk would be an ultimate Klondyke milieu, maybe attractive to some fish, textile and assembling industries for a period and maybe a frontier of extraction of gold and platinum! But if the free enterprise zone mostly is a mean to gain some kind of regional autonomy, which could give foreign investors and joint-ventures some political and economical guarantees for the future, this could produce enough "space" for an international fishing resource centre project. Most interesting partners would then be transnational companies like Nestle and Unilever, if they were accepted by Russian political authorities and on the other hand themselves would accept these authorities as a partner. Such a project maybe could transcend the "weak" competition on only costs and productivity towards the "strong" competition on technological and market positions.

c) Knowledge based development (technological and market positions)

In the long run competition on innovation in technology and organization in production and sale is a much stronger driving force of capitalism, than simple competition on prices through reduction of costs and increasing productivity. To present and be able to sell a new product is much more important, because such innovations change the whole set of conditions for market competition.

The strong competition and innovation development within fisheries is more and more concentrated within technologies and knowledge concerning how to handle information (Krogh, 1994 and Rasmussen, 1994). In regional development of Western European countries, the total service and informations sector is playing a still more influential role (Illeris 1993).

Of course, for resource-based industries, the supply of raw materials is essential. We often see competition between regions concerning supply of scarce raw materials. In Norway large amounts of fish in the waters outside Northern Norway are fished by larger vessels from the more southern - and very entrepreneurial - region around Alesund. But the reason for this uneven distribution of raw materials has very much to do with technological innovations in the fishing and shipyard sector of the Alesund region (Lindkvist, 1993). From the point of view of the North Norwegian processing industries, the landings of Russian trawler fleets in Northern Norway in this respect can very well be seen as compensation for the domination of Alesund fisheries inside Norway.

Besides coastal fishing, the North Norwegian fishing fleet in some areas is weak and unmodern (Landsdelsutvalget..., 1993, p.28). But from the point of view of the outside (Alesund) owners of parts of the North Norwegian processing industry, the Russian partners are integrated in a functional division of labour as suppliers of raw materials.

From the point of view of the Murmansk fishing sector, it is a question whether or not this division of labour is functional. To develop the Murmansk fishing fleet, the question is whether or not the North Norwegian "users" of Russian landings are advanced enough in the long run. Are the Russians getting services and technologies advanced enough in exchange for their landings of valuable raw material? The answer has to be divided into different parts with different answers:

Within the **development of coastal** fishing in Murmansk and Arkhangelsk Russian fisheries have relatively quickly begun to learn from North Norwegian advice to avoid overexploitation of the fish stocks and to convert to fisheries to smaller units, fishing resources close to the coast, using less fuel. Kvterner Kimek in Kirkenes is involved in upgrading and conversion of Russian former trawlers to fishing with auto-line equipment. Today around 20 Russian vessels with line equipment is operating in the Barents Sea, and a part of them are operated by fishing kolkhozes in both Arkhangelsk and Murmansk Regions (Barents-Nytt, February, 1994, p.3). Within this field of innovation, Russia is simply importing already existing Norwegian technologies. These are partly North Norwegian. But the Russian line vessels are not coastal vessels in the North Norwegian sense (returning and landing catches each day). It is big vessels using technologies, which mostly have been developed in more southern regions of Norway - the Alesund Region and within the traditional hook producer Mustad in Gjøvik (not far from Lillehammer). It is going to be interesting to evaluate, how the organizational framework and qualifications of Russian crews are adapting to fishing with lines. Are there barriers, or are the Russians able to adapt quickly through there relatively large projects? Could the Russian line vessels maybe win a stronger position than North Norwegian vessels, since the auto-line technology is different from the traditional North Norwegian line technology? The Research and Development sector of Murmansk has apparently been rather active for the last years, if one can judge from the amount of meetings.

The North Russian fishing fleet has already for years consisted of several **factory ships** and Russia has experiences in **deep-sea fisheries**, which is interesting for Norwegian partners. Within these sectors, Russia has an opportunity to win technological positions including positions on the market of knowledge. The fishing sector of Alesund could be an interesting partner, and mutual projects are already running. Obviously, landings of factory ships are going to take place in EU-countries or maybe Iceland.

To the development of new products from (he Russian fishing industry, the traditional Russian products of canned and smoked fish might be a reasonable starting point. Norwegian interest would maybe like Russia to take over the Fordist production of frozen block, while Norwegian firms made "competence intensive special products" (Landsdelsutvalget..., 1993, p.37). As already mentioned above, Norway hasn't got so much technology to offer Russia within advanced - real value-adding - processing. Norway is much more advanced as a user and partner in relation to the semi-production of frozen filets, as this production and product might represent an innovation on the Russian home market, especially if produced with lower costs in Russia. But Russia could also have the opportunity to develop new products from alternative species - e.g. products processed from deep-sea fish such as redfish.

Altogether, the Murmansk as well as the Arkhangelsk fishing sector possess certain important pre-conditions, with which they can win technological and market positions in the international fishing economy. These are supply of a good selection of different raw materials, rather well educated and experienced technicians etc. But capital and certain organisational frameworks are lacking.

Regional innovation systems?

In the recent theoretical debate on innovation processes within institutionalist approaches, stress has been put on concepts of National Innovation Systems and Learning Processes (Lundvall, 1992). Innovation is a driving force in the economy, and the conditions of innovation have very much to do with national institutional conditions such as the educational system, organization of science and technology, banking system, and socio-cultural ways of doing things. And these conditions are to a high degree specific to nationstates as political- economical entities and/or nationalities as socio-cultural communities. Innovation processes are institutionalized through formal institutions such as technology policy and technological institutes - as well as informal institutions such as traditions of business behaviour, networking and use of mutual languages.

An entrepreneur is not an individual genius. Entrepreneurship has to be understood as a social and collective process (Jonsson. 1993). Innovation is an interactive process, where user-producer-relations are essential. Learning processes are seen as a basic force in economical evolution.

Within the fisheries sector in the North Atlantic region contacts and networks are in many ways more specific to (the fisheries sector than to nations (Rasmussen, 1994, p.6). Nordic Fishermen have a certain kind of community across the invisible borders at sea, and this is rather easy to understand because of the traditional mobility of fishermen, apart from local coastal and fjord fishing. North Atlantic trans-border user-producer relations and networks have been decisive to the development of several innovations in the fisheries sector as auto- lines, trawls, tubes and weighing systems.

Russian fishermen have been related and in contact with the North Atlantic fisheries community for years. But between Russian and Nordic fishermen, fishing industry, and entrepreneurial groups, we find several characteristics of differences between national systems of innovation: the institutional set-up, organizational framework and management (centralization versus decentralization/distribution of information and decision-making), and language and culture makes a difference. A new Barents regional identity is communicated with references to historical inheritance from Pomor trade: but one must not forget that Pomor trade was sale of fish to Russia from the isolated and poor Northern Norway. And one must also not forget, that the establishment of huge urban settlements on the Kola Peninsula and the institutions created in the Soviet period make a very important difference, everyone can feel. The rather excited activities of meetings and visits between Russia and Norway are playing a major role in the long process to develop mutual understanding and confidence. Therefore these activities are in fact not only a Potemkin village.

If you study the personal networks and contacts across the North Atlantic between Norway and Iceland, it is reasonable to use a new concept of a regional trans-border innovation system. Relations between North Atlantic students at The Fisheries University (Fiskerihøgskolen) in Tromsø are important in this respect. These contacts are most of all informal.

Trans-border contacts between potential entrepreneurial milieus of Norway and Russia are much more formal, and this could be a risk. Institutional hierarchies (especially in Russia) are deciding who is participating. Many speeches and agreements upon, what should be done, are taking place. It is much more seldom that new social and technical solutions are developed within close relations between users and producers. In this respect, a regional trans-border innovation system does not exist yet.

Norwegian interests are more and more oriented towards developing the potential "market power" through cooperation between the Norwegian and Russian suppliers to the fish market (Davidsen, 1992, p. 18, Nilssen, 1993, p.81 and Landsdelsutvalget..., 1993). Other western competitors - to buy Russian fish and to develop innovation adapted to North Western Russian conditions - are representing a bogey in the North Norwegian debate: "If we don't buy the fish, others will do it", is a very realistic answer to protesting Norwegian fishermen.

So far, years of discussion of gaining "market power" from North Atlantic cooperation in sales has not been realized in actual business. The North Norwegian Regional Cooperation Committee (Landsdelsutvalget for Nord-Norge) has been discussing and suggesting cooperation with the West Nordic countries of Faroe Islands, Iceland and Greenland for several years. And it is the same Committee, which stresses the importance of handling the market in better ways (Landsdelsutvalget..., 1993). In the meantime, Pacific Alaska pollack has been introduced to the market of frozen fish. Technological and organizational innovations could of course be developed in spite of this. But as long as raw materials are sold out of the North Atlantic region at decreasing prices, where is the capital and processing experiences to be the basis of interactive learning and innovations? So far, the trans-border cooperation is most of all on investments in a more sustainable and/or productive fishing fleet, such as the coastal fishing initiatives (already mentioned) and cooperation on investments in new trawlers (Barents Perspektiv, January, 1994, p. 13).

Homogeneous structures are often mentioned to be an advantage for the development of new trans-border regional cooperations within the European integration. The homogeneity of a sample of many and general characteristics has been used to argue for the "Blue Banana" core region of the European Union (Hinkel, 1993). From a division of labour point of view, homogeneity of course helps territorial integration. But will this integration on the other hand be sufficiently functional in relation to the world market competition? In some respects a North Sea cooperation could be an interesting framework for Norwegian fishing industry in order to integrate in European producer-user-relations. The small scale of North Atlantic micro-economies (including the North Norwegian) in itself limits the potentials of collective entrepreneurship (Jonsson, 1993).

Even the North Atlantic region consisting of Greenland, Iceland, the Faroe Islands and Northern Norway is a very small economy in respect to entrepreneurial possibilities. If the Barents Region was developed in connection with the West Nordic countries (Greenland, Iceland, the Faroe Islands) this might give some opportunities for entrepreneurial networks within fisheries, due to the quantitative size of the region as well as the qualitative diverse kinds of experiences existing within the region.

The risk of the Barents Euro-Arctic Region Cooperation in fisheries, is that the Barents Region remains only a supplier of raw materials - and try to build upon this in a protectionistic way. Obviously, Northern Norway is very much seeing the internationalization process as a threat, and this is rather realistic (Landsdelsutvalget. . ., 1993, p.6). The Icelandic fishing industries are handling the internationalization in a more offensive way: Icelandic fishing industries have bought vessels and processing industries abroad - in the former Eastern Germany and in the South East Asia. Iceland is now marketing it self as an International Fisheries Service - also buying Russian fish and upgrading Russian vessels. Iceland is profiling its fishing sector as having better transport connections to Europe and a more multi- species-oriented processing industry than Norway (News from Iceland, Business & Fisheries section, February, 1994, p.7). This international development of Icelandic fishing industry is forced by the decline of fish stocks in Icelandic waters.

Fish stocks of the Barents Sea are increasing, but the internationalization process potentially involves Russia more than Norway. In the years to come we might see the globalization of economy taking place within the fishing industry. Globalization means a global division of labour within transnational companies allocating different parts of inter-linked activities all over the world, compared to internationalization, which was "only" a development of national subsidiaries to serve domestic markets (Dicken. 1992. pp. 143-144).

Global firms are "internationally integrated firms with geographically dispersed units of design, production and marketing, but integrated by the means of information technology" (Jonsson, 1993. p. 161). Unilever is a global firm and apparently takes part in the joint venture "Nord-West" in Murmansk. Workers in "Nord-West" have much better working conditions and wages, than in similar Russian productions (Davidson, 1992. p. 19). "Nord- West" is a bridge-head. The question is how global firms are going to evaluate Murmansk as an object of investment in the years to come. Representing a rather huge potential of raw materials, labour power and harbour facilities, this evaluation will depend more upon the political development in Russia, than on the Barents Region Cooperation.

Some political conclusions.

The Barents Regional trans-border cooperation is often compared with Pomor trade. But Pomor trade was very different in two aspects:

- Pomor trade was a North Norwegian fish export to Russia in exchange for grain and timber, and this was to the advantage of Northern Norway because of lacks in the north-south infrastructure connections within Norway/Denmark. Barents fisheries cooperation is today first of all Russian export to Northern Norway - to the advantage of both - but very much due to lack of alternative sales channels or processing activities. Pomor trade decreased already in the 19th century - long before the Russian revolution - due to the development of a new Norwegian fishing economy and infrastructure, after the abolition of the Royal Danish Trade Monopoly for Finmarken in 1789 and the national detachment of Norway from Denmark in 1814 (Bterenholdt, 1994a). Barents fisheries trade will maybe also decrease, when a new Russian or North Russian fishing economy and infrastructure has been developed.

- Pomor trade was [informal and illegal in relation to the Royal Danish Trade Monopoly, but it was accepted in practice to secure the livelihood of the inhabitants of Northern Norway. Although parts of fisheries relations between Norway and Russia in recent years have been rather informal and illegal, the Barents Region is today most of all a political project.

As such the Barents Region in relation to fisheries is concerning the sources of livelihood for almost 1 million inhabitants in the dispersed settlements of Northern Norway as well as to nearly 1 million inhabitants concentrated in Murmansk city. Fisheries is a fundamental basis of the economy in both these regions. As a political project, it is impossible to prefer one type of fisheries dependent settlement structure to the other. It must be a mutual responsibility to develop the sources of livelihood for both. Taking living conditions in Murmansk Region into consideration, the Barents Region Project in this respect might very well challenge traditional Norwegian regional policies - i.e. to preserve the dispersed settlement structure of Northern Norway. Or maybe it will be in the interest of North Norwegian fishing communities to develop Murmansk as a resource centre - compared to say Cuxhaven.

There are great potentials of regional trans-border innovation within coastal fishing, product development and sales cooperation together with West Nordic countries. But the task to secure the living conditions of the people of Murmansk is too big for Northern Norway itself, and it will be in the interest of the European Union as well, whether Norway is in or out. Therefore, the international dimension of The Euro-Arctic Barents Region is a part of its functionality, not only from the point of view of foreign policy and negotiations on EU- membership, but also from the point of view of regional economical and social development.

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Information and Communication Technology in the Northern Dimension's Arctic Region – Taking Stock of the Status Quo

Oliver Krone, Antti Syväjärvi and Jari Stenvall

This article examines the role and challenges that are attached to Information and communication technology (ICT) in the Arctic areas of the Northern Dimension. Given that the Northern Dimension now stretches from the North-western Russian Economic Centre in the East to Iceland in the west, and has as observers also the United States of America and Canada for the purpose of this article a proper boundary is required. This boundary is drawn by focusing on the areas of the Nordic countries (NC) and the North-west Russian (NWR) Economic zone that are above the Arctic circle (cp. AHDR, pp. 17-18; and Lausala & Valkonen, 1999, p. 25). Within the NWR consideration is given to the areas that are west of the borders of the Nenets Autonomous Okrug.

Main aim and research question

With this spatial delimitation it becomes apparent that ICT might have a precarious character; it this character that is going to be examined in this article. When saying ICT a specialisation is

required, and in particular this article is interested in the distribution and availability of modern Communication Technologies like fibre, and digital switches etc. (Castells, 2000) that allows for the utilisation of internet broadband based services like email, web serving, but also more sophisticated applications like web-shops, and web-based learning.

For this reason, in a first step, it is examined which infrastructural-technical and political obstacles are given that could explain why there is a reported gap in this perspective (Pekkala et al., 2004 for the example of Education; Beck et al., 2005). Then it is examined whether, and if so, how the demographic situation of the Arctic areas of the Northern Dimension (AHDR, pp. 27-31) provides a setting in which particular consideration has to be given to the evident uneven distribution of population in respect to indigenous and settlers people (AHDR, p. 29), and the respective age distributions of the two groups individually and as overall populations in the North. As a consequence of this uneven distribution of westerners/settlers and indigenous people and their respective age structures it becomes important to ask whether these require the development of dedicated software applications that are cultural neutral (Kamppinen, 1998; Tedre, 2006; Krone 20007; cp. Krone, 2006 for element of knowledge differences between indigenous and westerners/settlers), and provide for the needs of elderly people (cp. Hawthorn, 2000; Zajicek, 2005; for more general account of issues of “inclusive design” cp. Clarkson et al., 2000).

Finally, the research questions are set as follows: What are potential reasons for the currently prevalent weak ICT infrastructure in the Arctic areas of the Northern Dimension? How and where does information technology, in particular software, impact on residents of the Arctic?

In the development of this article we have used a literature review and content analysis in respect to the three main topics discussed. Content analysis and literature review were used here in an empirical data gathering oriented way. In line with the intention to take stock this paper is split into three main sections. First we are examining the infrastructural situation of the Northern Dimension's arctic areas in respect to ICT. Then we shed some light on the demographic situation of the same territory in order to gain some insights on actual population developmental trends that might have an impact on ICT. Lastly we combine the ICT perspective, with a focus on software, of the first section with the demographical situation as described in the second section and attempt to understand the interdependencies of the two distinct perspectives.

The infrastructure view onto ICT in the Arctic

Privatisations in the telecommunication sector during decades 1980-1990 have brought for populations in central-urban areas continuously lower prices for telecommunication services as new providers, and different forms of delivery of these services have emerged (cp. Castells, 1996). Almost uninfluenced of these changes has been the situation in example for those areas in Canada, and the US that are part of the circumpolar North.

The situation in the BEAR (Barents European Arctic Region) is slightly different. Here the telecommunication infrastructure, and related services, is not as constrained as in the other Arctic States. Reason is a stronger “link up” with their central areas. Having said this, the situation is not too favourable, either. About half of the households of European Union have an internet access. The figure 1 shows how broadband access is typically higher in metropolitan or urban European

regions. This is one major element for consideration as ICT infrastructure can be seen as one platform both for the modern society and regional welfare.

As the map indicates, there is indeed a need for spatial or territorial development of ICT in the Arctic. This means that the equal growth and integration might have a strong territorial (i.e. here the Arctic territory) focus with ICT issues. Comparing this figure, with a focus on the Northern Dimension's Arctic area, to the maps developed by Lausanen Valkonen (cp. Lausanen & Valkonen, 1999, pp. 140-146) for the North-West Russian parts and infrastructure data in the other states the situation has improved, but the overall situation of this area in terms of integration into global networks is open for improvement, compare figure 2.

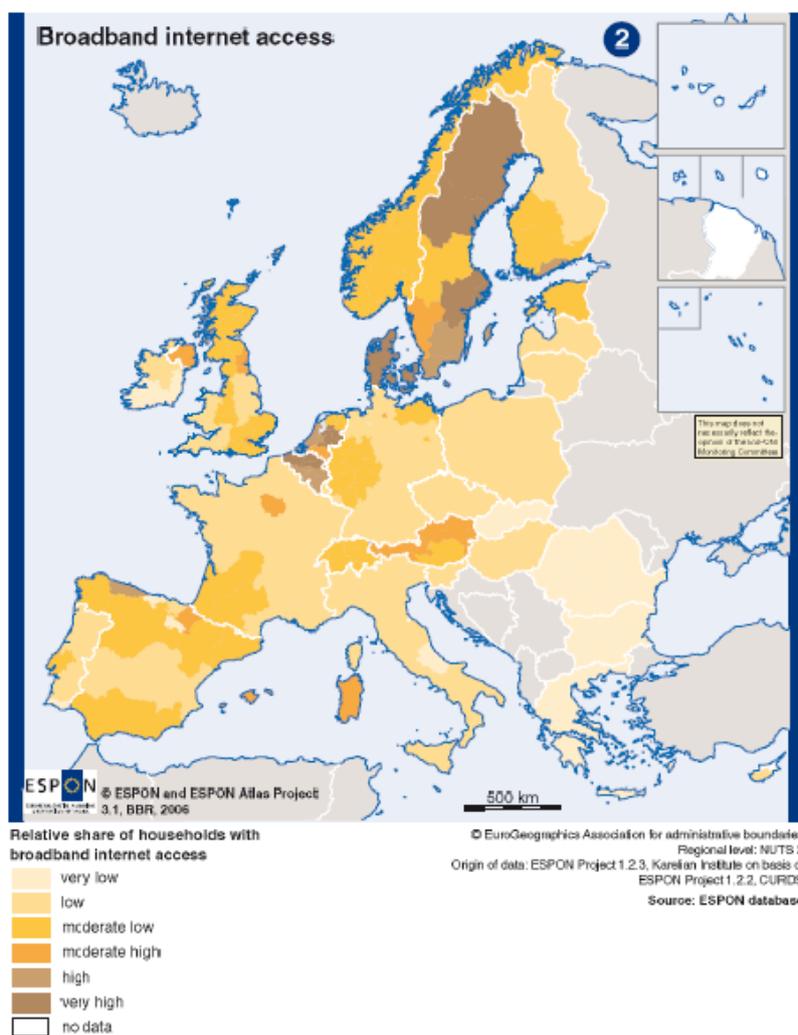


Figure 1 - Households with Broadband Internet access 2006 (ESPON ATLAS, p. 42)

Application options of ICT in the Arctic

ICT, and here in particular the Internet, are considered valuable for the delivery of public services, and thereby offering participation options to citizens. The element of participation is indicated, for example, by Pierre and Peters (2000) who state that information technology makes it possible to participate in public practices. Thus, it is meaningful to examine how the infrastructure, and

applications making use of these, is spread in the Arctic areas (e.g. Pekkala et al., 2004 for the example of Education; Beck et al., 2005). A split can be observed in which the peripheries of the Arctic states are literally cut-off from fixed lines offering the benefits that are making ICT so valuable. Populations living in rural villages scattered over the Arctic are reliant on satellite-based communication. In these rural settlements the available communication infrastructure is often more accessible for public services, e.g. telemedicine and –education, than for private use (Beck et al, 2005, 45-49, 54). In addition, services offered in these settlements are limited by the technologies applied.

Hence often villages are reliant on 54 Mbit/s connections which is the maximum for satellite-based internet services (cp. Hu & Li, 2001; Jamalipour, 2001, 95; Beck et al., 2005, 49-50). Given the priority attached to public service delivery, and the strains of these applications on the bandwidth, not much capacity is left for commercial/ private use (Beck et al. 2005, 47). The deprivation of Arctic areas in respect to telecommunication infrastructures is even more striking considering when considering the alleged value of these areas in respect to Natural Resources.

The privatisations of providers and later liberalisations of the telecommunication market itself led to a shift in the how and to whom telecommunication infrastructure should be provided (Mansell & Wehn, 2000, p. 190; ITU, 1999). While the telecommunication monopoly bearers had the legal responsibility to grant access to these services irrespective of cost of delivery and maintenance, new service provider have to have tighter control over their financial figures as they are public companies that are mostly traded on stock exchanges (Mansell & When, p. 191; cp. Cowhey, 1990 for the old ITU regime and national monopolies in the manufacturing of ICT oriented services and equipment).

Thus, it is becoming apparent that the delivery, and expansion, of telecommunication infrastructure into Arctic areas is an expense that has cost implications that can become apparent in lower dividends etc. The absolute lack of infrastructure in rural Arctic areas is then potentially a result of the cost averseness of providers (cp. Jensen, 2005 on the example of interconnection costs; Jamalipour, 96 for the direct and indirect costs attached to satellite-based communication; Beck et al., 58 for the total cost of telecommunication services). Having said this, the centre parts of the Arctic periphery (e.g. in Alaska) are relatively well developed, and broader service offerings are available for customers (FCC, 2002, 4).

The political side of telecommunication infrastructure delivery

The lack of infrastructure in the Arctic peripheries cannot solemnly be explained by cost perspectives held by service providers. In the author's perspective also the political sphere has its share in the underdeveloped rural telecommunication infrastructure. Two reasons in particular are here of importance. The first relates to telecommunication regulation, in a technical perspective, in which service providers and equipment manufacturers can negotiate among themselves standards to be applied in the sector (cp. Tedre, 2006, 128; Castells, 1996; Mansell & Wehn, 180; Cowhey, 179-180). Given the location of these market participants in the central parts of European, or the US mainland, there is no need to think over restrictions in service provision.

After privatisation and liberalisation in those areas competition became so fierce that infrastructure owning telecommunication providers sell their services below cost only to keep their customers. What is lacking is the capability to imagine impacts of decisions taken in the centre in Arctic

territories (Tedre; Mansell & When, pp. 7-10). Furthermore, due to the “private” character of standard definition, nation-states have taken a stance to rubberstamp these standards (cp. Mayntz & Scharpf, 1995; Mansell & When, pp. 181-182L; Cowhey). Reason is that in states’ self-description no options for intervention are left in privatised telecommunications markets. Telecommunication regulators are then often tasked to take decisions in respect to access provision, and are then criticised for interventionism.

The second reason for this lack of infrastructure is the result of the view that liberalised telecommunication markets are to be left on their own (e.g. the US-American FCC and the Bush-policy ruling for Alaska, op cit). According to this ideology of free-market development, it is expected that telecommunication providers take care of the delivery of their services in order to serve their customers (FCC, 2003, 1-2). Consequently Arctic peripheries can vanish from providers’ horizons, first because there are living relatively few customers, and second the development, delivery and maintenance of infrastructure has cost implications that are in proportion to the number of customers potentially willing to pay for a certain service prohibitive high.

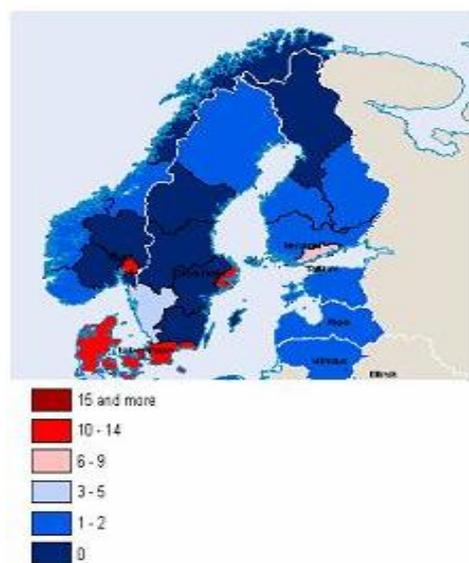


Figure 2 – The number of pan-European networks ,noded’ in a region (ESPON project, p. 156)

Thus, it can be seen that the liberalisation and privatisation of the telecommunication sector has potentially deepened the divide between centres and peripheries. As states perceive this situation as result from market forces, interventions to improve the situation of Arctic peripheries can not be expected (Jensen, 5). The free market ideology seemingly has to provide unsettling experiences for policy makers before a more interventionist’s stance would be taken.

Demographics of the Arctic

The Arctic areas of the Northern Dimension are characterised by an overall heterogeneous situation that finds its expression in the fact that the Calotte is home to one of Europe's group of recognised indigenous people when taking for example only the European spatial setting. When opening the view to the Russian areas that are part of the examination here at place, then the situation becomes even more heterogeneous. Given the defined area for this article, the Arctic areas of the Northern Dimension are home to these indigenous groups Sami, Nenets and Komi (Lausala & Valkonen, pp. 70-75; from west moving eastwards).

In addition to this heterogeneity of the population according to the AHDR (p. 27) a marked difference in the age structure of "white" and indigenous people has to be conceded. In line with the general trend of the Arctic indigenous populations have much younger populations than "whites". Due to the small number of indigenous people living in the Nordic countries (here Norway, Sweden and Finland) this trend is not obvious in these countries, while it can be observed as a general pattern in the Russian Arctic. There more one third of the indigenous population is in the age group of 0-14, while it is less than thirty per cent for the non-indigenous population (*ibid.*, p. 37).

In respect to the overall age pyramids in the European Arctic and Northwest Russia, the authors indicate that those follow the general pattern of overall demographics. This means that the decreasing fertility rates are reflected in the age pyramids just as much as the World War II debts in respect to the now thirty years old who are born to mid war parents. This lack of this age is profoundest in Russia but also it can be observed in Finland and Sweden (*ibid.* 37; Lausala & Valkonen, p. 59). In parallel to the lack of this age group in these latter two countries, there is a disproportional share of old aged people which even exceed the natural averages (*ibid.*). In Russia's North-West, due to the overall low life expectancy (AHDR., p. 35; Lausala & Valkonen, p. 70), the age old-aged group is almost non-existent.

Correspondingly it can be observed that for the area of examination here age pyramids in comparison to the overall national populations indicate slightly older than average populations as a total. This statistical phenomenon is observable in Finland's, Sweden's Arctic areas and it is in particular pressing for the whole of the Russian Arctic. Norway's age in the Arctic is according to these statistics very much in line with overall population distributions of the country (AHDR, p. 36).

Relating this demographic situation to the current availability of ICT infrastructure in the sphere of examination it becomes apparent to wonder why there is so little investment. However, it also becomes apparent that if ICT were available they would have to serve the interests of a much differentiated audience in terms of functionality. For this reason below some of the characteristics of ICT, in particular of software/ applications, are presented in respect to the differences audiences that are present in the European Arctic.

Software as part of ICT in the European Arctic

ICT are described as embodiments of sciences and their rationalistic heritage (Tedre et al., 2006, 128). When examining the innovation capabilities of ICT Tedre et al. (2006) observe that ICT's fit into other cultures is not assured (*ibid.*, 128-9). They have to be conceived as foreign to those due

to a lack of relevance “[.] to the local culture and society” (ibid., 129). Observing that often Arctic indigenous people are bearers of Traditional Knowledge (TK) (mediated by oral communication; Ilutsik, 2002 and Krone, 2006) an incongruence of knowledge sets is becoming apparent (cp. Tedre et al., ibid). ICT are predicated to, and expect as counterpart, a written culture (Kamppinen, 1998, 20). Tedre et al. show that there are incongruence’s in cultural terms that have to be accounted for, when planning and implementing ICT (Tedre et al., 128).

Thus, ICT are not culturally blind (Tedre et al. 128; Kamppinen, 20), rather imperialistic which can be attributed to the literate character of these technologies (cp. Ong, 2002 for the differentiation of dominant literate and oral cultures). Insofar as letters become representations of ideas, which were expressed beforehand only in verbal terms, words are used to compress reality onto paper (Ong, pp. 12, 81-82), and here into ICT as being based on literacy (cp. Krone, 2007 forthcoming). Already it then becomes apparent that ICT have endemic challenges if combined in an analysis to indigenous papers.

Broadening the perspective then to the old-aged people living in the European Arctic, a different set of challenges of ICT applications/software becomes apparent and relates to their utilisability by this audience. There is empirical evidence that currently existing applications not recognise in a sufficient way physical and psychological factors of this audience (cp. Bird & Zapf, 1997; Hawthorne, 2000; Zajicek, 2004).

In particular it is the interplay of physical characteristics, like for example loss of sight, differences in the capabilities of pattern recognition on screen, tactile features when using a computer mouse, and simply the learning of new applications and their underlying logic of function (Hawthorn, 2000, 510 cf., 513-515, 517-518, 520; Zajicek, 2004, p. 153 cf., p. 157) that affect the acceptance of software/applications in a work setting (eg. Birdi & Zapf, 1997). In more general terms, it is known that users withdraw from using an application/software if they experience errors or lapses in the functionality that is going beyond a certain tolerable threshold (cp. Beynon-Davies, 2002, p. 472).

Looking at software development with this focus on old-aged people, Zajicek (2004) indicates that there is a lack of dedicated design method for the inclusion of this user-group in the actual design process or methods (Zajicek, 2004, p. 154-156). For this reason it is suggested to a focus-group like approach for the inclusion of old-aged people that would also allow for the inclusion of their experiences on the hand side (ibid., p. 155) and on the other also facilitates for their patterns of giving input to the requirements delivery process (ibid., cf.)

In a combined perspective of the needs and challenges of indigenous people with their cultural heritage on the one hand side, and the needs and challenges of old-aged people when using software/applications on the other hand side it becomes apparent that the European Arctic despite of its remoteness in a spatial perspective (cp. Spiekermann & Albu, 2004) is giving rise to challenges that are way beyond what is usually attributed to “the North”. And in this perspective the question then becomes how the challenges of the European Arctic areas that are part of the Northern Dimension can be facilitated for?

Innovations in and for the North? – Instead of conclusions

Given the outline of infrastructural deficits and difficulties for ICT in the European Arctic of the Northern Dimension area, considering the demographic situation and imbalances between

indigenous and “whites”, and thinking over the consequences of the features of software/applications that are running on the infrastructure it deems necessary to question how these issues can be solved.

In line with Aarsaether and Suopajärvi (2004) the author suggests that new approaches have to be looked after that are in a position to ameliorate the situations described above. In particular these approaches should be innovative as defined by Aarsaether and Suopajärvi, who argue that those solutions are developed in the interaction of the business, public and civil society sphere (Aarsaether & Suopajärvi, 2004, p.13). In a terminological perspective they conceived innovations for the Nordic countries as “[...] the process of bringing *new* solutions to *local* problems, as responses to the challenges presented by the transformation of the increasingly *globalising* and *knowledge-based* economy. Innovations are new *practices* creating better conditions for living, employment, and economic activity in the localities” (ibid., p. 16, all italics as in the original).

From this starting point it becomes apparent that the North has to voice its needs more clearly either to the development centres of ICT in the South, or to the centres of the Northern Dimension’s Arctic adjacent states. Reason is that ICT are not conceived, developed, or even built in the North. Seemingly improvements to the ICT infrastructure and the development of integrative software applications begins with an understanding of the special needs of this region in the Northern Dimension area. But: the North is not an area that can be presented only from one perspective, or being struck by only set of difficulties. It is the combination of the infrastructural deficits, demographic imbalances and properties of ICT applications/software that asks for novel solutions.

In this perspective, sceptical viewed the core question becomes: Shall we want to increase the ICT infrastructures in the Northern Dimension’s Arctic areas, given that these might have consequences that are changing the way of living and cultures of their inhabitants?

Asking this question, however, is a contradiction to the very notion of the Northern Dimension 2nd Framework. Therefore the call is then to face realistically the challenges that are inherent to ICT for the European Arctic areas, which might mean that certain policies that are well reasoned and work out for other areas of the Northern Dimension area have to be suspended, like e.g. forced privatisation of the telecommunication markets.

Then also questions about the character of software/ applications of ICT have to be asked to designers. This brings up the question, whether the European North with its cultural and demographic and cultural multifaceted picture should be looked at from a perspective that is also employed when software, or everyday utilities, is designed for disabled persons? At least for the elderly Zajicek (p. 161 – 166) suggests to use methodologies for design that are at least derived from policies used in the design for disabled. Interestingly enough, and in line with the humanistic approach in human-computer-interface design in general, he comes to the conclusion that software that is designed for elderly is more equal and allows for the fuller realisation of the civil-society via ICT. And this is exactly part and parcel of the Northern Dimension Policy of the EU: To strengthen and develop further opportunities for the development of the civil society.

“The Northern Dimension will be a regional expression of the Common Spaces EU/Russia. Russia and the European Union will make the Northern Dimension policy a cross-cutting topic and a tool where appropriate for the implementation of the road maps for the Common Spaces

with full participation of Iceland and Norway in matters relevant to Northern Dimension. The Northern Dimension policy will continue to address some objectives of specific relevance in the North, i.e. its fragile environment, indigenous peoples' issues, cultural diversity, health and social well-being, etc." (Northern Dimension Policy Framework Document, 2006, 3).

If this is the case, then also from within the civil-society it should begin to ask about the cultural conduciveness of ICT, and of these in particular software and applications, to the cultural continued integrity of the indigenous people living in that area (e.g. Krone, 2007; or Liebermann for the case of Amazonas Indians in Brazil).

Finally, there might be a need for spatial or territorial e-governance of the Arctic. Spatial or territorial e-governance can be seen as governance in ICT policy arenas that have strong territorial focus, i.e. in this case the Arctic focus. More concretely this means spatial planning and regional policy development in the field of ICT. The ongoing era of e-governance has enabled various organizations and actors to acquire such structures and processes that support new or additional ways of interaction between electronic service providers and customers (cf. Syväjärvi & Stenvall 2006). Territorial challenges with ICT can be partly seen as spatial knowledge integration demands.

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Climate Change and Human Rights: Making the Case for Viliui Sakha of North-eastern Siberia

Susan Crate

This my article inductively explores the links between climate change, culture change and human rights via a case study of the local effects of global climate change (GCC) for Viliui Sakha, indigenous inhabitants of northeastern Siberia, Russia with whom I have worked since 1991. My central aim is to bring to light the cultural implications of GCC in order to highlight how the unprecedented environmental change due to GCC is presenting human rights issues by impacting specific peoples, their lands and their heritage.

To these ends I first introduce my field setting and Viliui Sakha, share their climate change observations and insights, talk about their knowledge of regional climate change information and events, and explore the cultural and human rights implications.

Encountering GCC in Viliui Sakha Communities

Sakha are Turkic-speaking native horse and cattle breeders of north-eastern Siberia, Russia. Their Turkic ancestors migrated from Central Asia to southern Siberia around 900, then migrated northward, along the Lena River, to their present homeland beginning in the 1200s. They inhabit a sub-arctic region, characterized by continuous permafrost with annual temperature fluctuations of 100° Celsius from -60°C (-76°F) in winter to +40°C (104°F) in summer. Viliui Sakha, have thus far been successful based upon their adaptation of a southern agropastoralist subsistence to an extreme subarctic environment, and adaptation to the throes of Russian colonization and Soviet and post-Soviet forces (Crate 2002; 2003a; 2006b).

Today the majority of rural Viliui Sakha communities practice a household-level food production via a system termed “Cows-and-Kin,” focused on keeping cows and exchanging labor and products with kin (Crate 2003a; 2006b). They also rely heavily other subsistence production including gardens and greenhouses, forage (hunting, fishing and gathering) and other domesticates including horses, pigs and chickens. There is a mixed cash economy with most of their cash originating from state transfer payments in the form of state subsidies and pensions.

Towards the end of the 2004 field season working with Viliui Sakha on a community sustainability project,¹ 90% of participants expressed their concern about local climate change,² that they were seeing unprecedented change in their local areas and it threatened their subsistence (Crate 2006a).³ In response to this result, in summer 2005 we worked with village youth, already engaged in our project’s elder knowledge initiative (Crate 2006c), to interview 33 elders about their local observations of climate change. We asked a simple set of questions about what elders observed, how their lives were affected, what the causes were and what the future would bring.

We found that elders possess ecological knowledge about how the climate was and has changed. In lieu of availability of comprehensive local climatic data,⁴ village elders’ knowledge is vital. Most elders offered testimony similar to this one emphasizing a definite change in the climate,

¹ 2003-2006 NSF project entitled, Investigating the Economic and Environmental Resilience of Viliui Sakha Villages: Building Capacity, Assessing Sustainability, Gaining Knowledge, engaging local Viliui Sakha communities in defining sustainability and identifying barriers preventing them from realizing those definitions.

² We administered surveys to a stratified sample of 30% (Elgeei: n=63, Kutana: n=24) of all households surveyed by Crate in 1999-2000 (Elgeei: n=210, Kutana: n=79). The survey instrument was developed based upon both the communities’ definitions of sustainability generated during the first field season of the project and standardized questions used in the Survey of Living Conditions in the Arctic project (<http://www.arcticlivingconditions.org/>).

³ This was a collaborative project involving myself, one research assistant from the U.S., a research assistant in each of the four villages, and the direct involvement of the communities themselves. Hence, my use of the pronoun ‘we.’

⁴ There are regional stations that provide data on a Republic-wide level. However, these data are not translated into public information specific to the villages where these elders live.

The climate is definitely different from before. When I was little, the winters were very cold, minus 50-60 degrees. When we spit, it froze before it hit the ground and flying birds sometimes would freeze and die. The summer was a wonderful hot temperature and the hay you just cut would dry very quickly. In the last few years the climate has changed. We have rain, rain, rain all the time and winter comes late and so does spring. For people who live with a short summer when there needs to be the right weather to accomplish all for the winter and there is cool rainy times so that the hay does not dry and has to sit and sit and the quality is bad because of that. It is the right time for haying but the conditions are all wrong.

-male Sakha elder, b. 1938

So what are the changes people are observing? For one, Sakha elders reported that they can't read the weather anymore,

From long ago we could read the weather and know what weather would come according to our "Sier-Tuom" (Sakha sacred belief system). But we can't do that anymore.

-female Sakha elder, b. 1942

This is particularly urgent in the extreme environment of the arctic where each day of summer is crucial to winter survival. Elders also commented that the timing of the seasons had changed. Spring and fall now come several weeks late,

When I was little, we finished school on the 18th of May and there was already new grass and the cows were grazing. Since then spring has been later and later and later.

-female Sakha elder, b. 1939

This change of seasons jeopardizes winter survival. In addition to the seasons arriving later, elders said that the climate had softened, referring again and again to *Jyl Oghuba*,

Winters have warmed and summers are not so warm. All is softer. The north is especially warming. It will be cold in winter and suddenly get warm in winter. It was never like before. Strong cold held for months. We have the legend about the bull of winter losing its horns.

-male Sakha elder, b. 1925

Additionally, two qualities of the climate, both critical to survival in the north, are reported to be different: a tendency towards long periods of calms and a relative lack of humidity. An elder commented,

The weather changes very very suddenly. This year it was hot in June then very cold and windy. Fall is also sudden. Snow will suddenly fall and then there will be very warm days. Then, in winter it was -40 degrees and the next day, very suddenly, it was +3 or +4 degrees.

-male Sakha elder, b. 1938

The summer heat is no longer dry but laden with humidity that stifles in high temperatures, "Before it got very hot also, like it does now, but there was air—now it gets hot and you can't breathe (humidity)." Both the lack of calms and of humidity make the Viliui Sakhas' environment that much more challenging to negotiate. Although these barriers are still surmountable, elders report

that family members spend more time in the cyclical work demands due to the increased challenge that these climate changes pose.

Several elders commented on the arrival of new species from the South and the loss of familiar species,

Birds are now coming that we have never seen before. A lot of unknown birds and animals are coming this way. Sakha Republic has warmed and the animals come this way.

-female Sakha elder, b. 1944

The arrival of new species includes a variety of insects that prey on many of the garden and forage plants that Sakha depend on. Elders talked about other common observations of changes in their local environment, including increased rain during the haying season, too much winter snow, increased occurrences of thunder, a change in the quality of sunlight and many new insects. Many also correlated these changes with their people's health suffering and more human diseases.

We next asked elders how the climate change was affecting people's daily lives. First and foremost, they talked about the effects on harvesting forage for their animals,

It ruins the hay harvesting when it rains for 2 months solid. There is no winter forage for our cows and horses. Even if you plan to work every day at the hay, the weather keeps you from it. Every day it is raining. The land is going under water and the hay lands are smaller and smaller and if you keep a lot of animals, it is very hard. The hay itself has less nutrition and then when it is cut and lays and gets wet and dries many times, it also loses its nutritious quality.

-male Sakha elder, b. 1932

Secondly they talked about the negative impact that climate change has had on their ability to raise enough food to see them through the long winter,

So much water is bad for the garden. Potatoes rot in the ground and there are many new insects. Gardens are very late. The water and cold mean we plant potatoes a month late and some not until July.

-female Sakha elder, b. 1930

Next elders talked about how difficult it has become for their horses, who spend all winter outside and dig through the snow to find fodder. In the last decade elders have witnessed increasing amounts of snow, due to warmer winter temperatures,⁵ and an impervious ice layer beneath the snow, from a freeze/thaw that occurs commonly in the fall with warming, that prevents the horses from reaching fodder,

Then in the fall, the snow falls early and then it melts and makes a layer of ice under the snow and the horses can't get through the ice to feed. This year lots of animals died and especially horses who could not get through the deep deep snow to find their food.

-male Sakha elder, b. 1935

⁵ Typically it snows in these areas from mid-September to mid-November and then again from mid-February to mid-March. In the deep winter it is too cold to snow. In the last decade or so, as winter temperatures are milder, it tends to snow for longer periods in both the fall and spring and the cold period of no snow is increasingly briefer.

Elders then expressed concern about hunting, a supplemental source of food for many contemporary households, especially in the post-Soviet context,

We hunters can't hunt. I go trapping in January when the snow is thinner. But as the snow is deeper I can't go and the deep snow is bad because dogs can't run and horses can't walk. In spring and fall hunters also can't hunt because there is so much mud and boggy land.

-male Sakha elder, b. 1933

Not only are hay, hunting and foraging areas diminished due to flooding, all land areas are threatened. In one of our four research villages, there is deep concern about how water in inundating the grazing and gardening areas in the village center, another source of sustenance in these communities, “all the water ruins the usable areas near our homes -- it diminishes all our land—with all the water, no one has any land anymore.”

Elders also mentioned that they noticed the land was sinking in places, “the flat fields are sinking in and we want to know why—perhaps the permafrost is melting?” The most graphic of these land sinking accounts were tellings of how an island near the village of Kuukei is submerging,

We have an island on the lake but now it has fallen. I have been watching for the last 10 years and I see this happening.

-female Sakha elder, b. 1933

However important it is to understand if the island is in fact sinking because of permafrost melting, and whether the melting is in fact due to climate change,⁶ when I heard these testimonies I was more concerned and curious about how the perception of the land actually sinking is affecting how Viliui Sakha orient themselves to their environment. Their sense of place and their understanding of “homeland” are both directly tied to an ecosystem dependent on water in its solid state. Although feeling “at home” in such icy confines is foreign to most of us, it is the familiar and the understood territory of comfort for northern inhabitants (Nuttall 1992). This was clear when we asked,

“Isn't it good that it is not so cold in winter and not so hot in summer?” In response, elders unanimously argued to the opposite,⁷

It is not bad to have warm winters, being an old person, it is great! But as Sakha people, we need strong cold here. It is how our lives are organized and how the nature works here. The big cold is good. The diseases are gone. When it is warm it snows too much and it is not warm or cold. The winter warmth affects people's blood pressure. And the heat in the summer is different, humid and very hard for people to go. It is bad for the way of life here and for survival, the nature, people,

⁶ Many of the pastures of the Viliui Sakha communities are located in thermokarst depressions known under the local name *alaas* (Crate 2006b: 9-11). *Alaas* are characterized by very specific processes of freezing and thawing, permafrost degradation but also permafrost build-up. See Washburn (1979: 274) for an illustration of *alaas* development cycle.

⁷ Granted shorter winters may actually be beneficial for cattle and horse breeding. Horses and cattle will spend less time in the stables and barns (and more time on the pastures) if the annual average temperature increases. However, more precipitation (snow) and a higher frequency of freezing/thawing events will have an adverse effect.

animals and plants here are supposed to have very cold winters and very hot dry summers. That is the best for all life here.

-female Sakha elder, b. 1929

When we asked elders how they thought these changes would affect the future, all felt that conditions would progressively get worse,

As it gets warmer and warmer, the permafrost will melt and our land will be a permanent swamp and we won't be able to do anything--no pastures, no hay fields, just the high areas will remain. If it continues, then the permafrost areas will stop being frozen and it will all melt.

-male Sakha elder, b. 1936

Many also made the connection between warming and its effects on health,

The worst part is that diseases will multiply in the future if it continues to get warmer and warmer. People's lives will get shorter with all the disease and no one will be able to keep animals here anymore.

-female Sakha elder, b. 1944

Viliui Sakha elders' testimonies of the local effects of GCC reveal no debate of whether climate change is occurring. Like most indigenous cultures practicing subsistence, they are, by default, ethnoclimatologists. With a continuous stream of experiential data, they know things are changing.

The Cultural Implications of GCC and Indigenous Peoples

Both the transformation of their symbolic culture,⁸ represented here by *Jyl Oghuba*, and of their subsistence culture, the increasing challenge to maintain their herds as warming continues, reframe the implications of unprecedented GCC. I argue that GCC, in causes, effects, and amelioration, is intimately and ultimately about culture—in that GCC is caused by the multiple drivers of western consumer culture, transforms symbolic and subsistence cultures, represented by the Viliui Sakha case here, and will only be forestalled via a cultural transformation from degenerative to regenerative consumer behavior.

As the Viliui Sakha case shows, the effects of GCC are not just about communities' or populations' capacity to adapt and exercise their resilience in the face of unprecedented change. GCC is about the relocations of human, animal and plant populations to adjust to change, as witnessed by the resent resettlements of indigenous refugees to safer ground (Tuvalu, Shishmaref, etc.). Lost with those relocations are the intimate human-environment relationships that not only ground and substantiate indigenous worldviews, but also work to maintain and steward local landscapes. In some cases, moves also result in the loss of mythological symbols, meteorological orientation and even the very totem and mainstay plants and animals that ground a culture.

⁸ In this article I use the term 'culture' to refer to both the series of prescribed human activities and the prescribed symbols that give those activities significance; both the specific way a given people classify, codify and communicate experience symbolically and the way that people live in accordance to beliefs, language, and history. Culture includes technology, art, science, and moral and ethical systems. All humans possess culture and the world is made up of a diversity of cultures. Accordingly, I use the term in both its singular and plural forms.

Researchers needn't be over confident in our research partners' capacity to adapt. Although it seems completely plausible that highly adaptive cultures will find ways to feed themselves even if their main animals and plants cannot survive the projected climactic shifts, as anthropologists we need to grapple with the cultural implications of the loss of animals and plants that are central to daily subsistence practices, cycles of annual events and sacred cosmologies. The cultural implications could be analogous to the disorientation and alienation and the loss of meaning in life that happens when any people are removed from their environment of origin, like Native Americans moved onto reservations (Castile and Bee 1992; Prucha 1985; White 1983). The only difference is that the communities experiencing the effects of GCC are not the ones moving—their environment is.⁹ As the earth literally changes beneath their feet, it is vital to understand the cognitive reverberations and cultural implications to a people's sense of homeland and place.

If we agree, as Keith Basso convincingly argues, that human existence is irrevocably situated in time and space, that social life is everywhere accomplished through an exchange of symbolic forms, and that wisdom “sits in places” (1996:53), then we need to grapple with the extent to which GCC is and will increasingly transform these spaces, symbolic forms and places. It follows that the result will be great loss, of wisdom, of the physical make-ups of cosmologies and worldviews, and of the very human-environment interactions that are a culture's core (Steward, 1955; Netting 1968, 1993). As anthropologists, we need to look closely at the cultural implications of the changes global warming has and is bringing.

Many indigenous groups in areas where GCC is having the most profound effects, are questioning their ability to adapt, “the projected magnitude of climate change would stretch this [our] adaptive ability to the breaking point” (Watt-Cloutier 2004:2). Indigenous peoples are not passive victims of the effects of GCC. In fact, the opposite is the case—there has been a swell of advocacy by indigenous peoples in response to the local effects of GCC. One example is the petition to the United States by the Inuit Circumpolar Conference (ICC) to consider GCC in the Arctic and the U.S.'s intrinsic role in reducing greenhouse gases as a way to mitigate (ICC 2005). Past president of ICC, Sheila Watt-Coulter's testimony explicitly posits GCC as a human rights issue, “Inuit are taking the bold step of seeking accountability for a problem in which it is difficult to pin responsibility on any one actor. However, Inuit believe there is sufficient evidence to demonstrate that the failure to take remedial action by those nations most responsible for the problem does constitute a violation of their human rights -- specifically the rights to life, health, culture, means of subsistence, and property” (2004).

Conclusion

Viliui Sakha testimonies show that climate change is ultimately about culture change and presents human rights abuses in at least three areas: 1) the right to use and enjoy property; 2) the right to life, physical integrity and security; and 3) the right to enjoy the benefits of culture. On the global scale, I also argue that the causes and effects of GCC are about people and power, ethics and

⁹ I take poetic license here by saying that “the environment moves.” It works well within the analogy. I fully acknowledge that the environment cannot move but that it changes.

morals, environmental costs and justice, and cultural and spiritual survival. Scholars are beginning to address the equity and justice implications of climate change (Thomas and Twyman 2005).

On a temporal scale, the effects of GCC are the indirect costs of imperialism and colonization—the “non-point” fall-out for peoples who have been largely ignored. These are the same peoples whose territories that have long been a dumping grounds for uranium, industrial societies’ trash heaps, and transboundary pollutants. This is environmental colonialism at its fullest development—its ultimate scale—with far-reaching social and cultural implications. GCC is the result of global processes that were neither caused by nor can they be mitigated by, the majority of climate-sensitive world regions now experiencing the most unprecedented change. Thus indigenous peoples find themselves at the mercy of and adapting to changes far beyond their control.

Ironically, climate change offers humanity an opportunity for a quantum leap in sustainable development and peace making. If international cooperation is strengthened in response to the threats to human security and human rights that climate change does and will increasingly bring, then international stability, governance and development can also benefit. To the extent that the changes I am encountering with Viliui Sakha are the same sorts of changes occurring not just in the Arctic but for most indigenous groups inhabiting climate-sensitive ecosystems and depending on subsistence resources worldwide, these points apply also to the indigenous inhabitants of the Northern Dimension Policy area.

We can applaud the Northern Dimension Policy cooperative declaration and its continued work on climate change. At the same time, it will remain important for this initiative to scrutinize its existing and planned efforts to be sure they are rigorous in terms of working side by side with communities on local scales in order to properly address issues of culture and human rights as needed.

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Impacts of climate change in everyday life in the Nenets Autonomous Okrug

Tuula Tuisku

“Winter lasts eleven months and the rest is summer,” is a Russian joke about seasons in the Russian Arctic. In the Nenets Autonomous Okrug newcomers complain of long, cold and dark winters. If, however, for the southerners, winter is a cold and unpleasant season, for the local native population it is not. The native population is well adapted to long and cold winters. The cold is not a problem because warm clothes protect from low temperatures: an ideal winter sees temperatures between -10 and -20 °C. This is a “mild winter, but not warm,” with not too many snowstorms and definitely no fluctuation of temperatures.

With temperatures rising all over the northern territories, however, winters are not what they used to be. In recent years the winters have become shorter and warmer. Global warming causes rising temperatures, especially in winters, increasing precipitation, rising river flows, declining snow cover, permafrost thawing and diminishing lake and river ice, etc. (ACIA 2004,12-13). Until now the winter has been the longest season in the Okrug lasting 6-8 months. The native population is well adapted to cold and consider it as a part of their belonging to the area (cf. Crate 2008b).

In this paper I discuss how some aspects of climate change are affecting the everyday life of the rural population in the Nenets Autonomous Okrug. Until recently in Russia there have prevailed a skeptical attitude towards climate change among many researchers, officials and mass media (cf. Forbes and Stammler 2009, 3), but this is changing (see Rosgidromet 2008a; Kokorin, Karelin and Stetsenko 2008). However, although some Russian scientists do research about environmental changes, there are only a few publications on indigenous observations of climate change in Russia. The indigenous voice is not heard like in North America (Krupnik & Jolly 2002). An American anthropologist Susan Crate has studied impacts of climate change among Viliu Sakha (Crate 2008a; 2008b; this volume). In some western planned and funded projects impacts of climate change on northern population have been studied and in some aspects also in northern Russia (Keskitalo and Kulyasova 2009; Rees et al 2008; Forbes and Stammler 2009).

Also the Russian WWF has conducted some surveys concerning climate change in Chukotka, Taimyr and Kola Peninsula, where indigenous people have been mentioned (Kokorin, Minin and Shepeleva 2002; Kokorin, Minin and Shepeleva 2003a; Kokorin, Minin and Shepeleva 2003b). The Russian WWF has also conducted a survey among coastal indigenous people in Chukotka (Kavry and Boltunov 2006). The Arctic Climate Impact Assessment provides basic information about climate change in the Arctic, but includes also indigenous people (ACIA 2005). There is also now available good information about climate change done by Russian scientists, published by the Federal Service for Hydrometeorology and Environmental Monitoring "Assessment report on Climate Change and its consequences in Russian Federation" (2008a). However, there is no mention of indigenous peoples.

The Nenets Autonomous Okrug is located in north-west Russia, west of the Ural Mountains. The area is mostly tundra, although in the southern areas there is forest tundra. The population, 42 000 people, consists of Russians, Nenets, the indigenous people, and Komi. The territory is sparsely populated; 0,2 people in km². More than half of the population lives in the city of Naryan Mar and in a working settlement next to the city. The majority of Nenets and Komi live in rural areas, but there are also so called old settler Russians, whose ancestors have arrived in the area since 16th century. Most of the Russians have arrived in the 20th century. The paper is based on my cultural anthropological fieldwork in the NAO since 1996, but especially during the period between 2005-2006 and 2008, when I discussed changes in the weather and environment with the rural population. Since 1996 I have lived in villages of Nelmin Nos, which is a Nenets village, and Krasnoe, where lives both Nenets, Komi and Russians, and also in the tundra in Nenets reindeer herding camps. In 2008 I visited four old Russian villages, Velikovochnoe, Labozhkoie, Shchelino and Toshviska. All these villages are located on the Pechora River, in the central part of the NAO.

In the NAO there are about forty rural settlements. The villages are located on the river valleys, such as Pechora, Oma, Vizha, Indiga, and there are also a few found on the Arctic Sea coast. The villages can be divided into old Russian/Komi villages and new Soviet villages, such as Nelmin Nos and Krasnoe. The old villages were established by the villagers themselves on the big rivers, before the Soviet period. The new villages were established by the officials to settle nomadic Nenets and Komi in the 1930-40s. In the Soviet period all livelihoods, reindeer herding, fishing, hunting and dairy farming, were organized inside collective farms, kolkhozes. Most villagers worked for the kolkhozes, but after economic reforms of the 1990s only a small number of the villagers work in

the agricultural cooperatives, successors of the kolkhozes. The State sector is an important employer, but many villagers are officially unemployed.

Local renewable resources are important to all the villagers. Rural families get their incomes from many different sources. Only the reindeer herders in Krasnoe, who live most of the year in the tundra with their families, get their main income only from reindeer herding. In Nelmin Nos families of the herders live in the villages. The male herders live and work in the tundra in one or two months shifts while their wives and children live in Nelmin Nos. In Krasnoe reindeer herders belong to two different reindeer herding enterprises, but today in Nelmin Nos the herders are members of several small obshchinas, herding and fishing communities.

Fishing is an important source of food for all and many villagers fish for markets, although only a few hold the official licence to fish. In Krasnoe, Velikovochnoe and Labozhkoie there is still the cooperatives' dairy farm, and in Shchelino only a calf farm of the Velikovochnoe's cooperative. In the Russian villages and Krasnoe a couple of villagers have a cow or two in their own households. Growing potatoes and, in smaller scale, other vegetables is done by most villagers in Krasnoe and Russian villages. In all six villages most men hunt and most families pick berries, some also for markets. In each village there are a couple of private entrepreneurs with a small private store. In Krasnoe and Nelmin Nos some villagers make traditional Nenets handicrafts for sale. For the Nenets, and reindeer herding Komi, reindeer meat is the main food, while for the old Russians fish and potatoes are the main food.

Traditionally, before the Soviet collectivization, the Nenets and a part of the Komi population were nomadic reindeer herders, fishermen, and hunters. The Russian old settlers and the other part of the Komi lived settled in the villages getting their livelihood from fishing, dairy farming, and hunting. Although the NAO is mostly in tundra zone, there are natural meadows on the big river valleys. However, the cattle can be outside only for 2-3 months per year.

Thus, the rural population, and also those who are not engaged in professional reindeer herding or fishing, use renewable resources, and spend a great deal of time outside. Reindeer herding has a symbolic meaning for the whole Okrug, but for the Nenets it is the backbone of their culture.

Is climate change really taking place?

During my fieldwork in 2005-2006, I began to ask people whether they have noticed any impacts of climate change. To my surprise, I noticed that many people still doubted whether climate change was taking place at all. Some even said that the idea of climate change is American propaganda, an attempt to gain economic and political power. When they heard that the then president of the United States himself doubted whether climate change was truly happening, they were surprised, because for them climate change is something that is coming from the West and thus, it is suspicious.

Some people said that something is happening, but they would not use the term "climate change" or even consider it to be a new phenomenon. They see the changes, which are taking place today, to be a normal phenomenon in northern nature. Nothing is stable in our environment, they comment. However, there are people who are worried about the changes that are taking place and see that they differ from the normal changes.

All rural population, not just reindeer herders and fishermen, - who work and spend a considerable amount of time outside and to whom it is important to follow weather and environment - but also those, who live permanently in the villages, follow from day to day changes in weather and environment. In everyday speech people discuss weather: is it different from the previous year, did snow melt in normal time, when did the rivers freeze-up? Every time when I return to the NAO from Finland people tell me how the summer or winter was, and ask how it was in Finland. In letters which I get from the NAO, people tell me about cold days and berry harvests, and are sure to mention if something strange has taken place. If something odd happens during my fieldwork or prior to it, it is discussed widely. Moreover, people recall when something like that took place earlier. It could have been in the 1970s, or told by a grandfather, or took place a couple of years ago. People know and remember what they have seen and what they have been told.

For successful herding and fishing it is important to know the environment in all its details. The herders have to know all the rivers, lakes, hills, swamps etc in their herding areas. Like the herders, fishermen too have to know rivers and lakes. Every morning, when the herders go out from their tent, they stop and look around to see if something has changed since yesterday and what kind of weather it is today. Alongside their migration routes, they have to remember permanent and changing elements. While herding the reindeer they have to read environment and weather and make a decision where to drive the herd. Thus, they recognize even the slightest changes and from the very beginning they are prepared to react on the changes, even though there are no changes every day. Crate calls indigenous peoples “ethno climatologists” (Crate 2008a, 88). They have to be prepared should something have changed as they may have to change their actions. Also bigger changes are nothing new or frightening to them.

Keskitalo points out, in her study of climate change in Scandinavia, that herders “have to respond to day-to-day changes in weather” (Keskitalo 2008, 138). In the life of the herders stability is unknown. However, many people say that during the last years some changes are taking place more often than during previous decades. Some of them find more permanent changes in climate and they are getting worried. I have noticed that every year more and more people, to whom I talk, express their worries on changes which are taking place. The changes differ from normal changes. Most people spoke about short and unstable winters, fluctuation of temperature and long and warmer summers.

However, even some of those who think that there unusual changes taking place, considered that they are not caused by climate change. Some people told me that all these abnormalities result from rockets, which are launched from the Archangelsk oblast, and people’s activities in cosmos. Crate met the same explanation among Viliu Sakha (Crate 2008b, 580-581). We have to remember that in general the northern and indigenous population in the Russian North face today multiple problems and challenges.

They are still struggling with economic and social problems caused by reforms of the 1990s, and the impacts of the oil and gas industry are challenging traditional livelihoods. In this sense, climate change is one problem among many others. Forbes and Stammler even doubt whether researchers could study impacts of climate change when people have social and economic problems (Forbes and Stammler 2009). However, it is important to notice all changes in the natural environment caused by other factors (pollution, nonrenewable resource extraction) and as well regulations on

use of renewable resources such as fishing quotas or socio-political changes which have impact on traditional livelihoods.

Still, I have noticed during my fieldwork periods that people willingly speak about changes in climate and their environment despite economic and social problems. They or I do not necessarily use the term “climate change,” because it is an odd term for them, but they know what is going on around them. Moreover, climate change has not become a political and current issue in the NAO or anywhere else in northern Russia. Moreover, even in the NAO different reindeer herding enterprises are struggling with different problems and as well each village and social group are facing their own challenges. Nelmin Nos ‘and Krasnoe’s reindeer herders have faced partly different problems since the collapse of the Soviet Union. In Krasnoe for reindeer herding enterprises the current problem is the oil and gas industry, while in Nelmin Nos reindeer herders are struggling with economic problems (Tuisku 1999; Tuisku 2002; 2003). The village populations have different problems (Tuisku 2003; Tuisku 2006; Tuisku 2008). Still, people’s worries about shorter and warmer winters are confirmed by the *Assessment Report on Climate Change and Its Consequences in the Russian Federation*. During the last one hundred years in the European part of Russia, temperatures have risen 1,17 °C and during past three decades 1,5 °C (Rosgidromet 2008b, 13-14). By the middle of the 21st century in the European territory of Russia, days with temperature below zero will decrease by 15-30 days and temperature will increase more during the winters (4-6 °C) than summers (1-2°C) (Rosgidromet 2008b, 39 -41). For us another important factor is changes in precipitation, which is more difficult to evaluate. In northern Russia precipitation will increase during the summer time, but it is noticed in the assessment that there will be more rain precipitation rather than solid snow precipitation in the winters. (Rosgidromet 2008b, 44). Moreover, river flow in northern rivers, including the Pechora River, will increase (Rosgidromet 2008b, 41). Also warming will effect the times of freeze-up and break-up of the rivers, which prolong the navigation period, but reduce the frozen period, when the rivers are used as roads to reach remote regions (Rosgidromet 2005, 20).

Moreover, there will be changes in vegetation. First there will be more shrub and thermophilic grass by 2020-30s, by 2050 shrub tundra will replace bog vegetation and finally, by the end of the 21 century, there will be more trees and the tree line will move further to the north (Rosgidromet 2008b, 54). Warming will also change fish stock, species, and migration.

Dividing a year into seasons can be done differently by different groups and livelihoods. In the Encyclopedia of the Nenets Autonomous Okrug it is told that in the western parts winter lasts 180 days, but in the east 230 days (Korepanova 2001, 15-18). Apparently this is the period when temperatures are below zero. The herders divide seasons according to activities, not according to temperature or snow cover. Spring starts with calving season in the end of April, although there is still lots of snow left until middle or end of May. Spring ends with spring corral in the middle or end of June. Autumn starts already in August with autumn corral. Autumn lasts until slaughter in November, although there has been snow cover already this month. Difficult periods for herding are spring with calving, summer and autumn with the need of constant supervising of the herd. Winter, after slaughtering and before calving, is an easy time for herding without constant supervising. In the villages I have noticed differences in defining seasons: for example spring lasts only for the month of May when snow melts, summer is three months, autumn covers September and October before snow falls. Thus, winter lasts from November to April.

Shorter and milder winters in the life of the herders

Reindeer herding is the main land use in the NAO, and more than 70 % of the Okrug's territory is reindeer pasture. In the NAO reindeer herding is still nomadic: the reindeer herders migrate between different seasonal pastures. Most reindeer herders spend winter in the forest tundra and for summer and autumn migrate to the tundra area, while some stay in the tundra also during winter, but still migrate. For each season there are special pastures. From the herders' point of view long, cold, and stable winters are the easiest time for herding and living. Reindeer graze peacefully digging lichen under the snow, while reindeer skin clothes and dwellings protect nomadic herders from cold. The herds are not supervised all the time, but visited once a day. Winter is a time for vacation and social encounters. Traveling is easy on the snow. There is a need for fewer draught animals than in seasons without snow cover. In the winter there are three draught reindeer to pull the driving sledge and two to for other sledges, while in summer there are two more reindeer for the driving sledge and one more for other sledges. As well as requiring fewer draught animals in the winter, one can travel directly which is not possible without ice cover, when lakes and rivers must be bypassed as they cannot be crossed at all.

For reindeer, winters with temperature below zero and a snow cover are the best. When temperature is steadily below zero, air is dry and reindeer feel fine. Also the herders have no problems in cold and dry air. But when there is fluctuation of temperature problems start. When the temperature is over zero, snow starts to melt and gets wet. It also often rains during warm periods making snow even wetter. However, when the temperature falls below zero, snow freezes again and develops a layer of crust. Reindeer have problems digging lichen through layers of crust. In the NAO there is no supplement feeding system like there is in Scandinavia: the reindeer live only on natural food which they dig themselves. Thus, the reindeer starve and might die. The herders have to spend a lot of time to find new pastures and supervise the herds more carefully. Most people agree that during recent winters there have been more frequent fluctuations of temperature and several layers of crust has formed.

During recent years the rivers have frozen late, in November and December, and thus, the return from summer pastures is delayed. During every migration the herders with their herds have to cross several rivers. Some rivers are so deep or the stream is so high that it is impossible to cross them without ice cover. The herders cannot drive the herds to slaughter places, which are often located next to the early winter pastures. Because the herders have to wait for the freeze up, slaughter will take place later than usual and the reindeer will lose weight, which means less income for herders. Even if the herds could arrive to slaughter places, warm days during slaughter period are harmful. Only a couple of reindeer herding enterprises have facilities to preserve meat in cold storage. Mostly slaughtering takes place outside where carcasses immediately freeze and then carcasses are transported by tractors, trucks, or helicopters to consumers. But during warm days the carcasses do not freeze, and get spoiled. Either the enterprises have to postpone slaughter from November to December-January, or they have to build new facilities. Postponing means that the reindeer in December-January have lost weight and the herders and herding enterprises get less income. However, the herding enterprises can not afford to build new slaughtering facilities because of the low price of the meat.

Also early thawing of the rivers causes problems. The herders have planned their migration routes according to knowledge which they have gained during their life time and which the previous

generations have passed on to them. However, each year the herders have to calculate their actions based on many factors. Until now, they have been able to solve the problems and make a migration schedule in which all the needs of the reindeer are taken care of. During recent years thawing of the rivers has taken place earlier than people are used to, and it has surprised the herders. The herds and herding camps have still been in the winter pastures, on the wrong side of the rivers. Thawing in the Arctic takes place very quickly and causes floods. Crossing the rivers when the floodwaters are high is not possible. The herders have to wait until water levels are lower or migrate using different, longer routes.

In 2005, during my fieldwork in the tundra, early thawing surprised us all. One camp was stuck on the wrong side of a big river and they had to stay in the winter pastures until the beginning of June, when the water level was low enough. They could not reach their calving grounds at all. Another camp, which had several rivers on their migration routes, had to go around the rivers: they went upstream and crossed the rivers in places where the stream was still weak. However, instead of couple of days of migration they spent seven days in migration. It is important to reach calving pastures in time so that during calving season there would be no big migration for the herds. The calving season is the crucial time for results of herding, because the main income from herding is the produced meat.

The herders can start their migration towards calving pastures earlier, but with the fluctuation of temperature they cannot do anything. Moreover, if instability of temperature and weather causing cold nights and snowstorms continues during the calving season, it will result in high mortality of calves.

Summer temperatures have also risen in the northern areas. For reindeer herding hot summers are difficult. If it is hot, there are a lot of mosquitoes which bother both the reindeer and the herders. Moreover, the reindeer do not eat, and thus they do not gain weight. The reindeer, as well as the herders, prefer chilly summers with occasional rains so that there are fewer mosquitoes and other insects. The summer of 2008 was good for reindeer herding because it was mostly chilly and rainy. Also in the reindeer herding villages many people stated that they do not complain because this is good for the reindeer. However, in the Russian villages, many complained that because of continuous rains and chilly days, the potato harvest was very small and it was difficult to make hay.

Impacts in the villages

How are shorter and unstable winters affecting villages? As in the tundra among the reindeer herders, winter here is also the season of which people speak most and seem to like most. When in September 2008, villagers in Russian villages were complaining about rainy summers, I asked if they would prefer a hot summer. No, was the answer. Hot summers are not welcomed by the villagers either. They say that they do not like it when it is too hot and there are a lot of mosquitoes. They are all inhabitants of cold areas.

Also for the villagers, the fluctuation of temperature during the winter time is crucial: it will affect fishing and travelling, What kind of summer it will be; whether chilly and rainy or hot and dry it will also impact livelihoods, not only fishing but also on dairy farming and potato growing. Fishing can be conducted most of the year except for the midsummer. The autumn fish season starts in August lasting until the freeze-up. Winter fishing is possible as long there is ice cover. Right after break-up of the rivers and lakes people fish a lot.

During wintertime fishing takes place on the sea coast and inland lakes. To reach them one has to have a snowmobile. Until now winter fishing has been easy to organize. Thanks to the cold winters there has been no need for special facilities to freeze the catch and if needed small ice houses could have been built from local materials. Then, fish has been transported as frozen to the fish plant or villages. Today, when the winter temperature fluctuates and also rises above zero occasionally, it is difficult to predict if the catch will defrost during harvesting and transport and consequently be spoiled. Also in spring and autumn, thanks to the low temperature, fish can be caught and transported without ice. In September I saw how the catch was stored for a night just in a wooden hut as the temperature was just cold enough. Also for fishing chilly summers are welcomed. Climate warming will also change species, migration and movements of fish. Where and what to fish will be changed.

Surprisingly, dairy farming can be considered to be a traditional livelihood for the Old Russian and Komi settlers. In the Soviet time it was introduced also for the Nenets. Dairy farming is dependent on feeding for nine months of the year. Thus, there is a need for a lot of hay. The local natural meadows are on the moist soil and do not carry heavy vehicles during rainy summers. Today hay making in the dairy farms is highly mechanized. Hay does not dry when it is raining all the time. Therefore the quality of collected hay is low and may not sustain the herd for the whole winter. However, future warm summers promise more hay harvest, as well as potato growing. Potatoes can grow in a cold or hot climate, but how much rain will affect the quantity of the harvest. As said, there are many households, especially in the Russian villages, who sell their potato harvest to Naryan Mar. Potatoes are transported to Naryan Mar by snowmobiles in the winter time. The Pechora River is a local highway and during the winter time there is a clear snowmobile track on the river. In the NAO there are no roads, except from the city to Krasnoe. During the Soviet time there were regular boat and airplane connections between the villages and the city of Naryan Mar and the people did not face any problems to travel thanks to the low price of the tickets. Actually, there was no need to travel often because all basic services were found in the village. Today people have more need to travel to the city to go shopping and to take care of official things, because services are getting fewer in the villages. In the 1990s the local population realized that they have to organize their movements themselves. People started to buy snowmobiles and boats. Although there is now a flight, boat or all terrain vehicle connections once or twice every month it to each central village is not enough and to smaller villages there is no centrally organized transport at all. There is not always room in the airplanes or helicopters or the ticket price is too high. For the rural population winter is a time for independent and easy traveling. On the snow and ice covered rivers it is easy to travel by snowmobiles, tractors, all terrain vehicles, trucks and reindeer between villages and to the tundra. The villagers can afford to buy a snowmobile and they can afford fuel for it. I often heard people claiming that during the past few years the snowmobile season has started later and later. In 2008 there was no proper "snowmobile track" in some places at all and there were several accidents when snowmobiles fell through the ice in the rivers.

Ice and winter roads on the tundra have been important for the local economy. They have allowed transport of goods to the villages and to the oil fields by trucks which are cheaper than by helicopters. Due to the mild temperature in beginning of winter, the making of the ice roads is delayed. Thus, the oil and gas companies need to transport more equipment by helicopters, which are expensive and require more fuel. Also the village population is effected by the shorter periods of transport on the land. It will be more costly to transport people and goods by helicopters. To

the villages on the Pechora River and seacoast goods can be transported by ships but, to many inland villages and oil and gas fields, winter roads and helicopters are the only options.

The villagers also face other threats: permafrost thawing will destroy buildings and more crucial, increasing river flows, especially flooding in the spring time, can be critical. Krasnoe and Velikovychnoe are flooded partly every year. Houses on the village edge are under water and some people have to use a boat to get out of their house. If there will be more flooding every spring most houses will be flooded. For the villages there is a lack of the land to build in a better place. Either they will be flooded every year or move the village to a totally a new place. A village of Korekovka was closed and moved to Krasnoe in the 1950s. After that the population of Krasnoe has grown and new houses have been built on unsuitable places.

Warming climate will, however, shorten the heating season. The buildings are heated by firewood and coal, which are both imported. Today the heating season lasts 8-9 months. By 2015 the heating season will decrease by 3-4 months in Russia (Rosgidromet 2005, 13) Also the navigation season will be longer and thus more goods can be brought from other parts of Russia by sea to Naryn Mar and by rivers to the villages.

Future with warm winters and summers

Temperatures are going to rise in the future and more during the winter time than in the summer. Today's winters will soon be history. Traditional livelihoods, reindeer herding and fishing, are all impacted by rising temperatures, which in the NAO manifests itself mostly with instability and fluctuation of temperature. Storage and transport of fish and reindeer meat have been based on chilly summers and cold winters. With rising temperatures there will be a need for special facilities to cool the catch and reindeer carcasses. For that, fuel is needed and although oil is extracted in the Okrug there are no refining facilities. Also, unstable and short winters will increase the demand for helicopters and airplanes, which require more fuel. Consequently, local transport will be more dependent on imported resources.

The important question is whether the local population can adapt to the changes. Reindeer herding in new vegetation zones, first with shrubs and then with trees, will differ from today's reindeer herding. The reindeer herders do not doubt that they will be able to change their modes of herding. They know examples of successful coping with new environments: for example a camp of Krasnoe's reindeer herders have changed their migration routes from the tundra to the forest tundra. They also know that some of their ancestors have changed their migration routes several times. Why, they ask, would they not be able to adapt this time? However, today there are many problems in the life of the herders; oil and gas industry, economic problems. And if there are several bad winters or summers in a row will reindeer herders survive those? They are integrated into the market system, which requires money annually. However, the Russian state has helped reindeer herding to survive difficult periods, for example in Chukotka, so that there has been no need for annual slaughtering.

How about the villages and the villagers, who live on fishing, dairy farming and potato growing? For them a longer growing season will open new possibilities to cultivate potatoes and vegetables. Dairy farming will have better possibilities with greater harvests of hay and the inside feeding period is shorter. But there might be dry seasons or continuous rain. However, fishing will change totally because of the changes of the fish stock and the need for cold storages.

Climate change will affect differently livelihoods both in the villages and tundra. There is a need for more research in different reindeer herding enterprises and among different livelihood groups in the villages. In this article I have not discussed all details concerning reindeer herding, fishing, or the village life. Impacts on oil and gas industry must be also studied.

But, are the cold winters gone which are familiar and to which people are well adapted? The local identity of the Nenets, Komi, and Old Russians is partly based on their ability to live in a cold environment without problems. This will be gone and there is a need to find new elements upon which to build the local identity.

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Free and open-source software as a contribution to digital security in the Arctic

Gerald Zojer

Introduction

The motivation for this paper emerged in summer 2018 during a reindeer calf marking event in Sápmi, the Sámi homeland. During this event, reindeer were gathered in a fence system. First the calves were tagged by giving them a numbered collar. Then calves and adult female reindeer were left together in another fenced area so that the mother animal and the calf could find one another again. Reindeer herders could identify their calves by reading the adults' earmark. The reporting led sometimes to overlapping claims and extended the time the usually free roaming reindeer had to be fenced in. One of the reindeer herders explained how helpful it would be if the process of claiming the calves could be done through an app on a mobile phone or a tablet. Double claims would immediately be recognised and the process could be sped up to release reindeer sooner, thus decreasing the time they are held in captivity. However, since not every herding district uses the same method for the calf marking, such an innovation would be very specific and hiring a

programmer would be expensive. Also, the programmer would need to be familiar with the process and particularities of the event, because otherwise there is a risk that the digital service might not be suitable and would be rejected (personal communication, July 1, 2018). This discussion revealed some of the challenges of digitalisation in the Arctic and motivated the need to think about possible ways of how digital innovations can contribute to societal well-being; and in this particular case, even to animal welfare.

Today, digital technologies are widespread and are used for many purposes in Arctic everyday life (e.g. GPS trackers, GPS navigation, drones, smartphones, etc.). Mobile devices can especially be used in multiple ways. Smartphones, for instance, usually contain several technologies or components, such as a camera, a gyroscope, a GPS chip, or a modem. They are thus powerful devices and can be used for numerous different tasks depending on the software. In early 2019, the Google Play store contained over 2.6 million entries (AppBrain, 2019), illustrating the vast number of applications available. Few of these have been developed to suit the needs of Arctic inhabitants. For instance, in northern Finland the app Porokello warns drivers of reindeer on roads, aiming at reducing traffic accidents (“Porokello,” n.d.); in Norway, the free software app Reinmerker makes the database of reindeer ear marks (offline) accessible on mobile devices (“Reinmerker,” 2012); and in Yakutia, civil society uses smartphones to report industrial pollution to authorities (personal communication, February 18, 2016).

New innovations usually do not emerge “from flashes of disembodied inspiration” (MacKenzie & Wajcman, 1985a: 10) but from gradual changes of existing technologies. Software can be seen as such a gradual innovation that may change the use and purpose of a device significantly. Software itself is often built upon previous code and rarely written from scratch. Yet, every technology affects society, its socio-economic structure, its culture, and the environment. Thus, the diffusion of new innovations has repercussions on societal well-being. In governmental digital agendas, digitalisation is often portrayed in a positivist light, but it may also be perceived as challenging societal integrity (e.g. in Salminen & Hossain, 2018; Sheehan & Gulbrandsen, forthcoming; Young, 2019; Zojer, 2019). However, whether or not digitalisation is perceived as beneficial or challenging is out of the scope of this paper. This paper acknowledges that inhabitants of the Arctic use and develop digital technologies and software, and furthermore, that learning computer or programming skills became part of education programs in parts of the Arctic, also within Indigenous communities (e.g. Hirshberg & Petrov, 2014: 387; Sogsakk, n.d.). This paper focuses on how different property regimes of software are related to human well-being, in search for a software regime that most contributes to digital security in an Arctic specific context. It assumes that digitalisation is an ongoing process with increasing societal significance, while considering that Arctic communities may have specific technological needs related to their particular (economic) activities and the often relatively small community size. The paper discusses digitalisation from a human-centred security approach, and elaborates on how different property regimes of software relate to Arctic digital security.

Digital security in the Arctic

The process of digitalisation progresses rapidly, including in the Arctic region. Information and communications technologies (ICTs), and especially the internet, are of increasing importance for

societal functioning, affecting social, economic, and political life. In 2017, in Denmark, Finland, Iceland, Norway, and Sweden, more than 90% of all households had access to computers and internet from home. While in Canada (86% computer access and 84% internet access in 2013), in the US (72% computer access and 74% internet access in 2013) (OECD, 2019b, 2019a), and in Russia (with an internet penetration rate of 71% in 2016 (Internet Live Stats, n.d.) these numbers were a bit lower, they still show that digital services and ICTs are widespread. Finland, Sweden, and Denmark are furthermore amongst the highest scoring EU countries in the Digital Economy and Society Index (DESI) (European Commission, 2019). Access to computers or internet is crucial for the functionality of most contemporary digital devices. For instance, in 2017, in the Nordic countries, citizens on average used 3 connected IoT (internet of things) devices, such as cars or smart home devices, a number that is expected to double by 2021 (Dahlberg et al., 2017). Also, for electronic governance, telemedicine, or banking, a properly operating cyberspace¹ is critical.

Cybersecurity

The significance of cyberspace for modern societies is also reflected in states' policy responses by endorsing cybersecurity strategies. The Committee on National Security Systems defines cybersecurity as "Prevention of damage to, protection of, and restoration of computers, electronic communications systems, electronic communications services, wire communication, and electronic communication, including information contained therein, to ensure its availability, integrity, authentication, confidentiality, and nonrepudiation" (CNSS, 2015: 40). In literature related to International Relations, cybersecurity usually focuses on threats to economic and military assets on the national level. It references threats originating from cybercrime, cyberwarfare, hacktivism, or espionage, and is concerned with securing critical infrastructure and thus the defence of cyberspace from cyber-attacks (e.g. Brooks et al, 2018; Kostopoulos, 2013; Singer & Friedman, 2014). Also, the cybersecurity policies of the Arctic states follow such a mainstream approach (Ministry of Justice, 2017; Ministry of the Interior, 2015; Public Safety Canada, 2018; Secretariat of the Security Committee, 2013; The Danish Government, 2018; The Ministry of Foreign Affairs of the Russian Federation, 2016; The Ministry of Government Administration, Reform and Church Affairs, 2013; The White House, 2018). Human individuals are rather treated as "threats", "weakest links", "victims", or are reduced to users that pose a potential risk to cybersecurity (Dunn Cavelt, 2014; Salminen & Hossain, 2018). Mainstream approaches to cybersecurity can thus be placed within a rather traditional and state-centric security framework, where governmental bodies are the securitising actors.

Such a state centric cybersecurity approach, however, runs danger of falling short of addressing security issues on the sub-state level. The complex and multifaceted realities of digitalisation require a widened and deepened cybersecurity understanding, which should treat individuals and communities as securitising actors, and concentrate on facilitating human development (see also Salminen & Hossain, 2018). A human-centred cybersecurity approach enables individuals and communities to address the fears and to vocalise the concerns they perceive. This also empowers

¹ Cyberspace is used here as the virtual space in which digital technologies are interconnected to each other.

them to include issues that originate from a state's actions that might be detrimental to individual security (Hoogensen Gjørsv, 2012), as states' measures to combat cyber-attacks may in fact even hamper information security on the individual level (Dunn Cavely, 2014). Utilising a human security approach for the cyber domain does not neglect the security challenges that states already address, but rather supplements them with the challenges people experience from digitalisation in everyday life (Zojer, 2019). Such a human-centred cybersecurity approach can thus be seen as very similar to the broadening of the security discourse in the academic field of International Relations since the emergence of critical security studies and the human security concept.

Digitalisation and human security

Therefore, it seems suitable to build such a broadened approach of cybersecurity on the human security concept, which aims at promoting human well-being. When looking at the Arctic, the focal shift seems legit, as there are no inter-state conflicts over Arctic territories. The Arctic is considered to be a region of peace and stability, and conflicts can rather be observed between different societal or economic actors within states than between states (e.g. Heininen, 2013; Hossain et al, 2017; Nicol & Heininen, 2014; Tamnes & Offerdal, 2014). While there is no universally satisfying definition for human security, many have built theirs on the seven key areas pointed out in the 1994 HDR, which are economic security, food security, health security, environmental security, personal security, community security, and political security (UNDP, 1994). Instead of focusing on a state's survival, the human security framework focuses on people's "freedom from want" and "freedom from fear." Human security "sits on interstices of human rights, human development, and security discourses" (Martin & Owen, 2014: 1). Within a human security discourse, not only physical integrity but also culture, identity, or human progress should be safeguarded. The positive as well as negative forms of security can be compared to positive and negative forms of human rights, where the "wants" are not less important than people's "fears" (Hoogensen Gjørsv, 2012; Roe, 2008). The Commission on Human Security describes the goal of human security as "to protect the vital core of all human lives in ways that enhance human freedoms and human fulfilment," and thus to protect "freedoms that are the essence of life" (2003: 4).

Through digitalisation, including the wide diffusion of personal computers (PCs) and the internet, ICTs have become one of the most significant areas of technological progress and have significant interdependence with societal development (c.f. Häußling, 2014: 97). Thus, ICTs can play an important role in safeguarding human security "since they are among the major sources of strengths in improving the quality of living across the world" (Sen, 2014: 24). The UN Human Rights Council identifies the intentional disruption or the prevention of dissemination or access of information from the internet as a violation of human rights (Human Rights Council, 2016). However, digital technologies may also bring new challenges to individual and community security, and have different implications in regional or situational contexts. Zojer (2019) points out that all seven key areas of human security are affected by digitalisation, in both positive and negative ways. On the case study of the European Arctic, Zojer highlights the region-specific implications on human security. For instance, telemedicine may bring basic services to remote places contributing to health, while at the same time reducing the need to travel to far away doctors or hospitals, thereby also reducing the ecological footprint for transportation. A field study in the European Arctic conducted by Sheehan and Gulbrandsen (forthcoming) found that not everyone desires increased digitalisation of health services nor see it as beneficial. It may also be perceived as a result of underfunding of welfare

services, as well as generating a lack of physical contact with health professionals. Increasing utilisation of digital technologies also comes with the promise of increasing business opportunities by enabling local enterprises to access global markets, whereas online shopping also challenges established retailers and may lead to a loss of job opportunities (Zojer, 2019). There is indeed a fear that digitalisation and related automation may globally cost up to two billion jobs by 2030, although various economic sectors are affected to different degrees (World Economic Forum, 2016). According to the 2015 HDR, economists historically reject the argument that productivity gains reduce employment in the long run. Yet, the digital revolution may particularly challenge less skilled labour tasks, contributing to increased inequality (UNDP, 2015), and shifting jobs to other regions. For example, in the United States, most jobs created by e-commerce are concentrated around only a handful of metropolitan areas (Gebeloff & Russell, 2017).

Digital security

As discussed above, security literature and policies in regard to digitalisation are focusing on technology, such as infrastructure, as a referent object and mainly follow a state-centric approach. Not being much of a concern in public discourse at the time, digitalisation was not mentioned and also ICTs remained a side note in the 1994 HDR definition of human security. Given the significance of ICTs and digital technologies in people's everyday life today, it seems, however, appropriate to scrutinise cybersecurity through a human-centred lens. A broadened approach to cybersecurity should shift the focus from technology towards the implications of digitalisation for human well-being and be responsive to region-specific contexts. Salminen suggests introducing the term digital security to highlight the interconnection between digitalisation and human security, and to draw a distinction from the prevailing cybersecurity discourse. Such a comprehensive approach "recognises individuals and communities as actors who actively impact (in)security and (un)trustworthiness of the digital environment and, thus, the everyday life of themselves and others" (Salminen, 2018: 188). Although digital security has frequently been used synonymously for information security or cybersecurity, with a similar focus on the protection of technology, it is less biased as a policy tool and receives little attention in International Relations. For example, searching the UN website for "digital security" showed zero results at the time of writing. Yet, as digitalisation refers to digital transformation, it seems appropriate to highlight this dimension when scrutinising the prevailing cybersecurity discourse.

Free and open source software

The fundamental components of cyberspace and ICTs are computers, whether as end user devices (PCs, smartphones, IoT devices, etc.) or for running the underlying cyber-infrastructure (servers, routers, etc.). Computers consist of the hardware, the physical artifact, and programs, containing libraries, data, and software. Computer programs are a set of instructions telling the hardware what to do. Software is written in a programming language in human readable code (source code) that has to be compiled into object code for the hardware to be able to understand it. Object code usually only consists of zeros and ones (binary code) and is difficult to read or to reverse engineer by humans; or in case of longer programs, almost impossible.

At the beginning of the computer era, computers were only available at some state-owned facilities or research facilities. Software was considered part of academic knowledge; It underwent a peer

review process and was made public. Only in the 1980s, when PCs became more popular, software got unbundled from hardware and was turned into a commodity (Ceruzzi, 1999; Dobusch & Huber, 2007; Holtgrewe & Werle, 2001). In order to protect their research and development efforts, software companies first decided to only sell the object code before implementing legal means to secure their proprietary software through Intellectual Property Rights (IPRs) (de Laat, 2005; Holtgrewe & Werle, 2001). IPRs are also tools for creating an artificial shortage of (digital) goods. This is necessary to increase profits, since shortage is a precondition of capitalist commodification while software can be reproduced at will with almost zero costs (Nuss, 2010). Richard Stallman was one of the first to publicly voice his concerns against this development which he considered a privatisation of public knowledge. In 1985 he founded the Free Software Foundation to promote the idea of free software, whereas the term free refers to freedom not price, “so think of it as ‘free speech,’ not ‘free beer’” (Stallman, 2019). For this purpose, he developed the GNU² General Public License (GPL)³, which is a copyleft license that utilises copyright conditions to secure public access to the source code. Thus also for free software IPRs play a role, even though in an unorthodox way: authors of free software do claim copyright, but allow others free use, repairing, modifying, or updating the source code (de Laat, 2005; Dobusch & Huber, 2007; Haff, 2018; Raymond, 2002).

Public vs. private software regimes

In the business world, however, free software received little attention. Critics suggested that the free software principle was too much focused on philosophical and political concerns. In order to bypass this bias and to push for wider acceptance of software with publicly accessible code, in the 1990s the Open Source Initiative was established and suggested to rather use the term *open source software* (OSS) (Open Source Initiative, 2018). This approach remains contested by *free and open source software* (FOSS) proponents up to the present. Supporters of the free software movement perceive this distinction as downplaying the importance of the inherent philosophy behind free software (Dobusch & Huber, 2007):

The terms “free software” and “open source” stand for almost the same range of programs. However, they say deeply different things about those programs, based on different values. The free software movement campaigns for freedom for the users of computing; it is a movement for freedom and justice. By contrast, the open-source idea values mainly practical advantage and does not campaign for principles. This is why we do not agree with open source, and do not use that term (Stallman, 2019).

FOSS and OSS projects both publish the source code, and both allow copying and distributing the code; free software, however, also requires that the code is allowed to be modified which is not necessarily the case with all OSS licenses, which can be weaker. FOSS thus always qualifies as OSS, but OSS does not necessarily meet FOSS criteria. While the open source movement is convinced about the greater efficiency of the open source model, it explicitly welcomes commercialisation of

² GNU is the project name for a free Unix clone Richard Stallman developed in an attempt to keep the popular operating system available to the public. GNU is an acronym and stands for “GNU’s Not Unix.”

³ Today there are numerous free software licenses existing, however, the GPL remains the most popular one (Schrape, 2016: 26).

software (Nuss, 2010). The free software movement argues, however, that free software is not only a practical approach on how to develop software projects, but that ethical values are fundamental to it. FOSS is thus seen as a social movement that aims at promoting social solidarity through sharing and cooperation in a society where culture and life activities become increasingly digitised (Stallman, 2019). Yet, OSS and FOSS have much in common. In fact OSS and FOSS developers often work together in software projects and identify proprietary software as a common adversary. De Laat distinguishes between the public (FOSS/OSS) and private (proprietary) software regimes by “whether knowledge is pursued in order to increase the public stock of knowledge, or to generate rents from its private exploitation” (2005: 1511).

Motivation and economic considerations

FOSS/OSS development does not mean, however, that only private persons contribute code in their free time. For instance, from 2005 to 2017, 15,637 developers from a minimum of 1,513 companies contributed to the code of the Linux⁴ kernel. In 2017, among the top contributing companies were Intel, Red Hat, IBM, Samsung, or Google (Corbet & Kroah-Hartman, 2017). Yet, also independent or volunteering programmers contribute and especially many smaller and specific software solutions are user innovations or (co-)developed by independent actors. Among the motivations of volunteers are factors such as intellectual stimulus, improving programming skills, empowerment, the felt need for a particular software solution, the desire to support the case of FOSS/OSS, or the joy of working in a team (David & Shapiro, 2008; Ke & Zhang, 2011; Li, Tan, & Teo, 2012; Raymond, 2002). FOSS/OSS communities are thus heterogeneous, consisting of individuals or firms, or a mix of both, and their projects may have diverse hierarchical and leadership structures.

Although usually being cheaper solutions than proprietary, FOSS/OSS projects can nonetheless generate profits. Revenues can be made from writing code, providing service, maintenance and support, bug fixing, education and training, or by creating documentation (Dobusch & Huber, 2007; Haff, 2018; Nuss & Heinrich, 2002). For instance, Red Hat, a developer of Linux operating systems, reported a net income of US \$434 Million in 2018 (Red Hat, n.d.). In 2018 IBM announced its intent to buy Red Hat for US \$34 Billion to diversify its portfolio (Baker & Roumeliotis, 2018). While former Microsoft CEO Steve Ballmer called Linux – due to its licensing regime – a cancer (Greene, 2001) and accused its users to be communists (Lea, 2000), today also Microsoft increasingly integrates Linux into its proprietary Windows operating system. Moreover, in 2018 Microsoft acquired Github, the world’s largest open-source code sharing platform for US \$7.5 Billion, in order to support the empowerment of software developers (Nadella, 2018). Thus, despite the early aversion of the business sector toward free software, today FOSS/OSS solutions are deeply embedded in the commercial IT market and are often mixed with proprietary software solutions.

⁴ Linux is one of the most successful free and open source projects. Linux operating systems are software bundles powering numerous devices, such as servers, PCs, or smartphones (e.g. Android or Sailfish OS are based on the Linux kernel).

Discussion

Arctic people(s) have been highly innovative throughout history. The rich diversity of Arctic technologies, including traditional knowledge(s); techniques and tools used for hunting or the herding of livestock; or their craftsmanship are living proof. Due to interaction with the South, there are also many technologies developed outside the region that diffused into Arctic communities, including most digital technologies. Technologies are, however, not confined to physical artifacts, but also refer to the human activities related to it in a twofold manner: in the practice of creating a technology, as well as in the usage, that is, what people know as well as what they do with it. For instance, a “computer without programs and programmers is simply a useless collection of bits of metal, plastic and silicon” (MacKenzie & Wajcman, 1985a, p. 3). Consequently, software also needs to be considered a technology, albeit not being a physical object. While manufacturing goods in traditional industries require heavy and expensive machinery due to the computerisation of individuals, the means of production in a digital society are no longer exclusive property of large corporations (Nuss & Heinrich, 2002). Instead, individuals can participate in the production of new innovations. This is particularly relevant in an Arctic context as it allows local residents to become (co-)producers of digital technologies despite living in remote places with a limited financing base.

Innovation stakeholders

One critique on the current cybersecurity policies is that they tend to be techno-determinist; they tend to assume that technological advancements will automatically benefit society (Salminen & Hossain, 2018; Zojer, 2019). Yet, since the 1980s science and technology studies scrutinise this faith in technology by arguing that technologies are not neutral objects but embed culture and politics and are thus socially constructed. Moreover, technologies also affect the direction of societal development (e.g. Bijker, Hughes & Pinch, 2012; Latour, 2004; MacKenzie & Wajcman, 1985b; Winner, 1980). Most technologies, especially those developed in recent decades, are not isolated devices, but are part of large technological systems (LTS). Such systems include physical artifacts that require each other to function; organisations, such as investors or manufacturers; scientific components, since engineers and designers utilise scientific knowledge for their problem solving; regulatory laws; or system artifacts, such as natural resources that are used to build the hardware (Hughes, 2012). These heterogeneous and interacting network components constitute a “seamless web,” in which technological and societal development are tightly interlinked (Hughes, 1986). The LTS approach, however, also illustrates the importance of different actors in the innovation process, such as states’ policies or funding regimes.

Small markets and niche products

Software firms in a traditional manufacturer structure might be suitable actors to design software for new applications, as firms have specialised knowledge about what they produce. However, this specialisation does not necessarily overlap with user’s interests, especially if they look for specific applications. Moreover, firms tend to develop products aimed for a large user base in order to maximise their profits, while providing solutions for specific niches are often unprofitable. Buying custom-tailored solutions usually is too expensive for end users (von Hippel, 2005). These findings coincide with the experiences and concerns of the reindeer herder discussed above. The small markets and specific niches in the Arctic will, however, often require unique solutions for a small

user base. Such particularities are not only confined to technical aspects, but the Arctic is also rich of different language groups, of which many are small. For instance, the Skolt Sámi museum in Neiden developed its own font “*Helveticaskolt*” for its main exhibition (Skolt Sámi Museum, 2017) in order to express the Skolt Sámi language in written form. Skolt is only used by 300 people and is considered “severely endangered” by the UNESCO (Moseley, 2010). Regarding software, FOSS has proven useful for being adaptive and addressing small language groups (Benjamin, 2012).

Economic considerations

When a new technology is being designed and reaches a bottleneck, such as not meeting the users’ needs or being too expensive, its dispersion may remain unsuccessful. Hughes called such bottlenecks “reverse salients.” To overcome reverse salients, designers or engineers need to involve the users to identify and understand a bottleneck (Hughes, 2012). User innovations, such as FOSS, can reduce this obstacle, as the users are usually the experts on how a new technology need to be designed (Bijker, 2010; von Hippel, 2005). A reflexive innovation policy benefits from democratising and opening innovation networks, and from including heterogeneous actors with their numerous expertise and knowledges (Rammert, 1997; see also Windeler, 2018). Takeishi and Lee (2005) have furthermore shown, on the example of the mobile music business, that also strict IPR regimes can become reverse salients and hinder innovations.

Most software firms operate in a capitalist mode of production. Maximising profits is of essence when designing a new technology. However, economic laws and economic calculations are specific to different forms of society and to how a society is organised (MacKenzie & Wajcman, 1985a: 17). User innovations are better suited to reflect the social organisation of the community where a new technology is used. Moreover, FOSS/OSS challenges the idea that the individual appropriability of the revenues of an innovation is essential for an economically prosperous society, because such “commodification may even be regarded as a threat to the wealth of a nation because it jeopardises long-term innovation by limiting access to knowledge and technology” (Holtgrewe & Werle, 2001: 61). There is also empirical evidence that user-based innovation likely increases social welfare (von Hippel, 2005).

Sustainability and empowerment

Beside cost factors, flexibility and adaptability of FOSS/OSS projects are one of their strengths. FOSS/OSS projects are the most used solutions on infrastructure devices (servers) and on mobile devices (Schrape, 2016). For clients with big number of devices, such as public administrations or large corporations, the use of FOSS/OSS can be advantageous from a pecuniary standpoint as well as to avoid lock-in effects, which create dependencies on a single manufacturer. The possibility to avoid lock-ins makes FOSS/OSS popular in developing and emerging economies (Dobusch & Huber, 2007; Sowe, Parayil & Sunami, 2012). User-centred innovations that are freely revealed can substitute or supplant manufacturer product development, making communities more independent (von Hippel, 2005).

Free software is furthermore concerned about sharing and cooperation. Making code publicly available allows other users or developers to build on the previous work of each other. Such “free riding” is explicitly welcome in FOSS communities. Sometimes only small changes of code are necessary to adapt the software to other use cases. Copyleft licenses provide guarantee that

subsequent contributions of software remain a public affair, as also derivatives of the original software need to follow the same license conditions. Note, that this is not the case with some OSS licenses, which may allow derivatives of the original work to be placed under a more restrictive license (de Laat, 2005; Schrape, 2016). Moreover, when a FOSS/OSS project is discontinued, the code remains accessible so that others can continue to work on the project. Both, repairability and continuity contribute to the sustainability of FOSS/OSS (Sowe, 2012). In search for a suitable design of digital database and information systems for Sámi traditional knowledge, also Petterson highlights that “open-source code and local ownership allow for reuse and development of other’s applications” (2011: 187).

Mainstream cybersecurity considerations

While not being specifically related to an Arctic context, there are differences between public and private software regimes also from a traditional cybersecurity perspective. FOSS/OSS advocates argue that the more eyes are on the code, the more likely and faster bugs (software errors) can be fixed, while proponents of proprietary software argue for “security through obscurity” (Dobusch & Huber, 2007; Raymond, 2002). Yet, research suggests that the quality and software security between public or private regimes is more or less equal (Clarke, Dorwin, & Nash, n.d.; Haff, 2018: 36–40; Kairala, Koskinen, & Turpeinen, 2015). However, while proprietary software may contain malicious contents, free software published under the GPL imposes political restrictions to avoid that, as the GPL prohibits software to be used to violate human rights, to contain destructive viruses, or code for surveillance purposes (de Laat, 2005). Because the source code of proprietary software is a black box, some end users do not trust them. When China decided to use the open source operating system (Neo)Kylin for public administration and in the military, the step was perceived as being an attempt to block attacks from foreign governments (Heath, 2013). In 2019, the Russian military also announced readiness to shift their computers to open source operating systems (Cimpanu, 2019).

Conclusions

With increasing digitalisation, information, and no longer work or energy, is the most important factor of production. Touraine (1971) coined this as the characteristic of a post-industrial society. In response to the acknowledgement of the significance of ICTs for the functioning of contemporary societies, the Arctic states (like most others) have endorsed cybersecurity policies. Cybersecurity is related to safeguarding critical cyber-infrastructure and can be compared to a traditional, state-centric security approach. Mainstream cybersecurity policies tend to assume somewhat homogenous societies within national borders and treat individuals as possible risks to cyber-infrastructure. Such an approach runs danger of neglecting the regional particularities and context-specific challenges of digitalisation to communities and individuals. The concept of digital security has been used in this paper to highlight a human-centred security approach to digitalisation, including both “hard” and “soft” security concerns. Consequently, the differentiation between digital security and cybersecurity can be compared to the broadening of human security in relation to a traditional security understanding. Since the securitisation of an issue is a politically powerful act that may direct attention or drastic measures to an issue, it is important to scrutinise the mainstream cybersecurity approach in order to assure that a) policies are sensitive to the regional particularities and needs; b) listen to

concerns and challenges of individuals and communities; c) policies are concerned about human well-being, because the purpose of technologies is to improve quality of life after all.

Computers have become integral parts of economic, political, and everyday life and strongly affect the course of action and mindset of people (cf. Rammert, 2016: 246). Yet, computerisation also provides people with a powerful tool to develop new software-based innovations locally and independently from traditional manufacturer models. This paper discussed how the different software regimes of proprietary software, open-source software (OSS) and free and open source software (FOSS) are related to digital security in an Arctic context, which includes a) small niche markets and small user bases; b) small people with cultural particularities and small language groups; c) particular local or traditional knowledge for which technologies should be inclusive. Following constructivist approaches from science and technology studies, technologies are not seen as neutral but they embed culture and politics. User based innovations increase inclusiveness of local culture and knowledge (von Hippel, 2005). Both proprietary and free and open-source software models can provide economic benefits. A FOSS/OSS approach, furthermore, decreases dependence on outside actors and allow to repair, modify, or adapt software to local needs. FOSS moreover increases sustainability, as copyleft licenses guarantee openness and availability of code, as well as – under the GPL – prohibit violation of human rights. The paper thus concludes that when developing software innovations in the Arctic, utilising a FOSS approach contributes to digital security.

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Section V: Environment & Environmental Protection vis-à-vis Resources and Exploitation

International Markets, National Security and Local Control: Oil in Arctic Alaska

Nicholas Flanders

Introduction

Much of the recent history of Arctic Alaska has been the direct result of the 1968 discovery of oil in Prudhoe Bay. The Native land claims settlements, a construction-based economy, the formation of large, new national parks - all have resulted from oil. These things could have happened without the oil discovery, but they would have been less likely. Oil placed these issues on the national public agenda and set a high priority for their resolution.

Despite the obvious connection between these things and the development of oil, writers, including this author, treat the discovery of oil as a *deus ex machina*. This treatment fails to recognize that oil is central to several issues in Alaska. The relationship holds true for the future as well. The further development of oil fields is, in turn, dependent upon two factors. First, the rate at which oil companies extract oil is dependent upon the world market price. The relationship to the world market price has contributed to booms and busts in Alaska oil field development.

The world market price for oil does not sufficiently explain, however, Alaskan oil development. National security is also important. Petroleum development, including the construction of the pipeline, has taken place on state and federal government land. Decisions about development have thus entered the public policy arena. The public has debated the exploration, development, and transportation of Arctic oil. When opposition had stymied the construction of the Trans-Alaska Pipeline System (TAPS), the Arab oil-boycott of 1973-1974 overrode it. National security concerns, the memory of the boycott, are the central argument for further development in such places as the Arctic National Wildlife Refuge, ANWR (Westermeyer 1987). Precisely the failure of the world market to provide sufficient amounts of oil at any price is at the heart of this concern. Decreasing the dependence of the United States of America (US) on foreign sources of energy, in particular oil, is the central objective of United States energy policy (US Department of Energy 1991). Thus, to the extent that petroleum-related activities influence local events, global markets and national security bear intersect with local control through oil.

This paper will explore two issues. The first is the relationship between national security and local issues. The second is, given the break-up of the Soviet Union and the Gulf War of 1991, what are the present national security interests of an Alaskan oil?

Oil and Development in Arctic Alaska

Oil seepages had been noted in the Prudhoe Bay area from the beginning of the 20th century. In the 1920's, the first exploration on the North Slope took place. The exploration ended, however, when a large oil field was found in west Texas. The federal government set aside a large part of the North Slope during World War II as a Naval Petroleum Reserve and for the first time recognized the strategic importance of Arctic oil. Modern navies depend upon oil, rather than coal, for speed and flexibility (Yergin 1991). Nations, to achieve that position, needed to ensure their supplies. The naval petroleum reserve showed that the US government viewed Arctic Alaska as a storehouse of strategic resources.

In the 1950's the US government began exploring the North Slope for oil. President Eisenhower stopped the US Geological Survey from this work, arguing that oil companies should do the exploration.

In 1959, Alaska became a state of the USA. The central issue in Alaskan statehood had been the control of resources. Alaskans felt that the federal government, and large "outside" corporations, had prevented Alaska from developing its natural resources to their full potential. These outside interests took the value out of the state and thus prevented capital formation. At the time of statehood, this debate focussed primarily on the fisheries. But Alaskans believed that other valuable resources existed as well. One might suggest that statehood advocates also viewed the Arctic as a storehouse of value, the difference was in who benefitted and when. A national perspective called for Alaskan resources to remain largely unexploited. From the Alaskan point of view, the sooner they could be used, the better.

In the Alaska Statehood Act, the US Congress gave the new state the ability to choose 105 million acres for its own out of unreserved land. This provision was unique in the history of the United States. Prior land grants to new states had specified a random pattern of land selection. Congress recognized that Alaska land grants could not be random, because resources were not evenly

dispersed, as agricultural land might be. Alaska began to select land with high oil potential first. But this land did not bear fruit immediately. For the first 10 years of its existence, the state depended upon bonuses from lease auctions on mineral lands, rather than rents or royalties, as a source of general revenue. Thus, the state was in a position where it had to move the most valuable land onto the market quickly. Simultaneously, the Native peoples of Alaska had begun to press for a land claims settlement. This movement was the result of threats to their traditional use and occupancy of land. Among the threats were federal plans to set off an atomic bomb at Cape Thompson and to build a dam across the Yukon River at Ramparts. State land selections, however, forced the issue. For the first time, conflicts over land use became extensive. Native Alaskans pressed for a moratorium on land transfers to the state. The statehood act said that they should not be disturbed in their traditional use and occupancy of land. In 1966, the then Secretary of the Interior, Stewart Udall, imposed such a freeze. This land freeze put the state of Alaska in a panic. Without additional land, revenues from bonus lease sales disappeared.

The 1968 discovery of oil in Prudhoe Bay altered the situation. Though this discovery is often portrayed as a bolt out of the blue, it was not. Oil companies are always seeking new fields, that is their business. They knew that oil production in the United States was declining in the late 1960's. The United States had been self-sufficient in oil for almost 100 years. Self-sufficiency had given it leverage in world affairs, particularly when dealing with the Middle East. For example, President Eisenhower had been able to make the French and British withdraw from the Suez in 1956 by threatening to reduce US exports to those countries (Yergin 1991). Domestic production had been essential to foreign policy. Alaska was an important find not just because it was large, but also because it was in the United States.

Faced with opposition to the construction of the pipeline, however, North Slope oil could not be developed immediately. The Native groups would not relent in their land claims. The state made a tremendous amount of money from the next bonus lease sale. It was able to double state salaries overnight. But continuous revenue from royalties and taxes was not forthcoming. It needed the pipeline. The Alaska Native Claims Settlement Act (ANC- SA) of 1971 settled the impasse with the Natives. Opposition from environmental groups, mobilized by an oil rig blow out in the Santa Barbara (California) Channel, had increased. A new environmental law, the National Environmental Protection Act (NEPA) of 1969, required that government agencies prepare environmental impact statements before taking actions that might affect the environment. If they did not, then any citizen could sue.

The Trans-Alaska Pipeline was an instance to which the law applied. The pipeline was immediately tied up in court. The environmental lobby argued that Alaska was the last remaining wilderness, that the pipeline would affect the large herds of caribou, and that the oil companies were developing the fields only to sell the oil to Japan and the other countries of the Far East.

To understand what happened next, one must turn to the Middle East. Anwar Sadat, then president of Egypt, launched an attack on Israel during Yom Kippur, 1973. Several circumstances had come together to favor such an attack (Yergin 1991). In 1967, during a previous war between Israel and its neighbors, an oil boycott by Arab countries of Israel's western supporters had been ineffective. Two factors had changed this ineffectiveness. The Organization of Petroleum Exporting Countries (OPEC) was willing to limit oil supplies to ensure higher prices. Also, a general world shortage of oil outside OPEC, including from the United States, meant few alternatives. Sadat launched the

Yom Kippur war having gained the support of Saudi Arabia for an oil boycott, and knowing that the world oil market would make a boycott effective. Thus, Sadat and the Saudis knew that the United States was vulnerable. Yergin argues that though his army ended up surrounded by Israel's, Sadat won the war: He got the attention of the United States and that was what he really wanted.

During the dark winter of 1973-74, drivers pushed their empty cars into the long lines waiting at gas stations for ten liters of expensive gasoline. The United States economy went into recession. Truck drivers blocked highways, protesting laws designed to cut fuel consumption. The US Congress passed a bill overriding all legal blocks to the construction of TAPS. In the Senate, the Vice President broke a tie by voting in favor. National security overrode all environmental considerations. Congress added environmental safeguards and restricted the sale of oil to US markets, removing discussion of the environmental issues from any further public debate. The oil shortage of 1979, caused by the Iran-Iraq War, served only as a coda to the experience of 1973-74. Most Americans believed that internal oil development was necessary.

Native Rights and State Prosperity

What followed was a period of prosperity for the state, and a concomitant growth in the expression of Native rights. The two were not unrelated. First, the state experienced a boom from the construction of the pipeline that lasted from 1974 to 1978. Even after the boom ended, the economy did not subside back to its 1974 level. The new infrastructure supported a wider variety of service industries, and the state began to receive revenue from royalties and taxes. The state spent this money in rural areas, under a variety of influences. First, rural legislators usually provided the swing vote in any parliamentary coalition. Consequently, the legislature funneled money to rural areas for capital projects, e.g., new runways, harbors, roads, water and sewage facilities. Such projects also benefitted the urban-based construction industry.

Second, rural high school construction began under the "Molly Hootch" decision. This decision came out of a lawsuit by rural Native students against the state. The students could not attend high school in their communities. The state argued that it did not have the money to afford schools in all the small villages. Oil wealth removed the state's argument. The construction of new schools began, providing large numbers of jobs and cash that also helped the village service economy.

As the price of oil rose dramatically, so did state revenues. In 1982, state revenues went over \$4 billion, over \$9 000 per Alaskan resident (Flanders 1987). ANCSA had been designed to provide Alaska Natives with the institutional and financial means to develop the rural economies. Native corporations, the act's institutional vehicle, did little to increase the standard of living of most Natives. The spending of money in rural areas through capital projects was the real source of wealth during this time, providing substantial employment.

Nowhere was this use of tax money for employment more evident than in the North Slope Borough (Chance 1990). The predominantly Inupiat villages of the North Slope formed the borough in 1972 as a way of assessing property taxes on the oil companies in Prudhoe Bay. The oil companies fought vigorously to prevent the formation of the borough, but did not succeed. They did succeed in getting the state legislature to place a cap on the tax rate that the borough could charge. But the legislature did allow the borough to sell an unlimited number of bonds. Using bonded debt, the borough launched an aggressive program of capital projects and social service programs. It helped in the construction of new villages at old village sites. Its employment program

raised the median family income to almost \$30 000 a year in 1979, when in many places in rural Alaska, it was only \$4 000. Most importantly, the borough became active in several Native rights issues. In 1975, it helped to found the Inuit Circumpolar Conference (ICC) by underwriting the first conference in Barrow. The ICC is now a major player in international Arctic affairs. When the International Whaling Commission put a ban on all hunting of bowhead whales, including for subsistence, the NSB funded a counter-lobbying effort and scientific research program to prove its case that the whales were numerous. The NSB could also write stringent environmental regulations, and negotiate with oil companies over environmental conflicts.

Thus, government revenues from oil development proved a significant factor in pushing forward Native concerns and providing employment for the rural areas of the state. The ANCSA-formed Native corporations were not as effective. Those that did make steady profits, such as NANA, Ahtna, and Cook Inlet Region, Inc. did so from petroleum or petroleum-related activities (Flanders 1989).

The World Oil Market and Arctic Oil

All of this began to fail, however, when world oil prices plummeted in 1986. In a very short period, prices went from \$23/ barrel, to less than \$10. The collapse was largely a result of the intransigence of Britain to reduce the output from its North Sea fields. OPEC was split because of the continuing Iraq-Iran War. Saudi Arabia brought discipline to the market by drastically increasing supplies. When the world price approached the cost of North Sea oil production, Britain relented. The price drifted slightly up to around \$12.50. Prices have remained low ever since, never reaching the \$30 or more per barrel price of the early 1980's.

The result for the economy of Alaska was a severe depression. Almost overnight, the housing market of Anchorage and the other large cities collapsed. Families unable to pay the mortgages on their houses waited until school ended in June, packed their belongings, mailed the house keys to the banks, and left Alaska. The state government, which had encouraged home building through guaranteed, low interest loans, was left the largest homeowner in the state.

The rural areas, which had come to depend upon state projects for income, found the money disappearing. Unemployment increased. Even the North Slope Borough had to cut back on its spending program. School districts laid off workers. Per capita, and adjusting for inflation, Alaska revenue sank to the period before the construction of the pipeline (Flanders 1987). Native corporations experienced lower revenues. Those that earned money did so through financial investments in what were then still strong equities and bond markets.

The drop in oil price also had an effect upon the further development of oil. To understand the full effect of this drastic change in oil price, one must understand the difference between market and wellhead price. Alaskan oil sells in the US market at prices that the world market largely determines. Transportation costs are deducted from this market price to calculate the wellhead price, that is, the value of oil when it comes out of the ground. The wellhead price, when compared with cost, is what determines whether a company will continue to pump existing wells and drill new ones.

Because transportation costs for Alaskan, and other Arctic, oil are high and fixed, the wellhead price is more volatile, i.e., moves up and down, than for areas with lower transportation costs. The effect, from a market viewpoint, is to make the further development of Arctic oil dependent on an increasing, and hopefully stable, well-head price for oil. When these conditions are not met, companies may explore, but not develop, new fields.

Since 1986, exploration in Arctic Alaska has been slow, and development outside existing fields almost non-existent. The oil industry in Alaska is more dormant than dead, however. Price rises, or instability in other parts of the world, may bring Alaskan oil back into focus. The Iraqi invasion of Kuwait was one example.

Where is the US Security Interest?

Alaska in this respect fits into the model of the center and periphery (Prebisch 1971): The economic needs of the center drive the economy of the periphery. Yet, this relationship does not fully describe the position of the Alaskan economy. The supposed center, the United States economy, is dependent upon the political and economic situation among the Middle Eastern countries. Thus, the development of Alaskan oil and the state economy are ultimately dependent upon broader questions of international security, rather than simple economic interests.

Repeatedly since 1973, the issue of national security has appeared to favor development where the market argument has failed. National security is an overriding argument because no state will follow a policy that may lead to its own dissolution. Energy crises caused by shortfalls in the oil supply have been real experiences in the United States. Alaskan oil has contributed to a reduction in oil imports. As Figure 1 shows (see page 16), increasing production from Alaska has prevented total US crude production from declining more rapidly. This slower decline has also meant that over 50% of US oil consumption has come from domestic production during the time from the completion of TAPS in 1977 until 1989. The increased reliance on foreign sources began in 1986, when the world price of oil fell, and domestic sources, dependent upon higher prices, went out of production.

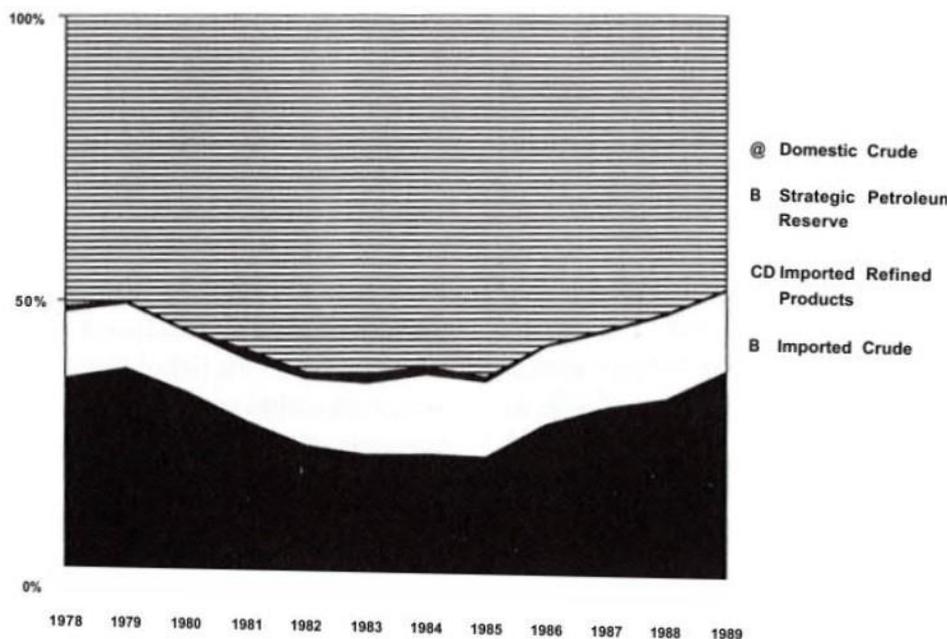


Figure 1. Domestic crude, strategic petroleum reserve, imported refined products, and imported crude as a percentage of total US oil consumption, 1978-1989.

The security use of Arctic oil would prevent another oil shock by keeping both the world and domestically-produced supply of oil relatively large, reducing the effectiveness of any supply or price shock. Yet, Arctic oil development is not the only way in which to fulfill this objective. Similar stability could be effected through reduced consumption of energy, or changing to other forms that do not come from foreign sources. Another possibility is to create new petroleum reserves by buying foreign oil when it is cheap, and storing it until it is needed. This latter strategy usually requires geological structures with empty space and impermeable layers, such as salt domes. The US does have such a reserve.

Strategic use of domestic petroleum reserves also involves some questions about timing. Off-hand, it seems better to import oil from overseas, where it is also usually less costly to produce, then use the domestic reserves when a shortfall really occurs. The difficulty with this strategy is that it takes time to open reserves, and the capital and ecological costs may be much higher. Thus, a domestic reserve is only valuable against a shock if it can be rapidly brought into production. Domestic oil in the ground must already be accessible for it to be effective. Thus a need for balance: the oil must already be flowing to respond to a shock, but using reserves limits future response.

Another possibility is to reduce the instability of foreign sources. In the Gulf War, the United States showed a willingness to use military force to prevent consolidation of oil sources, i.e., the absorption of Kuwait into Iraq. An oil supplier with a larger percent of the market can affect the world market price, or create a disruptive shock to a particular country. The Arab-Israeli conflict has proved a particular balancing act. The US needed Israel as an ally during the Cold War, but wanted to remain friendly with the Arab states because of their oil and American corporate interests. With the loss of the Soviet Union as a military superpower, the US can push Israel. The Arab countries are now less likely to mount a boycott.

The inclusion of Russian oil and gas into the world market also reduces the likelihood that any one country, or blocks of countries, can mount a threat to the world oil supply. Arctic oil may be less necessary for national security than in the past.

Conclusions

Alaska has benefited economically from the national security concerns of the United States. Groups within Alaska have benefitted as well. The end of the Cold War has changed Alaska's tactical position. But, Alaska's strategic importance as a "national storehouse" remains. That storehouse role does include such things as wilderness and wildlife, but petroleum and minerals remain major national interests.

This national interest continues to have an influence on local, community affairs. For instance, the federal government has turned down locally proposed coastal zone management (CZM) plans where it has felt that such plans might impinge upon oil and gas development. Any restriction on exploration and development, the explanation often goes, would be against the "national interest." The CZM plans are developed under state and federal law and give local areas powerful tools for regulating the coastal environment. They require federal acceptance, however, to come into effect. The oil companies can still use national security concerns to override local environmental interests.

Despite conflicts over control of the possible environmental effects, Native Alaskans do recognize the importance of the oil industry for their well-being. In a campaign flier for the 1992 state legislative elections, a Yup'ik group lists backing for the development of ANWR as one criteria for endorsing candidates. The Yup'ik people live on the other end of the state from the refuge. Yet the issue is important to them. Only by looking at the past relationship between the oil economy and village well-being can one understand this oddity.

The fate of the Alaskan economy, and the environment, continues to turn upon events elsewhere in the world. It is not an economy or an environment that is valued for itself. Even its wilderness has become a token, be it symbolic, of the national discussion about environmental interests. Whether they like it or not, the people who live there must increasingly define their interests with reference to these national debates rather than in and of themselves. The well-being of Alaskan villages is now ironically tied to world affairs, anthropology to international relations.

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Megaprojects and environment: natural resources use In the Arctic

Gennadi Luzin

Introduction. Man, ecology, economy.

Today and in the far future natural resources will remain a beginning and an end of the entire human vital activity.

The environment state represents an integral result of anthropogenic and natural processes influence. A man should live taking into account nature, joining the environment, preserving ecological systems' purity.

The relation between environment and economic activities becomes more and more important factor of formation of model for sustained economic development, establishment of balanced and stable economy in the North. In this case implementation of mega and big projects, oriented to natural resources use, occupies a specific place. Such projects infringe upon the interests of the neighboring regions and of the neighboring countries. Among these may be such projects as exploration and exploitation of oil and gas deposits on the Arctic seas Shelves, pipelines laying, burial of radioactive waste, nuclear reactors nuclear-powered vessels and nuclear power stations) operation, highway engineering, hydraulic power engineering, the use of bio-resources from

Northern and Arctic seas, nuclear proving ground operation, application of polluting technologies at mining - metallurgical enterprises.

Economic activities cause ecosystems' destruction. The problems of preserving of different ecosystems become socio economic and political. Their successful solving needs actions at an international level. These problems become particularly pressing in northern, subarctic and arctic Russian regions keenly responding to anthropogenic influence (fig.1). It is known that industrial and transport exploration in some northern regions caused grave negative ecological consequences.

A general mechanism of such acute ecological situations appearing is seen as a result of nature and man interaction, of which an anthropogenic load on the territory exceeds natural ecological territory's possibility (buffer ecological capacity).

On a global scale from natural processes standpoint the gravity of the problem under consideration is defined by the fact, that keeping the natural balance formed in the long evolution process, in the north is a necessary condition for maintaining a general biosphere mechanism that defined the present climatic conditions and the World Ocean level. Finally solving this problem will help to prevent irreversible global consequences.

From socio-economic standpoint this is a problem of efficient careful environmental use to reach sustained economic development. In this case environment should be protected and people's needs should be met (for example, reasonable economic and social development, providing employment). Reasonable development means high technologies and technique, science intensive and information productions, highly skilled labor, providing maximization of economy development, production and employment rise, sales increase, functioning of the system of social guarantees.

I would like to remind that in the report "Our mutual future", prepared by UN International Commission on Environmental Protection it was stated that environment is the place where we live while "development; - is what we all do trying to improve our life inside the place of residence. These two concepts are indivisible;

- disbalanced economic development, pauperization, population increase do great damage. These factors unprecedentedly influence planet land, water, forests and other natural resources and not only in developed countries... What is necessary to do now - to begin a new stage of economic development, powerful development stage at the same time supporting social and ecological environment.

Speaking about complicated and extensive megaprojects we should underline that megaprojects alone cannot provide even and balanced social and economic rise, all the more employment increase, that northern economy needs. This myth has already been broken by practice in Russia, Canada, USA(Alaska).

Oil and gas production and environment.

At present on the Barents Sea aguary there are more than ten Norwegian and Russian drilling platforms. One of the largest megaprojects of the XXI centry is oil and gas production on the Barents Sea shelf and related to this gas transportation by a pipeline to Northern and Central Europe (Fig.)

We will consider some economic and ecological aspects connected with the development of Shtokmanovskoye gas condensate deposit.

The named deposit is situated in the non-freezing deep (280 - 360 m) part of Barents Sea 650 km away from Murmansk and 290 km to the west from the New Land Island. It is the most large deposit among the known deposits in the northern and arctic aquatories. The forecasted production is about 50 bln m of gas. The general European market situation (including Russian European North) is favourable for gas supplies both to home and foreign markets.

At present some specialists estimate negative influence on environment caused by Shtokmanovskoye gas condensate deposit development as minimal by analogy with the development of the North Sea deposits. But it should be noted that the experience in oil gas resources development in arctic aquatories is not available. Besides some specialists and scientist believe that, in the North Sea waters are being polluted. Frequent emergency oil spills happen, along with oil and gas large quantities of polluted water are disposed to the sea. According to Prof.G.Matishov data, only for the last five years in the English sector of the North Sea 1430 tons of oil entered aquatory. Obviously the Barents Sea will not be an exclusion. Besides, to his mind, ecological programs adequate to the scales of future oil and gas production are not available so far.

The experience of Kolchuevskoye deposit development is also alarming. In 1976 oil film was found only near- the shores of island Kolchuev, while in 1987 after its spreading the entire surface of Pechora Sea was covered with that film. According to Canadian scientists observations there are some regions in Arctic where the emergency spilled oil on the shores is kept unchanged for decades. Negative biological effects caused by oil and other types of pollution are most felt just in polar-ecosystems.

Besides oil spills during drilling platforms operation considerable flows of toxic drilling sludge take place. They cause mass death of plankton, benthos and fish. Experience shows that during drilling holes in the sea substantial quantity of sludge, drilling solutions, water soluble chemicals, lead, copper and other metals are disposed.

There is information in literature about negative influence on the sea resources caused by sea wharves, ground high-voltage electric power lines, highways, submarine pipelines. At the same time the pipeline from Shtokmanovskoye deposit to Teriberka bay will lie for hundreds of kilometres over the crossed shelf across the migration routes of cod, cat-fish, plaice, through fishery chutes. This may become a real threat to Barents Sea bio-resources reproduction and it is necessary to develop special programs.

Surely the one who will make a decision on realization of project for Shtokmanovskoye deposit development, will estimate all possible consequences: ecological, economic and social on the basis of a new model of northern natural resource development adopted today and a modern model of man and nature interaction.

In megaprojects lags of getting socio-economic values and ecological consequences are drawn together. They are equally distributed throughout the time over a length of considerable interval. This means that short- and long-term prospects will be taken into consideration and promote reasonable economic man's behaviour.

Certainly socio-political goals, so different and unstable today, should be taken into account. The complexity is in the fact that in megaproject under consideration many states' interests interlace including Baltic states entering the USSR before. In this situation it is unlikely that making one-sided strong-willed decision without comprehensive economic, social and ecological analysis and finding a compromise.

Today for a example it is known how much the Baltic sea aguary is polluted. This aguary is considered as a possible pipeline route to Central Europe. At the same time it is known that new Baltic states badly need oil and gas resources. This is a cross-road of today economic and ecological polycies, a core, of interdependence between mentioned political spheres. It demands a scenario approach to the choice of versions of gas transportation to Central Europe.

It is believed that the implementation of the project under consideration will contribute significantly to economy development in the Russian European North. At present gas is not brought to the Republic Karelia, Murmansk and Arkhangelsk regions.

Provision of gas supply will remove power- resources deficit, exclude annual transportation of more than 10 mln. tons of coal, liquid fuel, allow to involve substantial quantity of forest in processing instead of using it as fuel. The use of gas fuel will permit to improve the air ecosystem substantially. It will be possible to establish new gas chemical production in the region - diesel fuel, petrol and other gas chemical products, transported at present to the region with great interruption. And this in its turn will allow to improve the situation in the labour market which is difficult due to transition to market. Positive power- market conditions in Europe make it possible to forecast currency influx.

When developing Shtokmanovsky megaproject the following resources will be involved in the sphere of economic activities:

- gas and condensate;
- sea and fresh waters;
- land;
- bioresources of sea and fresh water- reservoirs;
- forests, arable land, marshes.

Pipeline route will lie along the sea and continental sectors.

All mentioned peculiarities are taken into account when estimating economic and ecological damage and compensatory costs volume. In this case principle of rational comprehensive development of gas natural resources without ecosystems disturbance must be the most important principle.

Developing of megaproject is connected with solving of specific problems on setting up of a new financial mechanism for protecting natural resources from depletion, in particular through establishing of trust funds and a system of legal and economic behaviour of partners.

Forecasts, estimation of gas demand in potential countries-consumers, gas production and export possibilities of current producers, are of first importance.

Practically all social, economic and ecological problems connected with megaprojects implementation, cannot be solved without interaction between federal, regional, and municipal management levels. They are all interested in the North development, providing its vitality under market conditions, new for Russia.

By scales megaproject for Shtokmanovskoye deposit development has no equal in the Russian north.

Fishery and ecological crisis.

The system of international quota, introduced to save raw materials base for fishery, fit into megaprojects.

According to Russian scientists (G.Matishov), the current forms of international fishery quota are oriented to commercial fishery, meeting departmental interests.

Extensive development of fishing industry in 60-80 s caused ecological crisis on the Barents and White Seas aguatories, rapid depletion of raw-materials base. This is connected with overcatch and catastrophic fall in the number of food-fish.

This was promoted by several years practice of the USSR Ministry of Fisheries that used to build gigantic vessels-plants. By specialists' opinion one such super-trawler has enormous capacity 60 tons of fish biomass per hour, it represents a huge destroying force for biosphere. It is a real fact - the northern fishermen's catch of valuable fish has fallen to a very low level (100—200 tons of bottom fish). In recent years overcatch of valuable fish by the USSR and Norwegian industries did not bring wealth neither to Murmansk or Kola region nor to Russia. But it had considerable negative social, economic and ecological consequences. To eliminate those consequences it is necessary to spend several billions roubles. Many fish species have lost for decades the ability to reproduction (biological overcatch), part of valuable fish have lost their significance as foodfish (economic overcatch).

Urgent measures are needed to weaken industrial pressure on depleted Barents Sea reserves. At present it is connected with considerable social and economic expenditures. Fish industry complex should be filled with ecological contents. In this case we are dealing with obviously unreasonable utilization of renewable resources, when a short term economic benefit has covered heavy ecological and social consequences, so that the bodies making decisions don't see them. Today it is not enough to realize the necessity to preserve environment. We are on the verge of irreversibility of ecological processes due to collective unreasonable man's behaviour. In the case under consideration we should not blame only the system of planned relations (the USSR) but the market relations as well (Norway) which seem to act similarly. Competition of two different systems in causing damage to the sea raw material base has not revealed a winner. Surely the difference between the two economic systems is not the only reason here. In this case mans' behaviour threatens his further existence.

Science, its different directions should find the reason of such unreasonable ecological behaviour, of conflict between ecological and economic targets. It is interesting and tragic that negative ecological consequences of dangerous economic activities revealed themselves in a very short period of time, and put a man on the verge of self-destruction. Certainly the living generation did not expect such a sharp turn, it reckoned on long term ecological changes. But as they say not

knowing is not an argument. Science should explain the interrelation in socioeconomic systems, between ecological and economic policies and provide the necessary recommendations for economic systems. In this context business managers' incompetence and enterprises orientation to profit become particularly dangerous, at least for Russia. Either profit or-development, we have no other choice.

Comprehensive utilization of mineral raw material: economic and ecological policy in the north.

Economic development of Russian North is substantially determined by the economy demands for mineral resources. At present in the European Russian North about 70% of phosphates (apatite), substantial quantity of nickel, copper, iron, mica, the raw material containing aluminium are extracted and processed. Alongside with fish industry complex they define the regional economy, socio-economic policy, the formation of power and transport infrastructure, communication infrastructure and the location of towns diagram (Fig.). As a whole mining industrial complex can be considered as a megaproject, represented by a number of local large projects. The development of mineral raw material deposits is connected with substantial capital investments in basic industries both inside and outside the region.

At the same time basic industries connected with mining are at present the main source of water, air, ground ecosystems pollution, nidus environment destruction and practically its general pollution (Fig 1). This is caused by ecological loads concentration on a small area, limited by ecological capacity of mining and processing enterprises, emission of pollutants into air and water. Once more we become convinced that environment cannot be separated from human activities environment, from arrogances and human demands. The health of environment is defined by a mans' reasonable actions.

Utilization of Kola mineral resources has an obviously industrial character, the industrial growth is explosive (Fig.). Formally over 30 years continuous stable industrial development was observed. The stability of plans for industrial economy development in the north was defined and financed by the state acceding to programs for special purpose. The state made investments in a product for special purpose. Thus a branch system and monoprodukt industries were formed, responsible for their own product (commodity) production and not responsible for environment protection. Everything was defined by the centre's interests, by the state policy oriented to supplies of mineral resources and processed goods to economy. The current mining and processing technologies could not provide pure production. Nobody invested money in nature protection, improvement of obsolete and development of new technologies. Monoprodukt inefficient enterprises disposed of many valuable components. Low profit on capital invested and enterprises' low profitability were considered to be a norm for basic industries. The state financed them at the cost of budget allocations transfer. The latter were formed in donor— regions (Fig.) that were deprived of a possibility to raise thier social level and invest in establishing of healthy ecological environment. Thus, from ecological and social policy standpoint economic policy of mineral resources development was unreasonable.

Copper—nickel production in concern "Nickel", comprising towns Norilsk, Monchegorsk, Nickel can be considered as an independent megaproject. These towns 'surroundings (to 50 km²) are the most polluted. From a technological standpoint it is an entire production complex. Extraction of

copper— nickel ores on the Kola peninsula is restricted. For processing Norilsk ores with high content of sulphur are used. They are transported to Murmansk region by Northern Sea Route.

The technologies of processing of copper— nickel ores at the combines "Pechenganickel" and "Severonickel" were oriented to Kola ores with low sulphur content. Hence it appears sharp rise in air-technogenic pollution and amounts of pollutants to water. Finally all this comes to Barents and white Seas basins (Barents Sea hydrographic area) worsening their ecology Barents Sea ecology is affected also by sea transport including nuclear vessels, geophysical methods of mineral resources exploitation, burial of toxic waste including radioactive waste. Just the mentioned complex defines ecological catastrophe of the whole Barents Sea ecosystem: bio-resources of food fish have been depleted, the number of Greenland Seals of Barents— White Sea stock has reduced, nutritional structure has changed, the number of White Sea herrings and cod has fallen.

Scientists connect air pollution on the Kola peninsula with mining industrial complex activities and pollutants transfer from the west. The share of transborder transfer is estimated at 20% of all pollutions.

At present rather tough restrictions for industrial location in Murmansk region are available. Such territories with high social and ecological vulnerability have been defined in other northern region as well. The most vulnerable to pollution are northern and middle taiga, tundra and mountain taiga territories (Fig.) The basis for this territory classification is the idea about relative regional sensibility to acidic pollutants (Stockholm Environmental Institute, prof. Chadwick).

Thus, we see: for: high industrial growth that determined northern region economic rise it is necessary to pay by the low level of social sphere, by life on credit at the cost of the coming generations, catastrophic environmental pollution, low political and socio-economic standard of living of national minorities, including Kola Saami. National minorities in the north have not experienced the rise of living standard, blossoming forth of national culture, highly skilled professions, as one might expect from megaprojects.

Even a brief study of economic, social and ecological consequences caused by megaprojects implementation shows their low efficiency, realization of economic policy at a period of industrial development to the detriment of social and ecological policy and hence to the detriment of a man.

The time is right to change the priorities for Russian North development, to go over from the state goals priority (management according to goals) to efficiency priority (management according to efficiency). The main directions of international cooperation at present are tourism and communications (transport infrastructure, service and communication systems, oil and gas deposits exploitation the development of freight carriages by sea including the transportation of goods by Northern Sea Route, conversion of military-industrial production. But practically all mentioned projects require state financial support at first stage, since private capital at present is in accumulation stage (3 - 4% of the total mass). These projects are connected with the general economic complex of the Kola region and with considered above megaprojects-mineral-rawmaterial and fish resources. Their implementation is also connected with restrictions, caused by environment. The state-private sector ratio will change in favor of the latter. Private sector will be represented practically by email business. It also needs state support. The management of ecological security in this case will be more complicated but it does not lose actuality.

From social position northern small business helps to attain stable employment since it increases the number of available jobs. Economically it is more efficient and promotes sustained economy development, helps to intensify hidden possibilities of social potential of every northern region. The economy alone will not improve unless we actively work on the ground under northern peripheral territories conditions. The majority of businesspeople in Russia today begin to realize the importance of problems of sustained economic development. Some people try to solve the fundamental problem of northern economy - the problem of disbalanced uneven growth.

Radioactive pollution of the ecosystems. Problems of marine transport roads.

North of Russia can become a nuclear dump. The sources of radioactive pollution in the North are nuclear reactors (nuclear- power stations and ships), radioactive equipment for industry, burial places of radioactive social waste, bases of nuclear fuel storage, places of carrying out peaceful atomic explosions, atomic proving ground, places of liquid radioactive waste, "gifts" of Golfstream, places of exhaust nuclear fuel processing by European factories.

Use of atomic energy subject to the conditions of ecological norms will bring only benefit for the mankind. But how to reach this?

Today the main difficulty for many countries is a problem of storage of radioactive waste of nuclear power stations (both operating and stopped). It is a serious question whether atomic ships threaten us? Many peaceful atomic explosions were carried out the northern regions of Russia. Nuclear proving ground on the New Land arouses the agitation of public. (Fig.

General picture one can envision from foreign sources.

Observations of specialists exposed the different sources of nuclear pollution of Norwegian, Barents and Karskoye seas, and its influence to sea ecosystems.

The problem which is affected is a subject of special considering.

No doubt, that it is necessary to unite efforts of governments, scientists and specialists of different countries for providing radiation security of northern territories.

Situation becomes very often non-controlled, because ecological influence of nuclear objects is associated with activity of military departments. Today the basins of Barents and Norwegian seas and all the North are of great importance as the theatre of war. This results to some essential ecological and social-economical problems, especially for Russian North and Scandinavian countries.

Carriage by sea between Russian and Scandinavian harbours have not received due development. New marine goods traffic might arise in connection with new megaproject - mastering of giant gas pools of Arctic shelf and Jamal peninsula. Another direction of cooperation - opening of new trade way between Europe and South Asian countries via Arctic seas. Rise of marine transportation gives new region as a whole. Geophysical data shows perspectives of the opening of gas and oil fields on the Russian Arctic shelf.

Quite real today is exploration of Jamal gas condensate and transportation of liquefied gas by special vessel. This way is an alternative to the transmagistral gas pipeline.

However, as shows the practice of exploitation of sea ships, there is a problem of arctic sea ecology because of the navigation. Marine organisms are affected by progressively growing pollution of use polar ecosystems. Problems of non-renewable natural resources use their raw material base. Again the interests of preservation of environment and of melting of peoples need are combined.

Intercommunication between different branches must become inalienable part of regional policy of development of the North.

North at cross-roads: new for Russia approaches to natural resources development. Political decisions have been adopted.

At present the essence of regional policy in the Russian north is defined by natural resources. They make the main contribution to socio-economic development in the north, to formation of structure of northern regions economy.

The specific character of northern regions development depends on demand for resources that are not available in the country's southern regions on the Centre's policy that defines the strategy of the north exploration, priorities for development of one or another territory. Investments allocated by the state for northern territories development depend neither on the regional economic efficiency nor on a separate enterprise efficiency (Fig.). The infrastructure of the territory practically does not influence the decisions, taken by the state on investments allocation for implementation of projects that are necessary for the Centre including large ones, rather capital intensive. (Fig.).

The nature of relations under consideration between industrially developed Centre (mother country) and less developed northern periphery (satellite, economic colony) is the key to understanding the nature of "weak" and "strong" regions: development. The relations Centre-North we studied from standpoints defining to our mind the dependence of satellites on mother country (dependence theory):

- the existence of political, economic and social relations between Centre and northern periphery as an integral system; monopolistic structure of economical and political system;
- formation of mother country (Centre) over satellite (North); intensive, depleting exploitation of satellite's resources by - mother country; the satellite is lagging behind in socio-economic development;
- destruction of native people's way of life by mother country in the North.

Northern territories are a part of integrated structure centralized economical and political system in Russia. Experience shows that federal authorities always had the main goal of intensive exploitation of "cheap" natural and labour resources in the North. Environmental protection, social development of population, the resource base reproduction were of minor importance.

Within 1975-1990 the gross output in the north increased more than twice (Fig.). The share of mining, forest and fish industry complexes production was about 85%, in the European North. The rapid growth of natural resources extraction was mainly at the cost of intensive exploitation of the resources base best part. Just this parasitic economic policy provided explosive growth of northern economy. But it came into conflict with ecological and social policy. The base of renewable natural resources (forest, bio—resources, hydraulic power engineering) has been

undermined, the base of non-renewable (mineral) resources has been substantially depleted. This is equivalent to "non-sanctioned" forthcoming generations credit. "Ghost" towns and settlements, ecological "deserts" have appeared, traditional economy of native peoples and their traditional way of life have been destroyed, the main environment of native peoples' activities has been broken. We believe that today we have that situation when it is necessary to save Russian North as a whole.

All these are typical signs of industrial model of peripheral regions development with depleting nature management, with mechanism of cheap natural resources development, with priorities given to industrial issues rather than social. This model is not unique neither for market nor for planned relations in economy of states with developed socio-political structure. The reasons of backwardness of northern peripheral regions are similar. But the West took effective measures to find the way out of the situation already in 1969 (Stockholm conference).

We managed to convince the supreme legislative power and the Russian government in this. They approved "The concept and Russian program guidelines for Northern regions development 15-20 years". We participated in preparation of this document. In April 1992 the VI Congress of People's deputies took a political decision to go over to new model of Russian north development model of sustained development supported by socio-market mechanisms. This is a turning point in the history of Russian north development, regeneration of moral, spiritual and cultural values of native peoples. A political decision was adopted on working out legislative acts defining the rights and protection of northern native peoples.

What do we mean by a model of sustained development of peripheral regions' economy? A model of sustained development of the North is an integral system of social and economic development formed on the basis of multisector diversification extraction and processing of natural resources on the basis of high technologies, industrial production of science-intensive commodities, service sphere, maintaining industries, information technologies, agro-industrial and traditional production, transport infrastructure. It is oriented first of all to providing stable social life conditions of native and "coming" population, rise of general and regeneration of national culture, sustained economic growth, excluding both "boom" and recession, high employment, ecological and economic security. It is impossible to implement such a model at once.

The model of sustained development is based on a man's interest. This is new for Russia. As top-priority it poses the task to create a new 'ecologically pure' system of natural resources utilization management, formation of social technology of North exploration so as to protect and improve the natural habitat.

For the first time we consider natural resources as part of ecological system in which interaction of man and nature is fundamental. This Marxist postulate we have discovered anew but with the assistance of western scientists.

We presume that it is necessary to learn (for example through tourism sphere) to get a profit from activities related to supporting ecologically pure environment, instead of referring to lack of money. Lazy and aggressive economic policy has not and will never have money.

I do not consider myself a pioneer in formation of the mentioned ideas. But they are new for Russia and therefore up till now they are not clear to a substantial part of leading scientists, that are responsible for providing scientific grounds to decisions. They are not clear to the leaders that take those decisions.

For Russia north is first of all an important sub-national zone, rich with natural resources with brightly expressed peculiarity of socio-economic development. This territory experiences direct and indirect negative influence of extreme natural, economical and geographical factors on the economic development processes. Unfavorable transport and geographical location, natural conditions— all these are concentrated in the north. This territory is characterized by a number of influences on a man, technique, constructions, that form discomfort conditions for peoples' life.

At present it is beyond reason to expect that the new model for North exploration will work at once.

According to our concept confessing philosophy of pragmatism, for a long time the north will remain a main source of natural resources both for home consumption and export. Recall that just natural resources are the main source of currency earnings for Russia. It is not difficult to see that the reality of governmental policy oriented to provide rouble convertibility with the use of stabilization fund fully depends on natural resources export. Practically there are no other sources of stabilization fund replenishment by currency in Russia. 6 bln. dollars from IMF promised for these purposes are based on the assumption of "eating" stabilization fund. All the states from rouble zone help us to eat it while only Russia tries to replenish it.

Energetic policy of structural reconstruction of Russian economy including the structure of industrial complex in the north can change the situation. And this is connected with the change of strategy of economic and social development in the north and first of all with the policy of natural resources utilization, with satellites' striving for weakening of their dependence from mother countries, with transition from planned to socio-market relation, with expanding the rights of native peoples for natural resources in the places of their living.

Even today the Centre considers the resources in the Russian north as a remote storage of natural resources, as the main panacea from economical failure. It is ready in the shortest period of time to intensify their extraction with the help of foreign capital not having a real pragmatic program for construction of a Russian economy model, no program for the north development, for construction of socio-market mechanism of economic management.

At the same time North is not prepared both theoretically and practically for the rapid social and economical changes. The problem is the absence of the finished theoretical basis which, are ready to be used in the intermediate period from the planned to socially-market mechanism in the system of the economy of the North. Necessary experience is absent too. "Human" capital must be fundamentally re-trained for the work in modern conditions of management. The situation becomes complicated by absence of the planned economy, which was destroyed instantly by its ideologists, and by too young market mechanism.

State— owned sector of national economy and state regulation will play large role in the economy of the North. But the functions of the governments of different levels-federal, territorial, municipal-will be essentially changed. The centre will be turned from the one level monostructure into the multilevel collective subject of management.

Analysis shows, that northern regions have dual situation. On the one hand, the natural resources are the main base of their social-economical development and essentially influence the functioning

of economy of Russia and many other countries. This stimulates the use of natural resources in the interests of general economical development, especially in the period of the expansion of business cycle (or regular- boom in economy). On the other hand, there are serious ecological restrictions on the industrial activity, associated with the use of natural resources.

The prognoses orient us, that economic use of natural resources in the XXI century will have no tendencies to sharp ball. They remain "beginning and end of all" and will play the main role in supplying of human needs.

For the Kola region ecologists recommend some measures of prohibition and compulsion:

- the restriction of economic activity by ecological imperative;
 - the introduction of the differentiated ecological norms for the nature users;
 - conservation of undisturbed territories;
 - minimizing of non-aboriginal population;
 - development of the non— waste ecologically harmless energy sources.
1. Restrictions of economic activity by ecological imperative means:
 - the restriction of industrial activity in arctic to prevent irreversible changes in nature;
 - introduction of the rigid quotas the extraction of raw materials in such a way, that it will be allowed to extract from the arctic natural systems only limited list of matters, which cannot be extracted from the non— Arctic sources:
 - for the biological resources the above restriction must tie fortified by the prohibition to exceed the quantitative limits, which guarantee for self-renewal of population;
 - for the mineral resources additional requirements must be introduced: a) use of only non-waste technologies enrichment and processing; b) restoration of disturbed landscapes after the finishing of mining;
 2. Introduction of the differentiated ecological norms for the nature users must make possible to take into account: a) relationships between the total level, of pollution in region and expected particular contribution of concrete enterprises or settlements; b) different maximum critical pressure, closely associated with specific local condition, which vary in every northern regions.
 3. Conservation of undisturbed territories is necessary for:
 - a) to help ecological balance and natural genetic fund;
 - b) to guarantee the possibility of development and continuation of traditional equilibrium forms of economic activity;
 4. Minimizing of the non-aboriginal population must favour the decrease of anthropogenic pressure to unstable arctic ecosystems and prevent the excess of ecological capacity of the

5. territories. Rational management of population migration must favor saving of national health, because majority of new-migrated from the middle belt of Russia to Arctic, not enjoy native adaptogenic properties for specific conditions of northern region with cold climate and exceptionally variations of geophysical environment.

It is doubtless, that northern technosphere can exist and develop stably now only with the proviso that man will be able to line in harmony with nature. This principle was proposed by Vladimir Vernadsky and Le Roi in the 20-s as a conception of noosphere, but about half of the century was needed for its total recognition. We trust, that now it is a time for the turn of this exceptionally fruitful philosophical ideas into the real new strategy of stable coexistence of humanity with arctic nature.

New social— economical model of stable development of Russian North envisages orientation to the next directions:

- reasonable inter communications of the social, ecological and economical policy, which eliminate "self — annihilation" of man:
- -primacy of preservation of ecosystems in the interaction between a man and nature:
- increase of role of reproduced natural resources in the economy of region (woods. fish resources. hydraulic-power engineering); diversification of production including production of mining. at the sacrifice of the complete ore processing, captive (closed) production, introducing effective economy, sparing resources use, involving new kinds of resources for every region (wind, artificial reproduction of fish. secondary processing of resources) and opening of new productions:
- development of traditional productions in terms of ecological capacity of territories.

Today in Russia they begin to understand. that natural resources are not only free "God gift". While using natural resources, it is impossible to reach the stable economic equilibrium without preservation or improvement of environment. This is the main problem in the relationships between the man and environment.

Now State Program for Environmental Control is accepted in Russia. But this is a political decision as yet. It is necessary to realize it.

Regional policy and Megaprojects

Today practically all large-scale projects for Arctic and North go far beyond national limits. Whole regions are affected directly or indirectly by consequences of their realization. For example, exploitation of Shtokmanskove gas-condensate pool is connected with withe the building of units in the Barents and Baltic Seas areas of water, on the territories of Murmansk and Leningrad regions. Karelia Republic. Finland. Sweden. Germany. Lithuania. Latvia. Estonia.

Into the exploitation the whole complex of natural resources will be involved - marine and freshwater biological resources, wood, land and water resources, but not only gas resources.

Radioactive waste of factories processing exhausted nuclear fuel of Semafilde, Undskeile and Dunres (England) and on the cup Ag (France) are transferred by Golfstream to the Norwegian, Barents, Karskoye and White Seas. This means, that in the end the valuable production of fish industry complex will not fetch up at the tables of Englishmen, Germans and Frenchmen.

Already today economical effect must be considered in the light of the social and ecological consequences along all the chain of local components of megaprojects. Any large-scale projects, from the initial stage of technical-economical basing development, must be accompanied by scientific providing of specialists in regional policy, social-economical and social-ecological problems. Regional policy must take into account economical, social and ecological intercommunications.

This tendency develops more and more being the bridge into the future. Natural resources, as a part of Earth ecosystems, are not infinite, despite of that man's possibilities of the opening' of their new potential are not yet studied. Natural resources and environment is a property not only of present generation, but of future too. Monetary benefits - to get maximum profit today and to render healthy environment tomorrow - are not only unacceptable but must be considered as an offence against mankind. Fresh air, fresh water, fresh (clean) earth as environment are necessary for all the people. Saving environment, man's intellect will open high technologies, and with their help people will open new possibilities of natural resources. Otherwise the mankind will face darkness.

In this connection regional policy rises to the qualitatively new level. It becomes the key national social political and geopolitical decisions. connected with regional development and estimating social-ecological consequences of the realization of economical projects of different scales.

Difficulty of the forming of reasonable regional policy lies in the fact that even neighboring regions have their social-economical and ecological features, different levels of cultural, social, economical, public development and different economical-political systems.

Megaprojects, as a part of regional policy, make a real contribution to the development of international economical integration and to the systems of international division of labour.

Environmental Factors in Multilateral Cooperation. The Europeanization of the Barents Region and the Organization of Environmental Cooperation.

Håken R. Nilson

Europeanization of the Barents Region.

Is there a European Dimension in the Environmental Cooperation in the Barents Region?

The present environmental cooperation in the Barents Region consists of several "layers" of internationalization. There is bilateral cooperation between Russia and each of the three Nordic states in the region. An international monitoring organization (AMAP) was established under the Rovaniemi Process, consisting of all the circumpolar countries in the North. At Nordic level, the Nordic Strategy for the Environment became extended to include the Barents Region this year; making it an area of responsibility for the Nordic cooperation. At the state level, the Barents Council (the ministers) is developing an Action Program for the full range of sectors, which also defines areas for environmental action and ways to integrate the environmental concerns into planning activities, development and establishment of new activities in different sectors of regional policy and economy. Thus, the international, the Nordic, the state and the regional level are present in the regional cooperation.

The European level is in fact the one which is the least visible, even though it was strongly pointed out under the process of establishing the Barents Region by the Norwegian Foreign Ministers Thorvald Stoltenberg and Jonan Jørgen Holst on various occasions, and in spite of the fact that the Commission of the European Union is participating as a member of the Region on an equal footing with the states.

This article makes the case of identifying the European dimension in the Region's environmental cooperation. The Region has managed to go through its "running in" period with success, and has now definitely become settled. An important task for the near future is to operationalize the European dimension of the cooperation.

The environment has been identified as a factor needed to make the Barents Region /North Calotte area into a functioning region. As a strongly internationalized field, the environment could have a potential to contribute to the connection of the region to "Europe". The task for this article is thus twofold - firstly, to identify and clarify the European dimension of the environment, and, secondly, - to point out some consequences for the organization of the regional environmental cooperation of the region's connections with Europe.

It starts by elaborating the concept of "Europeanization". Then it outlines a model for environmental cooperation, drawing upon the quite extensively "europeanized" Baltic Sea environmental regime, and assesses its relevance as a parallel and a model. This assessment will be based upon a comparison of environmental problems, infrastructure, economy, and political conditions in the two regions. On the basis of the comparison, a discussion of organizational possibilities for environmental cooperation in the Barents Region will be carried out. Finally, four model alternatives are presented, arranging the relationship between regulatory environmental policy and organizational development.

Europeanization as a Concept.

The cooperation which was established in the Barents Sea area in January 1993 received, after some deliberation, the name "The Euro Arctic Barents Region". This is a name which implicitly perceives a link to processes of integration and cooperation further south in Europe - it perceives a "europcanization" of the cooperation, although leaving out the question of formal membership in the European Union.

As a loose concept, "europcanization" will be used in the meaning that regional cooperation becomes connected together with central European integration processes. A characteristic of contemporary macroeconomic developments is that production develops away from a vertically organized "Fordist" model, in the direction of more coordination-oriented structures, also termed "networking economies". There are many indications that network based production contributes to growing horizontal integration which expands geographically (Boyer 1989, Bressand 1990).

Interacting economic networks are important elements in the regional formation process in the Barents area. At the same time, the region's domestic markets are so small that they will have to become linked to the larger European markets in order to be able to offer sufficient market potentials for the region's production. The Barents Region displays a 90% export rate, which is vulnerable to fluctuations in prices and demand. The domestic and regional markets are insignificant in comparison. Two barriers to a self-sustained economic development in the area must be overcome: The lack of an infrastructure for an integrated region; the present infrastructure

one-sidedly connects the northern areas of the Barents states to southern central areas. The second barrier is the limited size of the regional markets; the demand is mainly concentrated in the urban centres, and goods imported from central areas farther south outcompete locally produced goods (Jyrki Käkönen: *Demokrati och hållbar utveckling i Arktis. I: NKtema, Nordisk Kontakt. 2/1 1993. Stockholm*).

Access to EU markets is thus highly important, and will be sensitive to trade barriers. Preconditions for market entry will be a solid regional influence on the resource regime; development of a transport infrastructure with links to Europe (derfor er NSR og Katelen viktige), and working transborder economic networks which can provide the region with an identifiable economic profile and a sustainable economy which makes it less dependent on export of raw materials. In this way, a networking regional economy forms a basic premise for a functioning environmental regime. If a coherent domestic market for the region is not accomplished, the economic basis for the environmental efforts will be lacking. The alternative to a regionally based environment regime will then be a greater reliance on international framework conventions which not necessarily will be designed for the Barents specifically. That is an alternative which leaves the region less control over its specific economic-ecological conditions.

This situation can act as a driving force to coordinate the economic policy within the framework of common management arrangements above the state level. Thus, europcanization of the regional economy may arise from a functional interaction with the central integration processes. As a consequence of this kind of situation, it has been argued that the nation-state becomes insufficient as the primary coordinating framework for economic development, and will have to be replaced by different frameworks for coordination (Lindström 1992, Bressand 1991).

An important effect of the European Single Market is expected to be that national borders will play a minor role in economic interaction, and the EU states will consequently lose control of important economic policy contexts. Instead, economically strong and functionally coherent regions will emerge as central players, occasionally transcending national borders. Factors such as a high level of purchasing power, economies of scope, R&D institutions and -infrastructure will promote them at the expense of the traditional hierarchical state (Svein Randa: *The Barents Region in an EU Context. Centre for European Studies Report 1993-316-3. BI 1993*).

However, the Barents Region, being external to the EC and geographically located in an area of great security concern for Russia and the United States, adds a dimension which tends to retain the states as central actors to a larger degree than it is expected that will happen in the EC- internal regions. In addition to including a strong foreign policy dimension, the export-oriented resource economy of the region brings in another state domain, that of international trade policy. Moreover, if the final arrangement of the Nordic - EC relations turn out to be a looser connection under an EEA agreement, that will support this pattern.

Even though international trade in Europe has increasingly become subject to supranational regulations, international agreements necessary to establish the region's external trade relations will still be a matter of negotiations between governments. Consequently, in the Barents Region, the states will most likely not become redundant to a degree which is foreseen within the EC; rather they will take a role complementary to the regional institutions within the same Single Market framework as the EC states.

In the Barents, one seeks to establish an economically oriented environmental policy modelled on the reformed cooperation in the Baltic Sea (Speech by the Norwegian Foreign Minister Thorvald Stoltenberg at the conference "From the North Calotte to the Great Calotte" (Pohjoiskalottista Suurkalottiksi), Rovaniemi, 20 October 1992.). In the Baltic, the environmental policy has become linked together with large scale economic restructuring. In both regions, the EC has in different forms become formal party to the cooperation. The environmental problematique of the Barents Region will therefore be dealt with in the context of these experiences. On this background, the main topic in this article will be a discussion of different organizational possibilities for environmental policy in the Barents Region, and how they relate to current environment political alternatives.

Recent developments in the Baltic environment regime.

Along with the opening up of totally new conditions for cooperation, a new "program strategy" became adopted at the ministerial conference on the Baltic Sea environment, in Ronneby, Sweden, in 1990.

Integrative approach to the environmental approach in the Baltic: Four components.

Under this strategy, an "integrative" approach has replaced the previous "segmented" approach. The "segmented" approach aimed at regulating economic activity for the benefit of the environment through various legal and technical means. Environmental problems were narrowly defined, in scientific terms. Solutions devised within this framework ran the risk of ignoring the wider context, and did not fit well with the overarching environmental management of the program form.

The "integrative" approach recognizes no basic contradiction between economic growth and environmental degradation. Instead, environmental improvements can be achieved through economic growth, which creates the economic surplus necessary for successful action. Furthermore, environmental requirements can be a stimulus to technological innovation and improvements of one's position in international trade competition.

The program strategy launched for the Baltic is based on an expectation that problems can be solved through political programs with normative goals and guidelines. A "Baltic Sea Joint Comprehensive Environmental Action Programme" was adopted in 1992. The Helsinki Commission (HELCOM) was put in charge of administering the Programme. The new program form represents a deep-reaching change in the Baltic environment regime. The change consists of four main elements.

First, with the establishment of the conferences of environment ministers and the Baltic Sea Council in the period of 1990-92, an **overarching regional governance** over the activities of HELCOM was added to the cooperation scheme. Hence, the organizational structure of Baltic Sea environmental cooperation has changed quite considerably. Overarching, action-oriented political programs are now applied to guide the activities of HELCOM. In addition, the scope of HELCOM'S activities have been expanded by linking them to regional cooperation in other areas. The earlier specialized, non-controversial character of the organization was abandoned.

HELCOM is now marked by a cross-sector structure of activities. This approach requires political coordination with related policy areas which can be politically sensitive, such as industrial

development, energy, transportation and agriculture. Environment policy thus becomes a legitimate concern in sectors in which the different actors' stakes may be high and national interests strong. In 1990, the first set of joint political goals for the regional environment were agreed by the Ronneby environment ministers. These were action-oriented in the way that they specified and improved the reduction goal of the previous ministerial declaration from 1988. A Task Force was set up within HELCOM with the mandate to coordinate the program.

Furthermore, the former strategy of non-binding, knowledge-based recommendations was left and replaced with centrally coordinated national action plans containing binding obligations. On the basis of national action plans, an international comprehensive program was to be launched, and implemented from 1993. The politicians have thus become more directly engaged in cooperation, and they have taken a more direct responsibility for the international coordination of the cooperation. In this way, the foundations have been laid for a regional coordination at intergovernmental level.

Secondly, the Ronneby Declaration furthermore **expanded the scope** of environmental cooperation to adjacent areas for economic cooperation such as industrial reconstruction in the former socialist countries, and into new functional areas such as transfer of knowledge regarding the environment, such as environmentally sound technologies. The governments also expressed a will to encourage a strengthening of transnational cooperation between governments, governmental and private institutions, industries and NGOs in various fields.

With the establishment of the Task Force institution, new actors have entered. It is noteworthy that four international banks have got prominent positions there, and that an important part of the role of the EC is associated with the provision of funding.

This is a modification of the traditionally intergovernmental structure of HELCOM. Important parts of the premise giving work has been transferred to fairly autonomous financial institutions. At same time, the political superstructure of the whole range of regional cooperation sectors has been strengthened. To some extent this may indicate that the Baltic Sea environmental cooperation at present is finding itself in the early stages of creating supranational structures. However, no formal authority has been created with the formal competence to take binding decisions of the cooperating parties.

Thirdly, an **economic component** in cooperation has been added. Environmental improvements are now seen as basically dependent on economic factors. Economic matters had been totally left out of the HELCOM cooperation in the 1970's and 80's. In contrast, the new Joint Action Program suggests the use of economic incentives; that environmental policies should be integrated in economic policies, and that the regional efforts be subordinated to the general international programs for East and Central Europe. The link between economic development and environmental action is emphasized in the opinion that the former is viewed as a precondition of the latter.

In the Ronneby Declaration, the activities of international financial institutions were encouraged, and further concretized in the Comprehensive Action Program. The core of the investment part of the Action Program program is constructed around the analysis of environmental problems which require integration of economic, technical and investment action in the policies. It is recommended that the analyses should be consistent with the requirements of the financial

institutions represented in the Task Force, of which the main ones are the World Bank, the European Bank of Reconstruction and Development (EBRD), the European Investment Bank (EIB) the Nordic Investment Bank (NIB) with its project organization the Nordic Environmental Financing Corporation (NEFCO).

Also, the Commission of the European Community is explicitly mentioned as an important source. It can provide international funding through different programs to which non-member states in the Baltic region can apply, such as the PHARE program. Other financial instruments of the EC are considered possible for the establishment of policies and action programs and for the creation of new administrative and regulatory structures for the environment in the formerly socialist countries. The Program contains a general argumentation for harmonization with EC management principles. New administrative and regulatory structures will therefore have to be compatible to those of the EC in order to comply with the terms for funding.

Fourthly, the revised Helsinki Convention opens for the **application of supranational legislation** at the regional level. It includes various procedural obligations, e.g. recommending that in the case of "a significantly adverse impact" on the Baltic environment, the contracting party "...shall enter consultations with any contracting party which is likely to be affected by such transboundary impact, whenever consultations are required by international law or supra-national regulations applicable to the country of origin.

This procedural obligation refers to international law and supranational authority and thereby opens for adjustment to other international standards, which by reference elsewhere in the Program, means EC standards. The main reason for this is probably found within general international law and in the fact that two HELCOM states, Denmark and Germany, are EC members. But the provision also shows a wider potential. Linking together functions in common procedural obligations is important in order to lead cooperation in an integrative direction, because they are of a kind that work to strengthen links that are already established - in this case supranational regulations which are "acceptable" to the polluting country. Once such regulations are followed, they have become accepted, and could consequently be expected to create precedence for further compliance with commonly accepted norms (Hjorth, Ronnie (1992): *Building International institutions for Environmental Protection, The Case of Baltic Sea Environmental Cooperation, Linköping, Linköping Studies in Arts and Science*).

EU and the working of Baltic Sea regime.

A central concern for Community environment policy is to build the environmental concerns into the common trade **regime** - the Single European Market, by defining common environmental requirements and setting limits for national deviations from the common rules. As a result of the developments in European integration since the late 80's, this regime now extends into the regional trade regime which is developing in the Baltic. It overlaps it through the EU membership of Denmark and Germany, the inclusion in the European Economic Area (EU + EFTA) of Finland Sweden and Norway, and through the organization of the relations with the EU of Poland, the three Baltic states, and Russia. Furthermore, the assistance offered through EU programs aim at creating conditions in the former socialist countries for a functioning trade between them and the EEA.

A major instrument which is used in order to link EC environment policy to the Single market, is standardization of environmental quality standards. Standardized technical requirements can

effectively be used to implement common environmental legislation needed to remove barriers to trade. National legislation must undergo full harmonization with Community legislation. Furthermore, member states must prohibit the circulation of products which do not comply with the framework requirements. National legislation shall "refer to standards" as an aid in fulfilling the framework requirements. Products which comply with standards set under EU mandate can circulate freely on the Single Market. In this way, the "free flow of goods" is established (20).

The deliberate linking of environmental policy to conditions for trade competition is unique for the EU, and its external effects should not be overlooked. EU standards establish the premises as well as the actual requirements to the standards of non-EU countries who want access to the Single Market. On the part of the EFTA countries, it has already meant that the principle of "reference to standards" is now being applied, according to the EEA agreement. In practice this means reference to EU standards, because it is these standards which lay the ground for removal of non-tariff, technical trade-barriers within the Single Market (Liv Torres 1992: "Er det europeisk standard over norske myndigheter?", Oslo, FAFO).

Preconditions for environmental cooperation in the Barents and the Baltic Regions: A Brief Comparison.

Environment.

The danger of radioactive contamination from several different sources is probably the most serious threat to the environment in the north. Nuclear reactors in power stations and marine vessels, stored nuclear warheads and radioactive waste are potential sources of new radioactive pollution. Nuclear reactors currently in operation represent a direct threat to health and environment. Stockpiles of nuclear warheads may also be a potential risk. Radioactive waste dumped in the Barents and Kara Seas, waste from nuclear plants east of the Ural Mountains, naval and civilian stocks of waste on Kola represent a danger of radioactive pollution of the northern oceans.

But the gravest threat of radioactive pollution is probably the accumulation of stocks of radioactive waste on land on the Kola Peninsula, the capacity to store radioactive waste on Kola is already fully utilized and practical possibilities of improving the situation have failed to advance further than the planning stage. Dumping of fluid low-radioactive waste continues to take place into the Barents Sea when alternative solutions are not available.

Pollution and contamination from industrial activities in the northern areas represent, a. threat to the health and livelihood of the people and to the natural environment. Sulphurous and heavy metal wastes resulting from local mining operations have resulted in acidification of water and earth and accumulation of heavy metals in plant and animal life. Vegetation in certain areas has been particularly heavily affected and animal stocks too. Virtually all the problems are due to Russian activities.

Fishery, hunting and trapping have been essential activities for the settlements in the northern coastal areas for centuries. Many vital fish stocks in the northern areas have however long been exposed to overfishing and unfavourable fishery practice. Failure in the stocks of major commercial fish stocks will represent a threat both to the industry and to human settlement in the north.

Increased importance placed upon the principle of sustainability in resource management has however in recent years produced increases in most major stocks.

Petroleum activities in the Barents Sea will increase the strain on the marine environment in addition to the pressure of the fisheries, environmental poisons and danger of radioactive contamination, and may threaten both the vulnerable natural environment of the northern areas and the very basis for existence for large parts of the coastal peoples in the north. Large acute oil emissions in connection with production or transport may have major destructive effects on the marine bird colonies and on vulnerable codroe and larva some months of the year. Petroleum exploitation and transportation moreover, involves operational emissions to air and water that may contribute heavily to local pollution.

The Barents cooperation aims at easing access to the abundant natural resources in the Barents region, and great expectations are attached to the long-term exploitation of the energy resources on the mainland of northern Russia and on the continental shelf, and to increased trade on the Northern Calotte. There is much to indicate that the resources of northern Russia will be shipped eastwards along the Northern Sea Route or west and southwards along the coast of Norway. Tourism and travel is also regarded as an industry with a large growth potential in the northern areas. Svalbard already has busy traffic of this kind, and excursions have been made to the North Pole itself by icebreaker through the polar seas. Increased tourism in the northern areas may be a threat to the highly vulnerable nature, for instance in the form of disturbance of animal life, destruction of the vegetation, littering and pollution.

Two environmental problem areas requiring different political action.

The dominance of the military sector where nuclear pollution and accident potential are concerned indicates that a distinction should be made *between the military and the civilian sector of the environmental issue* area. This distinction disregards the environmental impact of the pollution sources. Rather, it is made because of the vastly differing political approaches applicable according to whether one is dealing with the military, or with the various private and public actors exercising responsibility in the civilian sector.

The distinction between the two sectors is unique to the Barents Region. Within both areas there are problems that call for broad regional coordination. In a number of cases, the resources needed exceed the capacity of the cooperating countries. As the environmental problems are given low priority on the Russian side, the Russian willingness to abate pollution has been linked to Western financing aid representing a large share. For the Nordic countries alone, this is considered too big an effort, risk capital is therefore sought from abroad. An additional problem is the Russian military's reluctance to provide information and insight in the pollution related activities.

Military exercises, training and transportation places heavy stress on the environment. Large land areas along the Murmansk coast and the borders of Finland and Norway are controlled by the military, and the municipal and county civilian authorities were all but excluded from any control over military activity in these areas. Littering on a large scale is recognized as a problem along the northern coast, especially in areas lacking road links with the main transportation networks. In fact, this means that the problem of heavy littering extends all the way along the Siberian coast to the Russian Far East.

Environmental problems of the Baltic Sea area.

The average depth of the Baltic Sea is only 55 meters but there are considerable variations as it is divided into a series of deeper basins of various depths separated by shallow areas. The renewal of the whole body of water in the Baltic Sea takes 25 to 30 years. Thus the Baltic Sea is a shallow and relatively torpid sea. The physical properties are such that anoxic conditions are created that lead to the formation of poisonous hydrogen sulphide. According to various sources the Baltic Sea contains a bottom area of some 100 000 square kilometers in the Gulf of Finland, the Baltic Proper, the Belt Sea and Kattegat that are completely or virtually devoid of life.

The Baltic Sea is also unique in the sense that there are large variations in its salinity. Paradoxically, the diversity of species is very low compared to other oceans. The reason is that the water is too "fresh" for traditional marine species and too salt for the typical freshwater species. This phenomenon makes the food chain more vulnerable than in other sea areas. Due to heavy traffic on the sea itself and as a result of the large concentration of heavy industries, agriculture and a tight network of economic infrastructure in its catchment area, the number of toxic and persistent substances and high concentrations of nutrients that have found their way to the Baltic Sea have been extensive.

The main pollutant input to the Baltic Sea - about 80% - stems from land-based sources. Diffuse sources include airborne emissions and agricultural runoff. Pollution from urban areas and industry, including untreated sewage from 30 million people, wastewater from paper industry, toxic substances and heavy metals, is either directly discharged or carried by the many rivers which drain into the Baltic Sea. Another cause for concern is the improper disposal of hazardous solid waste, which may eventually end up in the Sea through leakage and open-air burning. As it has been described as one of the most polluted seas in the world, there was obviously a need for joint action to deal with this problem by the countries in the region.

Economy and infrastructure.**The Barents Region.**

The Barents region consists of four national peripheries with a national infrastructure each. The Nordic part is approaching the EC, although not as a unit, but along separate national strategies. The Russian part is connected to Russian markets further south. Trans-regional infrastructure is developed to a comparatively small extent, even among the Nordic countries. North-south connections dominate. Population is concentrated in harbor towns, villages and industry cities. Especially the Russian area has the character of an economy based on raw material exploitation and military needs, resulting in large "boom towns", while the rest of the area is wilderness. Distance to the external markets is long, and in the region there is no domestic market.

The economic, social and cultural structure of the region is still marked more by inequalities than by commonness. Not least is this the case concerning the practical possibilities for cooperation and contacts. The development of the communication system is thus of key importance, not least in order to effectively handle the environmental problems.

There are not many areas in Europe where the communication system has so many physical and administrative breaches as just in the Barents area. On the other hand, a functioning transportation system does not have much value in itself if it is not incorporated in a broad program for economic,

social and cultural development. Investments in the transport sector should therefore be guided along with investments in industrial and environmental programs. The presently available information about the transport infrastructure indicates, according to industry, that two basic problems must be solved: improvement of the region-internal transport infrastructure, and a tighter connection with the Nordic, Russian and European market areas (Forstudie Nordkalotten - September 1992).

Both between the Nordic countries and between them and Russia the transport systems are far too loosely coupled together. Within "Norden" the internal trade still meets barriers in the form of differing national regulations. The physical transportation capacity is there, but potential for cross-border utilization is blocked by incongruencies in support, allowance and border passing rules. As in the Baltic area, land, sea, air and rail transport is badly connected, resulting in low exploitation of capacity and low-cost effectiveness. The national authorities' rules and plans for development and investments are not designed for the region as a coherent area, but based on the concept that they shall serve the infrastructures of four different countries. Due to the exceptionally long freight distances on land, better coordination of the authorities' steering and investment efforts should have a great potential for cost reduction. To some degree, these problems are finding a solution by the implementation of the EEA agreement, making the North Calotte part of the common European transportation market. But this solution is on a much larger scale, requiring more time and still leaving the large part of the work to the national authorities.

Following the resource-based pattern of the regional economy, the present transport system is mainly designed for the freight of raw materials and semi-manufactured products. As one path to follow in order to reduce the dominance of raw material resources, industry has recommended alliances between enterprises with the aim of ensuring the sales opportunities for the region's products on the European and global markets. Processing of the regions raw materials in the region could be aimed at through the regional cooperation by systematically working to remove national trade barriers in the region.

The lack of an overarching coordination of national and local plans and initiatives is a basic problem. The problem is sought relieved by launching the Regional Action Plan this year. However, substantial information gathering and processing must be carried out in order to clarify the present regional industrial structure, development potential and need for overarching institutions which can coordinate information about national plans and development projects. The institutional structure of the region which has been built up following the Barents Declaration of January 1993 have been the coarse body of main political institutions constituting the region and giving it a "soul and body". The fine-masked network of specialized institutions necessary to carry out the functional tasks of the day-to-day work is only in its infant stage, in the Working Groups under the Barents Secretariat.

Concerning the wider economic infrastructure, the regional energy infrastructure follow the same pattern of national specialization, and does not fill the need for a comprehensive planning of the use of the energy resources for strengthening the industrial production. The infrastructure for traditional trade in goods is meeting different kinds of barriers and lacking institutions which can operate normal trade functions. Arrangements for supporting international financing is being intensively built up, and will receive increased attention by the Nordic cooperation in the Nordic Council of Ministers. On the legal side, a complete body of contract regulations is not in place for

investments, shareholding, purchase, fusions and joint venture production. This is a very complex matter since it involves the whole question of developing a Russian law system for market economy (Storvik, inteivju).

The above mentioned pin-pointing of some basic features of the regional economy does not touch upon the topic of value creation, productivity and competitiveness in the region. However, it is recognized that the region is in the possession of a large raw material potential for the fisheries, mining, forestry and oil and gas exploitation. The possibilities for increasing the rate of processing within these will depend upon a wide range of production factors. However, both on the Nordic and on the Russian side, it is concluded that the decisive factor will for growth will be access to the markets outside the region (Vice Foreign Minister of the Republic of Cardia, A. Spiridonoff, interview with the author, February 1994).

The Baltic Sea Region.

In the Baltic Sea Region two different economic systems meet. The Nordic countries and Germany represent a competitive, open Western market economy strongly integrated in the European economy. On the other side, Russia and the three Baltic states are dragging on the remains of the old socialist economy and the transition problems of the new. Their economy is inflexible, environmentally unsound and lacking a structure for adaptation to the international market economy. A special characteristic is the large production complexes specially designed for the arms industry. Between these two extremes, Poland has a still typically East European economic and industrial structure, but is an increasing number of areas succeeding in the transition process. A more regionally delimited situation is prevailing in the former GDR, now being integrated in the common German economy.

Another characteristic of the regional industrial pattern is the comparatively large production of raw materials. In the Western countries, this is mainly due to recently accelerating structural changes in the industrial production. In the Eastern countries, the reason is that it is raw materials and semi-manufactured products that at present bring the largest currency income, while their relatively large production of manufactured goods are not able to compete on the basis of the quality requirements of the open European market.

But the growth potential in the region is still great. It possesses strategic raw materials, a strong industrial tradition and an advanced level of education. If the industrial and economic modernization can be carried through successfully, the North European area will be able to contribute substantially to future growth in the European economy.

The capacity in the industrial production is, however, high in all countries, but the environmental requirements and adjustment of production and products is only to a small degree developed in the East. This is causing a disastrous pollution from industry and agriculture. The disconnectedness from the Western economy and the limited possibilities for competition on the Western markets keep these countries from carrying out the necessary investments and retooling their industry.

The Baltic Region is a densely populated, industrialized area. It is in a dynamic process of developing a tighter network of trade relations. There are many indicators that the whole area is gradually becoming included in the trade regime of the Single European Market. The Nordic countries have for a long time been working to create a common Nordic home market. This process has been accelerated by the EU-EFTA agreement on the European Economic Area (EEA).

The distance to the European markets is short, and the links to the European markets appear more and more important. The infrastructure is relatively well developed, although many deficiencies still exist in the Eastern area and between East and West. The transport infrastructure in the region is still lacking important elements such as technological equipment and standards, particularly in the Eastern parts. The interface between the sea transport systems and the landbased systems (roads and railways) is weak. National regulations and license regulations cause inefficiency and expensive transit traffic. Nor is there a uniform wage system in the transport sector. A number of local and regional investment projects lacking coordination and inefficiency within the political decision-making process contribute further to expensive solutions. Lastly, the environmental responsibility within the sector is low, raising the costs of adjustment to modern environmental requirements.

Financial and technological support from the West is necessary in order to remedy this situation. Basic factors such as a cost-effective energy use, organization and management forms with a high degree of economic steering, a market adapted production and effective marketing organizations are still not in place, thus impeding an effective management of costs and production in the former socialist countries. An acute need for reorganization of the industrial production was thus among the first things to be recognized at the end of the Soviet era. The central elements in the renewal process are well known, and have been taken as a base for the design of the regional program for environmental action.

The Baltic Sea Regime: A Model for the Barents Regional cooperation.

How applicable is the Baltic regime model to the Barents context? Depending on the context, the two regions show both differences and similarities. Environmentally, there are mostly differences. The main pollution problem for the Baltic Sea region is marine pollution, mainly by land-based sources, discharged into the sea by rivers. The pollution stays within the sea basin because of the narrow outlet into the ocean. The problem is commonly shared by all the littoral states. All are polluters, and all are receivers. However, the capability of taking action is unevenly shared among the wealthy Western states and the poor former socialist states. There are numerous nuclear installations in the area, mostly for civilian use. The environment is regulated through a multilateral, multisectoral regime. Judging from its results so far, the regime has performed poorly. While being heavily dependent upon external project financing by international organisations, only some smaller projects have been initiated on private funding. The bigger sources have dried up due to economic recession (Hufvudstadsbladet, 3.9.93).

In the Barents Region, the environmental problems mainly threaten the land areas, raw material extraction and nuclear installations being the main sources. While the sea waters are still very clean, air pollution from Russian mining and processing plants are destroying relatively large land areas and inland waters. The nuclear threat is still a potential threat, whose damage potential is enormous, and whose management is made difficult by the fact that most of the installations belong to the Russian military. The environment is regulated mainly through a bilateral Norwegian-Russian regime, and through different large multilateral regimes in which the areas in the Barents are mainly peripheral.

Concerning these differences, it may look as if the Baltic serves poorly as a model for organizing an environmental cooperation regime in the Barents. However, there are similarities which are important, when the framework of integration with "Europe" is the main concern. First, there is a *similarity in strategy* for the environment. The basic strategy is to improve the environment in direct

connection with economic development. This indicates a direction as for the choice of regulatory instrumentation: as in the Baltic, it requires an overarching coordination of the environment with the development of infrastructure, markets, and industrial modernization, brings economic actors into central positions. An *economic regime type* seems close at hand for meeting that challenge. In both regions, both Western type and former socialist type actors are participating, at different levels. The transnational sub-state level is an important element. This brings the second similarity to the forefront, the *inherent governance structure* of the two regions. In both regions, there are at least three levels of decision making: the sub-regional, the state and the supra-state. The latter is explained by the role that the EC norms and rule system is playing as a common framework for environmental regulatory activity. This opens up a potential for a common coordination of development of the two regions. This is still mostly a potential, but especially for the Barents, developing competitive transport connections with the Eastern Baltic area will be of central importance in order to promote economic growth (Nordkalottens Industrigruppe: "Furstudie Transportplan Nordkalotten", sept. 1992). But the potential is currently being exploited by the Nordic countries, as illustrated by the environmental policies directed towards the two regions in coordination in the Nordic Strategy for the Environment adopted for 1995 (The Nordic Environmental Strategy 1994-96, Nordic Council of Ministers 1994).

What can be noted from this brief comparison, is that the Baltic Sea model seems relevant for the Barents in a perspective of economic development and integration - within the region as well as with the European integration system. Especially, given the similarities in governance structure, the environmental problems appear to be best managed in the form of comprehensive programs. This is a design for the cooperation which seems to create the best possibilities for a participation of the EC which is sought for. However, many of the present environmental problems in the Barents Region are of a kind that are perhaps better served by immediate, ad hoc solutions than by complicated regimes. On the other hand, the plans for a long-term development of the region may rather call for more overarching, built-in solutions. On the basis of this preliminary assessment, some organizational alternatives for environmental action in the Barents are developed, and thereafter evaluated according to current environmental policy options.

Organizational possibilities for the Barents environmental cooperation.

This discussion will centre upon which forms of regulatory policy that are facilitated by the different types of organizational possibilities, and which kinds of current policy alternatives they relate to.

Our general framework is the relationship between two variables, regulatory environmental policy and organizational development. They will be dealt with in the context of the Barents Region's connections to the central integration processes in Europe.

Regulatory policy is conceived of as a continuum of policy forms recalling from state based, administrative regulation at the one end of the continuum, to an integrative form at the other. The former is segmented in the sense that environmental policy is treated as a closed, administrative sector. The latter is a more recently developed management form in which environmentally related policy sectors are connected by the use of economic incentives. This form is currently applied in the Baltic environmental regime, and has also been developed in different programs in the EU, as

well as in connection with the preparations for the Single Market (The Internal market and the Environment Report to the Commission of the European Community, Brussels 1990).

At the second variable continuum, organizational development, the extremes consist of region-internal interaction between state and sub-state level at the one end, and interaction between the regional and the European level at the other.

Each of the continua represent regulatory and organizational development. Depending on how they are combined, they represent different model alternatives for regional environmental management. In a figure, they can be illustrated in the following way:

Figure:

Regulatory policy

State based, regulation, segmentation	----->	Integrative, incentives, coordination
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Organizing framework

Region-Internal interaction	----->	Interaction region - external integration system
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At the same time, the extremes of the two continua represent different degrees of interaction with the EU system. This involves the central issue of access to the European markets. The need for - and effects of - EU regulations and legislation should clearly be considered to depend on the degree to which the regional market becomes integrated with the European markets. If the regional formation aims at establishing a more insulated regional home market, EU participation will be of less relevance than if the aim is inclusion in the European markets. However, we should keep in mind that this option seems very unlikely, given the export-oriented economy of the region. It seems both for this and for other reasons as some form of EU involvement will follow an orientation towards the European markets.

These factors represent important premises for the organization of the regional environmental cooperation, with regard to its relation to economic development of the region. The relationship between the two dimensions can be illustrated in a model for organizational possibilities:

Model:

	State-based	Integrative
Regulatory policy		
Organisation		
Regional-internal interaction, low EC participation	1	2
Interaction between region and external integration, high EC participation	3	4

Comments to the model alternatives.

The least extensive alternative, (*field 1 in the model*) creates the frameworks for a regionally delimited management of the traditional segmented, state-administrative type. Outgoing from the premise that networking economies are breaking up the possibilities for state (and even supra- state) coordination of the national economies, this model alternative seems outdated as a point of departure for organizing the relationship between environmental management and the economic development in the Barents area. This has been the experience in the Baltic Sea region. There, the segmented environmental approach, which originally was founded on a principle of strict national sovereignty over the implementation of internationally agreed measures (Hjorth, *ibid.*), later became replaced by the integrative type of management.

However, there are issues for environmental policy in the Barents region that affect sensitive national interests to a large extent, most notably the issue of safeguarding and reducing the threat to the environment which is produced by the use and storage of nuclear material and waste on the Russian side. The large part of the nuclear problem area belongs to the military sector and can for this reason alone not be dealt with by commercially related means. Rather, it should be considered an environmental issue directly connected to high-priority national security issues, and dealt with as such. In that connection, the experiences from the Baltic cooperation in the days of the cold war could be useful. In those days, the international framework conditions suggested that sensitive security interests of the main international actors in the Baltic Sea had to be paid major attention to. The success of the model under these conditions was that one managed to maintain a stable continuity in the cooperation even in spite of dramatic ups and downs in the East-West relationship (Vesa).

Concerning the more ordinary, day-to-day environmental problems, the existing bilateral cooperation between the Nordic states and Russia follows this model alternative. The bilateral arrangements seem to have served well to organize the environmental cooperation that was first

established in the area, and they will surely persist in the future, constituting a permanent element. However, the bilateral agreements seem to have difficulties in providing adequate responses to the need for more comprehensive financial arrangements to support environmental projects. For example, larger projects between Russia and one or more of the other Barents countries tend to come to a halt if sufficient financing packages cannot be provided. In these cases, national financing arrangements have not been possible to complete because the individual countries have not been willing to provide the risk capital needed. And in those cases where this has been done, as with a Norwegian package which has been ready and stand-by for over two years it has not been possible to put it into operation since there are no systems for neither counter-guarantees nor security for loans established on the Russian side. In such cases, it seems as if regional economic operators conceive internationally organized financing as a necessary resource (Interview made with Director Kåre Storvik, Storvik. & Co. Konsulenter AS, Interview with the author, February 1994)

A problem for many economic operators on the Nordic side appears to be that they are too small to be able to conclude agreements with the large Russian firms on their own. The most fruitful role could probably be to support larger companies seeking market access, on the basis of their own local knowledge. That would assist these in their efforts to break through in the Russian markets. To the extent that such activities are directed towards the resource-exploiting industries such as oil, gas and fisheries, environmental requirements could be attached and the basis for a safe management of the environment laid. International financing would have an important role to play also in that context

The next possibility (**model alternative 2**) is a regionally delimited cooperation in which the environmental concerns become integrated in other policy areas, e.g. by establishing environmental requirements to reconstruction of the Russian mining industry and environmental requirements to the regional transport infrastructure.

An organisational form could be applied that comes close to the present form of the Barents cooperation: a dual institutional framework with state governance concerning the necessary international agreements and regional governance concerning transnational, intra-regional activities. Integrative environmental management in a more closed, regional context would need an extensive initiating and coordinating authority for the regional institutions.

As the need for state participation in the arrangement of the external trade relations would be of less significance, the role of the states would be more withdrawn in a "closed" region. Instead, it would be more important for the regional actors to seek influence upon the national foreign policies, in order to safeguard the region's interests against those of the state. In that respect, either the national capitals, European authorities, or both, could be thought of as possible targets for influence.

The present dual-level institutional setup in the region surpasses the traditional state administrative model and thereby allows for a larger room of action for the regional level (Pertti Joenniemi: Barenlsområdet - en region med särdrag. 1: NK-tema/Nordisk Kontakt 2/93). Within the second model alternative, this form would, however, be more demanding than in the first model alternative. It requires a considerable institutional capacity, i.e. a capability to manage critical region-internal relations such as integration of asymmetric interests and preferences of the participating members. In the Barents, these are formidable both at the state and the regional level (see e.g. R. Castberg: Nordisk-russisk miljøsamarbeid og nikkilverkene på Kola, i: Nordisk Østforum 2/93,

Oslo). It also requires the capacity to manage activities connected to the region's external relations, such as providing international financial resources.

For the latter reason, the question arises about external support for environmental projects in connection with e.g. industrial reconstruction and modernization. In the Baltic Sea cooperation, such projects are coordinated within the joint action program. These are supported partly through direct funding provided by the various international financing institutions which participate in the Helsinki Commission's Task Force, and partly directly through larger international programs such as the PHARE program.

In contrast to the Baltic Region, the Barents Region is completely external to the EC. Therefore, it cannot rely upon EU support arrangements to the same degree as in the Baltic Cooperation. In the practical cooperation in the Barents Region, it has up till now been Norway which carries the main workload, while the EU is involved in the political process together with the other signatory states (Norway's Consul General to Murmansk Knut Hauge, interview with the author, February 1994). However, the EU is awaiting a more concretized program for practical development of the region. Such a program will be presented in the form of an Action Program for the Barents Region this year. Because of the important signal effect that a successful Barents cooperation would give about East-West cooperation in general, the EU chose to engage itself in the formation process. The more action-oriented phase of the cooperation commencing with the Action Program is expected to involve the EU stronger at the practical project level (Ambassador of the EU to Norway, Aneurin Rhys Hughes, in an interview with the newspaper "Barents Nytt" "Barents News") no. 1/94)

Furthermore, some of the environmental problems of the Barents Region, especially nuclear waste, require a search for competence and money which goes beyond the EU. USA and Japan come close to mind as necessary partners. Thus, the question which arises about the organization, is to find a model which adequately responds to a need to organize cooperation with European and other international partners. From the Russian side it has been pointed out that this is particularly important in order to establish a system which is flexible enough - and has the sufficient capacity - to support Russian activities so that a supplementary canal in addition to that to Moscow is established for financing regional projects in Russia. This confirms the often stated view that "it is difficult to get activities through via Moscow" (Head of the Environmental Committee of the Murmansk County Administration and head of the Russian program committee for the Priroda Environmental Development Programme J. Barabanov, interview with the author, February 1994),

The experiences suggest a pattern of cooperation which generates pressure for closer coordination of activities with international partners. Also, the necessity of connecting the region closer to the European markets through development of trade relations require a surpassing of the more delimited frameworks for a regional home market.

It is hard to imagine that a "self-sustained" region in the Barents area would be able to integrate on its own. In order to establish its own internal integration process, a reorganization of the main economic interaction streams will have to take place, shifting away from the nationally confined north-south pattern and the one-sided export dependency of the region. Instead, trans-national economic networks and a better-balanced external trade relationship would have to be established (See i.a. Johan Jørgen Holst: The Barents Cooperation - a Regionalization Project in the Euro-Atlantic Area. Speech at the Arctic Conference of the Nordic Council, Reykjavik, 17th of August 1993).

An environmental management system which does not take these preconditions into consideration, will not have good prospects to function.

Taking them into consideration would mean that environmental measures to be taken in connection with economic development will have to deal with the possibilities for trade barriers to arise against the EC. Because of the EEA agreement, this will expectedly not be problematic concerning Nordic economic activity in the area. But if the Barents Region is to become a coherent economic area, it will be important to ensure that activities on part of the Russian side on common grounds comply with European environmental norms and standards.

The two model alternatives which have been dealt with so far, both build upon a premise of a regional formation based on a geographically more delimited governance system. However, a basic goal for the Barents cooperation is to ensure a strong link to the European integration and cooperation process. The picture turns out differently if the two alternative organisational forms are framed in a context in which they are more closely connected to their external, European environment.

The *model alternative 3* in the figure suggests an extension of the regional cooperation with a main emphasis on traditional state-based governance, to include state-type actors outside the region.

This mirrors the governmental level in the present-day structure of the Barents Region, to which the EU also is a party. Three interlinked issue areas which motivated the formation of the region: must be regulated at the governmental level: the security concerns the foreign trade relations.

However, an environmental regime based at this level is problematic for two reasons; Firstly, it is recognized that self-dynamism in the regional integration process requires that functional issues, such as combatting environmental degradation, should be dealt with by the region's own actors interacting with regional institutions in the day-to-day activities. Too strong regulatory powers on the governmental level would be contradictory to this goal.

Secondly, a synchronization with the Baltic and the EC institutional setup requires a more prominent role for the regional level than will probably be achievable within a state-based regime. The very principles of integrative environmental management by themselves leave a comparatively small role for the central state level. This has already become visible in the Barents cooperation. As the European integration process gradually comprises the Nordic countries more strongly, it becomes easier for a regional unit such as e.g. the Republic of Carelia to establish closer contacts with European institutions. For this particular participant, the Barents Region is considered an organization adjacent to, and not a component of, the main European structures. It is easier to develop contacts with Europe through the Barents cooperation than through the Russian central authorities (Vice Foreign Minister Spiridonoff, interview with the author, February 1994).

At this point, another problematic issue concerns the question of how a regionally delimited state-based cooperation fits with the ongoing integration process in the region's external environment. The Barents region has been established with the explicit aim of contributing to the changing European architecture, thereby including external actors as partners in cooperation. Institutionally, that requires similarity and compatibility to the emerging European cooperation structure.

Seen in a wider Nordic perspective, it also requires compatibility with the other large regionalization project in Northern Europe - the Baltic Sea region. The Nordic Council of Ministers has recently decided to include the Barents Region as an area of special responsibility along the same lines as the Baltic Sea Region. The strong dependency on export of natural raw materials will have to be broken in order to establish an economically independent Barents Region. Because of the vulnerable nature, any sustainable economic regime in the region must be provided with a strong environmental dimension in order to protect the vulnerable nature; restrict the extraction of non-renewable oil and gas reserves, and renew fish stock and forest reserves. But the rich natural resources are also considered a driving force for establishing environmental measures, e.g. for the fisheries industry which is dependent upon clean waters, and for the oil and gas industry which has to create living conditions that are attractive to a sufficiently competent work force. According to the assessment of one key economic actor in the region, the big resource exploit big industries represent those that could pay for environmental action in their respective sectors while the regional economy is being built up (K. Storvik, interview, February 1994).

Environmental protection must therefore be tightly connected to the economic development in different sectors. If the aim is to encourage intra-regional economic networks in order to fill the any empty rooms in the present economic structure of the region, common European rules of the game would have to be paid attention to, in order to be able to compete on the European markets.

It thus seems hardly conceivable that it will be possible to establish an integrated form of environmental management without following up by establishing various functional connections between the region and its external environment. This would have to be done through exploitation of coinciding interests of the Barents states and the EC; through institutional accommodation, and through a diversified economic interaction pattern.

Accordingly, the relevance of this model seems low both seen in relation to the general pattern of cooperation, which is developing, and in relation to important means for dealing with the region's environmental problems, such as the financing of industrial reconstruction through international programs. Because the Barents states themselves are not capable of providing sufficient financing, access to external sources is decisive. In order to motivate transfer of technology and capital from Western countries, it is important to link the environmental policy together with issues in which potential external partners have interests in economic development and resource exploitation in participating. Among such areas are the most demanding areas for environmental regulations: nuclear safety and waste treatment, oil and gas, transportation, mineral extraction and forestry, in order to accomplish that, cooperation should be developed along such lines that link the issue areas which need the greatest external capital supplies (atom, minerals) together with sectors of the regional economy which have the strongest potential for linking up to the external markets.

If that is accomplished, it would be possible to link regional projects up to external parties' interest considerations in such a way that their interests are activated and necessary contribution is provided. The redesigned Baltic Sea cooperation indicates that it is the integrative, program based cooperation form which most satisfactorily meets these requirements. However, it must be noted that the experience in the Baltic has so far been rather the contrary. The necessary interests have not become activated. The large-scale financing has not been provided. This has been explained by the general economic recession, which probably is the reason why the big sources have dried up (Nordisk Østforum, *ibid.*).

Still, the success of any kind of cooperation of this kind will in the end depend on the resources available, and the Baltic model should be seriously considered for the Barents. It might even be so that the rich natural resource base in the North could have prospects for motivating investments even in times of recession better than in the Baltic, which lacks that kind of resource base. This is so provided that the political and organizational framework establishes ensures the necessary stability for investors by institutional support, arrangements.

Let us therefore consider the full integrative model applied to the Barents before the final conclusions are drawn. The integrative model is presented in *model alternative 4*. This is the most extensive alternative. As an organizational model it creates the necessary framework conditions for a wide range of relations between the region and its international contact surface. Concerning environmental management, opportunities move far closer for inclusion in different international programs, especially - provided that at least one of the Barents states receives full membership in the EU - the INTERREG program and other special EU support programs.

Organized in that form, the environmental cooperation could open for a stronger commitment on the part of the EU. In the same way as in the Baltic Sea cooperation, a structure can be created which facilitates harmonization of the cooperation forms in the Barents Region with institutions further south. There are visible parallels between the Barents Council, which, just as the EU Council of Ministers, can consist of foreign ministers and sector ministers depending on the issue; between the Region Council and the EU Assembly of Regions; between the mixed Norwegian-Russian environment commission and the Helsinki- and Paris Commissions. Such parallelness is important to develop. Institutional compatibility will be necessary in order to link parallel types of processes together between the regions so that they can become woven together within similar institutional frameworks. That would guide region-building processes in different regions along common lines.

In the EC, a shift in regional policy has taken place in recent years. Three elements of this shift expose both interest coincidence and institutional complementarity between the Barents Region and the EU. First, the Commission's INTERREG program, with emphasis on interregional and transborder cooperation, was established in 1990, in order to prepare internal border regions for the opening of the Single Market by developing infrastructure and new businesses. The program will now be extended for the period 1994-97. Some elements, which are relevant for the Barents region, are included for the next period:

- Economic development in internal border regions, especially regions facing challenges of change due to the implementation of the Single Market
- Support for external border regions facing substantial challenges, in particular from the transition of the formerly planned economies.
- Support for economic development networks between regions.

Second, in the internal power balance between the decision making levels in the EU, the tendency over the last years indicates a strengthening of the regional and the Community level, at the expense of the states. Through the Structural Funds and the regional programs, in which the European Commission in a growing number cooperates directly with the regions, a practical basis has been created for a more commonly recognized political order in which the centralized EC decision

malting is counterbalanced by politically strong regions directly linked to the central level (Marks, G, 1992: Structural Policy in the European Union. In: Sbragia (ed.): *Europolitics; Institutions and Policy Making in the "New" European Community*. Washington). Third, the establishment of an "Committee of European Regions" which was established in 1993, shows a strengthening of the regional level in the EU. The opening of the Assembly for membership of regions external to the EU puts it in a highly interesting position as to the Barents Region, concerning the possibility that EU membership is voted down in the referendums to be held in Finland, Norway and Sweden.

The possibility thus created becomes openly illustrated by the Republic of Carelia obtaining membership in the Committee in 1993, with the aim of i.a. acquiring access to taking part in operation of different support and development programs and to compete for the financial resources made available by such programs. Compliance with West European standards has become an essential objective in order to safeguard the sustainability of the Republic's commodity supply lines. Illustratingly, application to the EBRD for means to modernize a pulp processing plant in the town of Pitkäranta is being prepared for two main reasons. The most important one is to become able to produce the kind of paper which is needed to operate Western lino machines being imported to Russia. As it is now, e.g. all copying paper has to be imported from the West, and taking an early position in this market would be an enormous competitive advantage for Carelia. The second reason is the environment - and this is also reflecting the order of priority in the government of the Republic (Spiridonoff, interview). It shows, however, that the two concerns are becoming knit together, and that this is forced forward by the kind of requirements which are set by the Western financing organizations.

The structure for regional policy in the EC opens up for direct cooperation between the regional level in the Barents Region and the central EC decision making level. The EC being party to the Barents cooperation at the government level, has ensured a formal framework for solving political and economic problems through international agreements. With this kind of framework in place, it could be an option for the region's institutions and actors to cooperate directly with the EC on different functional issues.

The option creates an organized possibility to engage the EU in economic development and environmental projects in the Barents Region, in a way which can aim at linking up a developing economy in the Barents Region to European economic networks. At a wider scale, that could also reinforce a development of an economically more coherent area consisting of the Barents and Baltic Sea regions.

It will be important to work out an organization which combines the necessary elements of the program approach and the "direct intervention, ad-hoc approach". In the first phase of establishing the Barents regional cooperation and getting it operative, it has been important to complete the already existing arrangement of bilateral agreements with a more overarching structure and an extensive program. The need for a program seems to have been forced forward by the needs of the regional institutions for a steering tool for the regional activities, and in order to be able to present to the external financier an organized arrangement for their participation. Referring to the representative of the European Commission in the Barents Council, it seems easier to get e.g. the

EBRD and the EU engaged on the basis of a program that as an assistant to bilateral efforts (Hughes/Barents Nytt, *ibid.*).

The fruitfulness of this approach is further proved by the role the Nordic countries have played in the creation of a Nuclear Safety Fund in the EBRD. The purpose of the fund is to contribute to short-term, urgent upgrading of the safety at East European nuclear power plants in the Baltic Sea area, e.g. investing some 40 million USD in the Ignalina plant in Lithuania. The Nordic countries are presently working actively to give priority to the Kola reactors in the working program of the Fund. This illustrates just as well the possibilities for the Nordic countries to act as catalyzers for broad-scale international contributions in the Baltic and Barents regions.

A concrete example that a policy based upon a more comprehensively designed program for the environmental action will better enable regional and national authorities to influence the profile of I. U contributions, is provided by the discussions with the EU about how to use the TACIS program in order to improve the nuclear safety in the region. The TACIS program is directed towards the safety of reactors, which is not the main nuclear problem in the Barents region. Instead, nuclear waste is the prime concern here. The way to go in order to create and find acceptance for the special problems of the Region in this respect appears to be to work through the Barents Council (the foreign ministers and the Commission), while the regional environment program is the tool for both providing an entrance port for the EU support and for providing the sign of the task to be carried out. In this case, we see an interesting interaction between the national and regional governance levels, and the supranational organizational framework.

Conclusion

The most striking similarity between the Barents and the Baltic regions are the fact that they both transcend the former East-West division line in Northern Europe. In the perspective of the European integration scheme, this fact calls for a similar set of political, economic and institutional arrangements in order to incorporate them in the evolving European architecture. The case for similarity along these main lines are strengthened by the fact that both regions are subject to a responsibility taken by the Nordic countries in the political division of labor in the integrating Europe.

Focusing upon environmental problems and cooperation, effective and sustainable solutions are dependent on a close integration of environmental concerns and policies in the different sectors of economic policy and development. That is something which could further strengthen the application of parallel types of steering arrangements in the environmental regimes of the two regions. However, there are important differences concerning certain crucial ecologic and economic variables. The resource-based economy of the Barents and the trade-based economy of the Baltic create different environmental problems, requiring different types of solutions. The arctic and the more Central European climates sustain totally different ecological systems. And the distance and infrastructural connections with the European markets require different economic development models.

The question is therefore about the applicability of the comprehensive Baltic model for the Barents. In the Baltic, the comprehensive, integrative model has still not been exploited for its full potential. However, this is not the important point in relation to the problems of the Barents. Rather, it is the nature of the problems of the latter which require different management. A comprehensive

program along the lines of the Baltic Comprehensive Action Program would probably be a too rigid construction for the Barents. Concentrated action directed towards the specific problem areas is probably what is mostly needed. At the current stage of economic development, this corresponds to the peak problems of certain resource-exploiting industries and the nuclear problems.

Other more traditional pollution problems could probably be better dealt with along the lines of the Baltic program. Some of these problem areas have a potential for economic development which could be dealt with according to the integrative model. The example of the Carelian pulp processing plant is an illustration of that. The relevance of the integrative model is also illustrated in the need to ensure the participation of economic actors external to Scandinavia in the worst cases of pollution. The activities of these should be administered through a work share between the state and the regional level.

Conclusively, the main observation is that the specific kinds of environmental problems in the Barents require a certain mix of state-based and integrative regulatory mechanisms. This means that the program-type of integrative management so extensively developed for the Baltic, to a large degree should be supplemented by more direct, ad hoc solutions carried out at the appropriate administrative level. After all, the Barents is a wilderness - a rich one, with the possibilities to become a Klondyke of the European Northeast. That is something which requires some uniquely designed solutions. For the environment this means that each environmental problem in itself must be treated on the basis of its own preconditions.

Status of the Environment on the Kola Peninsula and its Change as Result of Anthropogenic and Technogenic Impacts

Vladimir Masloboev

Increase of anthropogenic impact on the environment is connected with production intensification, regional concentration of industrial enterprises and other development factors, typical for technogenic regions of Russia. Already for decades intensive industrial development of the North, including the Murmansk region, has been oriented at utilization of natural resources, such as non-ferrous and ferrous metals, raw materials for production of phosphatic fertilizers, mica, gas, oil, timber, fish, energy of rivers, etc. However, the economical activity is conducted without notice of specific environmental requirements and without scientific basis for regulation of the pollution levels and critical loads on ecosystems for various climate zones. It should be noted, that the Kola Peninsula is ecologically sensitive territory.

An absence of environmental concept for nature management and necessity of integrated and many-sided scientific approach to assessment of living organisms and their habitat, impelled the Presidium of the USSR Academy of Sciences to establish the first in the scientific system and in the country as a whole Institute of the North Industrial Ecology Problems (INEP). This became a beginning of a scientific experiment when specialists of different schools in ecology were united

for one goal: to develop scientific basis for co logical optimization of nature management in the North by the example of the Kola Peninsula, as the most urbanized and developed mining and metallurgical region in the Far North of Russia.

For to meet this goal the following scientific directions were set for the Institute of the North Industrial Ecology Problems, established in 1989:

First, a study of the mechanism of structural and functional organization of biosphere of the North, being an entity of environmental and economical systems, exposed to simultaneous impact of anthropogenic (technogenic) and extreme natural factors;

Second, an assessment and long-term forecast of possible changes of environmental and economical systems under different scenarios of nature management;

Third, optimization of nature management by regulation of the technogenic impact from industrial wastes on the environment and parallel development of waste recovery techniques.

Two types of northern territories

The population density in the “industrial part” of the Murmansk region, situated along rail ways from the North to the South, is about 19 persons/ m², which is untypical for northern territories, where normal population density is 1-2 persons/ m². This implies that at a limited territory of Murmansk region compactly populated the anthropogenic load considerable exceeds the load in other northern territories. Similar situation occurs in the Norilsk industrial area (the Krasnoyarsk region). Two types of northern territories can be distinguished in the Murmansk region [1].

Territories of traditional nature management (reindeer breeding, fishing, other trades), in which indigenous population is involved (eastern and north-eastern areas of the Kola Peninsula) are first, the Agricultural territories, with low solar radiations, poor soil, its high acidity in combination with short vegetation period restrict plant cultivation. Cultivated soil occupies not more than 1% of the whole territory. The regional agriculture specializes at animal breeding and poultry-breeding, which account for over 80% of agricultural production in the region. And second, the Logging territories. Logging of whole areas exerts negative effect on nature and results in devastation of forests, due to wind erosion, slow shoot of wood, exposure of the cutting areas and fire-sites to swamping. The forest restoration process is characterized by poor survival ability of coniferous species.

Correspondingly, industrial complexes can be divided into first, complexes for production and treatment of complex ores of non-ferrous metals, which are still the main pollutants of the air, water objects and terrestrial ecosystems. Evidence of deep degradation of landscapes on vast territories can be observed (smelters “Severonickel” and “Pechenganickel”). Second, complexes for production and treatment of apatite-nepheline ores, which form a wide pollution zone, especially for water objects. And third, complexes for production of rare-metal and iron ores, mica, aluminium production with more compact plants location.

The following factors of technogenic impact from the mining and metallurgical industry can be distinguished:

- open cycle of water use and pulp release (slag heaps), polluted by reagents, into slag heaps and further on into largest regional water objects – lake Imandra, Umbozero and Lovozero;
- wind erosion of slag heaps as a reason for dust pollution of air;
- increased concentrations of strontium, aluminium, heavy metals and rare elements in water and accumulating in soil, microbiota, sediments and further – in plants and animals;
- intensive drainage of ground water and their pollution with breakdown products of explosives and with oil products;
- widespread dumps of refused rocks, slag, ash and transport of toxic matters into surface water;
- air pollution with sulfur dioxide and nitrogen oxides and formation of acid depositions;
- violation of aesthetic appeal of landscapes;
- pollution of coastal water of northern seas due to river flow of pollutants.

The effects from negative impact of anthropogenic loads were found in all ecosystems of the Murmansk region. In recent years despite the decline of production in mining and metallurgical industry environmental enhancement is extremely slow.

The fact that not all ecosystems are in critical state cannot be denied. Critical situation can be registered objectively only at individual territories, near (30-40 km) large sources of environmental pollution and primarily near non-ferrous metals enterprises. That's why spatial distribution of various degrees of ecosystem's change (for example, soil, northern-taiga forests and fresh water ecosystems) has mosaic character.

Nevertheless, the danger of persistent degradation of natural systems really exists, due to chain reaction of ecosystem level from the ecosystems located near pollution sources into neighboring ecosystems. Unless the anthropogenic impact is decreased to permitted loads and if the degradation process develops, strengthened by inertial distribution of pollutants and brought about by long-term "load" of earlier, higher levels of loads, the technogenic changes will acquire regional scale.

The following aspects range as dangerous ones and determine instability of regional ecosystems:

First, use of renewable resources in such a scale which exceeds the self-restoring capacity of nature;

Second, further decrease of biodiversity, caused by growing anthropogenic pressure on natural ecosystems;

Third, growing scales of acidification of nature, climate changes and circulation of water, changes of bioproductivity, caused by violation of natural biogeochemical circulation.

Let us demonstrate the conditions, which could provide health of natural ecosystems and man. Consumption of renewable resources must not exceed their natural self-restoration. Consumption of non renewable resources is acceptable only in closed cycles, similar to natural circulation of elements in nature. Volume of pollution from the anthropogenic activities mustn't exceed buffer capacity of natural ecosystems.

As the economic activity of man develops with its large scale and growth rate, the problem of resources conservation and maintenance of healthy environmental conditions becomes more urgent. The solution of this problem lies in creation of production without any emissions. Such production provides a system of technological processes, which make allowance for rational utilization of feedstock and energy, in order to satisfy human needs within the framework of rational sufficiency and permitted environmental risk.

For the Kola Peninsula these ways are: integrated proceeding of raw materials; creation of drainage-free and closed water consumption systems; development and establishment of areal and industrial complexes within a closed structure of flows of raw materials and wastes.

Creation of non-waste industries is a difficult and time consuming process, demanding considerable material and financial inputs and consolidation of efforts of private capital of different corporations. A partial solution of this problem lies in improvement of current industries and creation of low-waste production. In this case the low-waste criterion is a volume of wastes, which doesn't violate sustainable operation of natural systems. Together with the development of technological approaches to solution of environmental problems nature conservation process should be developed and fulfilled, i.e. search of mechanisms, capable of counteracting to environmental degradation under existing industrial loads.

Such mechanisms are for example - Environmental impact assessment (EIA) for individual economical objects and consequent transition to Strategic environmental assessment (SEA) of territories and region as a whole, Support of natural ecosystems, Creation of ecologically substantiated technologies, including those for recovery of disturbed ecosystems, Enlargement of a network of specially protected natural reservations (SPNR) and recreation resources as "environmental skeleton" of the territory, which can prevent chain reactions of degradation on ecosystem level, Environmental education and information.

Reasons for sensitivity of water resources in the North

Among other natural components water resources have multifunctional and diverse application, in particular as sources of drinking water and water supply, receptacle of industrial and domestic wastes, fishing environment, sources of hydro energy, recreation areas, transport main waterways.

Though, at present in spite of good supply of water resources in the Murmansk region, the problem of their quality decrease arises. Studies of the INEP KSC RAS showed that the main reasons for such unfavorable situation with water quality in rivers and lakes in the Kola Peninsula are as follows:

First, accumulation of atmospheric precipitations in snow cover, including pollutants, occurs during long polar wintertime (6-8 months). As nourishment of lakes and rivers is to a great extent determined by atmospheric precipitations (up to 75 – 90% of annual runoff falls on spring and summer-autumn floods), during a short period of spring flood snowmelt proceeds with all

accumulated pollutants into catchment areas and thus causes a strong impulse of toxic effect. Poor development of vegetation and poor soil cover provide for high drainage of precipitations with pollutants in summer time;

Second, low mean annual temperatures of air weaken the processes of water erosion and underdeveloped soil cover makes the geochemical composition of bedding rock a decisive factor in forming of surface water hydrochemistry. Due to conditions of overwatering the mineralization is low and waters have oligotrophic character, that's why even minor changes of geochemistry of catchment areas quickly violate ion balance;

Third, migration capacity of pollutants from the catchment area is high, their circulation in water bodies is long-term, processes of biodegradation and disposal are slow, but toxic effect in low-mineralized water is much higher. Low species diversity and short food chains promote quick transport of toxic components to final producers – fish and, consequently to their consumers;

Fourth, deep changes of the whole catchment system confirm the stable trends of dealkalization and increase of sulphates concentrations in large rivers: if the current load preserves, the alkalinity may reach 0 in 2020;

Fifth, anthropogenic eutrophication is characteristic of small lakes and areas, where proceed domestic and agricultural wastes;

Sixth, under conditions of oxygen shortage during long polar winter the diffusion of metals from ground sediments increases and high gradient of their concentrations is formed.

Environmental regulation is a key problem in formation of environmental safety system. The mere fact of establishing of standards of critical loads doesn't conserve nature, but without them, conservation loses its basis. At the INEP the substantiation of critical loads on freshwater ecosystems was carried out under the leadership of correspondent member of RAS T.I. Moiseenko beginning in the 1980s.

On the one hand northern regions possess huge reserves of clean fresh water and outstanding fish species, first of all, salmon and whitefish. On the other hand, the presence of huge reserves of mineral and hydrocarbon materials gives ample opportunities for development of mining and metallurgic and oil industries and development of infrastructure. As a result a conflict between two types of water use arises: fishing industry and industrial production.

At the same time the growth of population in northern regions with their industrial development result in high importance of surface water as a source of drinking water supply and a source of food product due to fish reserves. Due to this fact under condition of complex utilization of water resources the priority should be given to clean water and high-quality fish. The optimum of utilization should be determined for each water object with respect for environmental, economical and social factors.

In this respect a new approach to water quality assessment and determination of permitted loads on surface water is needed. As it was shown, in the arctic regions even the observation of permitted MPC according to individual parameters doesn't provide good quality of water and doesn't protect aqueous communities from degradation [2]. Regulation of loads must rely upon: 1) knowledge of natural conditions and water objects in the region; 2) environmental properties and processes of the whole complex of pollutants in particular water conditions; 3) substantiation of biological

criteria of early violation detection at various levels of aqueous ecosystems; 4) determination of real critical levels of complex water pollution and their environmental and toxicological implications. For limitation of impact of existing and planned mining and metallurgical industries in the North, the following instruments are recommended: 1) critical levels of integrated water pollution by runoffs from mining and metallurgical industries together with domestic emissions; 2) critical loads of acid-forming matters; 3) environmental risk of metals deposition.

Critical acidification loads (CL)

For determination of critical loads on waters of the Kola Peninsula the INEP adopted a technique of A. Henriksen [3], based on principle of equilibrium state of chemical composition of water and its capacity for neutralization of strong acids and preservation of some reserve of buffer capacity, which prevent the ecosystem from degradation - **ANCLimit**.

According to widespread research of lakes, carried out in 1995 in the Kola North: low values of $CL < 20 \text{ mekv/m}^2$ per year (or $< 0.3 \text{ rS/m}^2$ per year) are met at over 50% of the studied territory. Excess (**CL_{ex}**) was observed on 30% of the territory – in the north-western and central areas, where metallurgic complexes are located, and also in the north-eastern area, where the sulphate load is considerably lower, but the sensitivity of the territory is high.

At the same time the accepted stock level of buffer capacity can be quickly exhausted, especially in the conditions of high acid loads, which exist in the Kola North [4]. The comparison of critical loads (CL) on water objects in different parts of Northern Europe shows, that the territory of the Kola Peninsula can be compared with Norway in its sensitivity. Though excess values of critical loads (CL_{ex}) in Norway are higher due to higher level of acidification of southern industrially developed parts of the country. As our studies show, an important contribution into formation of toxic environment in geochemical provinces is made by the factor of release of ionic forms of metals [5]. This determines the necessity to develop an integrated index, reflecting joint effects of both acid factor and toxic effect from heavy metals.

These works received in the following years further development at the laboratory of aqueous ecosystems INEP in the direction of development of theoretical grounds for regulation of anthropogenic impact on aqueous ecosystems of the North, paleoecological reconstruction and forecast of global changes of natural environment and climate in the North. The following problems are under consideration:

First, study of surface water quality formation mechanism under the influence of mining and processing industries of various types and intensity and in different geological conditions;

Second, assessment of medium-term levels of airborne industrial load on watersheds and study of biological effects from anthropogenic impact;

Third, study of biological diversity mechanism in the water bodies of the Kola Peninsula in the conditions of landscape diversity and different types of anthropogenic impact;

Fourth, development of methods for biological indication of anthropogenic transformation of freshwater ecosystems;

Fifth, development of methodical approaches to reconstruction of past climate and environmental conditions basing on chemical analysis of ground sediments, diatom communities and chironomids.

The main achievements of the INEP in the study of aqueous ecosystems are [6-25]:

First, species composition and structure of fish communities in some water bodies of the Kola Peninsula, located beyond the zones of direct impact from mining industry were specified. A range of biological characteristics of ichthyofauna of reference water bodies was received; these water bodies may represent a basis for bioindication of technogenic pollution of surface water;

Second, Long-term changes in the structure of whitefish population *Coregonus lavaretus* under the influence of small (background) doses of pollution of a subarctic water body by metallurgical smelter emissions were studied. It was confirmed that response reactions of fish populations on permanent (over 60 years) impact from regional background pollution levels are similar to the response reactions of fish populations from the water bodies, receiving sewages;

Third, for the first time the contemporary status of freshwater pearl mussel populations (*Margaritifera margaritifera*) in the rivers of the north-west of the Kola Peninsula was determined and its dependence of the water quality was revealed. The levels of heavy metals accumulation in the freshwater pearl mussel were identified. The received data suggest comparative analysis of response reactions of hydrobionts on multilevel technogenic load on the water bodies in Subarctic and will serve a basis for development of measures for conservation of the declining species *Margaritifera margaritifera*;

Fourth, detailed quantitative reconstruction of changes in late Pleistocene and Holocene of mean monthly temperature of the air in July at the arctic coast of Yakutia was fulfilled;

Fifth, the regularities of changes of taxonomic structure of chironomids paleocomplexes (*Diptera: Chironomidae*) in late Pleistocene were revealed in the context of climate change and northern timber line in the North of Russia. The methods of reconstruction of environmental changes in the subarctic and arctic regions of Russia in late Pleistocene;

Sixth, the information on 468 taxa of diatoms from 12 natural water objects of the Kola Peninsula and the Pechora river basin was received and structured into a database on the basis of long-term field studies;

Seventh, the peculiarities of spatial (lateral) and vertical distribution of radionuclides in ground sediments of open water bodies, located in the area of rare metal deposits, were revealed; the possibility of migration of radioactive nuclides into water bodies from mines and slag heaps was shown;

Eight, the main pollution indicators of water bodies of the Pechora region were determined, which are polynuclear aromatic hydrocarbons (PAH), highly toxic heavy metals (lead, cadmium, mercury and arsenic) and oil products in ground sediments and also iron and copper in surface water;

Ninth, The notion of formation mechanism of surface water quality and ground sediments in the arctic water bodies under the influence of various anthropogenic factors – heavy metals, mineral salts, biogenic load, sewage water from NPP was formed;

Tenth, by the example of the Kola Peninsula the theory and methodology influence of natural local factors on pollutants deposition from the atmosphere on the underlying surface was developed. The quantitative characteristics of washing out of sulphates, nickel and copper from the atmosphere by snow and rain were determined;

Eleventh, for the first time the influence of natural and anthropogenic factors on modern state and long-term succession of diatom communities in lake ecosystems with similar conditions for water quality formation under conditions of industrial pollution of various types and intensity was shown by the example of model subarctic lake-river system.

Among integrated studies of 2006 the work on modern influence of anthropogenic and natural factors on aqueous ecosystems, in particular on zooplankton should be noted [64].

Based on the analysis of long-term (1990-2003) dynamics of natural and anthropogenic factors it was for the first time shown that together with the technogenic pollution the solar activity (mainly UV-radiation) is an important additional factor, influencing the dynamics of zooplankton communities in freshwater ecosystems at high latitudes. Comparing the long-term (1990-2003) dynamics of zooplankton in the lake Imandra (the Kola Peninsula) with solar activity variations, it was shown that the changes of number (Nt) and biomass (Bt) of zooplankton are in antiphase with the variations of main indices of solar activity (number of sunspots W and index MgII, reflecting the variations of UV-radiation in a shortwave band). Biological effects of long-term variations of UV-radiation in the arctic and subarctic freshwater ecosystems haven't been studied earlier. Maximum value of correlation coefficient is observed between the coefficients Nt and MgII ($r = -0.77$, $P < 0.1$), this exceeds the absolute value of the correlation coefficient between Bt and the volume of sewage water from the "Severonickel" smelter ($r = -0.62$).

The comparison of long-term dynamics of zooplankton with changes in concentrations of main components of sewage water from the "Severonickel" smelter and JSK "Apatit" (Ni, Cu, Al) and also main biogenic elements (N and P) also failed to reveal considerable correlation dependence. The fact can be explained by complex nonlinear character of the dependence of the reactions of the zooplankton community on anthropogenic pollution of the lake Imandra. Here we can refer to decrease of toxicity of heavy metals due to intake of N and P with sewage and as a result, parallel process of eutrophication and change of species composition of zooplankton in the lake Imandra. The research results showed that solar activity (mainly, UV-radiation) is an important factor, together with anthropogenic processes, influencing the long-term dynamics of zooplankton communities in freshwater ecosystems at high latitudes.

Study of terrestrial ecosystems

On the initiative of Professor V.V.Nikonov new research direction (laboratory of terrestrial ecosystems) was established in the INEP with the objective to study the structure and functions of terrestrial ecosystems in the North, including biogeochemical cycles of elements and dynamics of organic matter in boreal forests and for developments of methodology and methods of monitoring, efficient management and restoration of forests and disturbed landscapes.

The new direction had the following tasks: first, development of a concept of forest ecosystems diversity at the northern timber line (the Kola Peninsula), based on analysis of integrated influence of natural and anthropogenic factors, determining the succession rows of forest formation; second,

study of biodiversity of old-aged forests in the northern timber line and interconnections between habitats diversity and biodiversity; third, organization and development of a network of monitoring stations and experimental test sites of a university type; fourth, development of the theory of biogeochemical circulation; fifth, development of a concept of nutrient status of boreal forests; sixth, development of approaches to restoration of forests, disturbed by anthropogenic activities; and seventh, development of high-accuracy methods for qualitative and quantitative determination of organic compounds.

Under the leadership of Professor V.V.Nikonov in the early 90s a unique biogeochemical monitoring network was created in boreal forests on the territory of the Kola Peninsula in the impact zones of largest European copper-nickel smelters, equipped according to international requirements. The regularly collected data describe the ecosystems state of 4 test sites: Monchegorsk, Kovdor, Kandalaksha and Pechenga regions. The plots of intensive monitoring are located according to the pollution gradient and equipped in agreement with international standards: precipitation collectors, gravitation lysimeters (collectors of soil water) and litter collectors (collectors of four litter). Atmospheric precipitations and soil water are collected during year 4-5 time in now0free period and once – in the end of winter, plant litter – one in half year. The monitoring objects are: atmospheric precipitations, soil water, vegetation, soils.

In 1999-2003 expedition studies of biodiversity and habitats diversity of forest in the European North were started for revealing interlinks between biological diversity and main natural factors. Old0aged forests are studied on the territory of the Kola Peninsula, Karelia, Valdai, Vologda region, Komi Republic, including state reserves: Lapland State Biosphere Reserve, Kandalaksha reserve, “Kivach”, Kostomuksha, Pechoro-Ilychskiy reserves and Valdai national park.

Advanced methods of chemical analysis and up-to-date high-accuracy and high-sensitivity devices are used in the laboratory of terrestrial ecosystems. The methods of make-up analysis and functional groups determination are added by studies of low-molecular organic compounds based on high-performance liquid chromatography (HPLC). The developed techniques can determine both biogenic and technogenic compounds in vegetation, soil, soil water, ground sediments and open water bodies. Low-molecular acids (phenolic and aliphatic) actively partake in soil formation and contribute to transport of nutrient elements in the soil profile and to decrease of toxic effect from metal ions on plants. The results, receive with the application of compounds identification techniques enlarge our view of paedogenesis. The development of techniques for identification of technogenic organic compounds (in particular, phenol and its chloride-nitro- and alkyd derivatives and oil products) has high importance for monitoring of environmental conditions of terrestrial ecosystems in the Kola Peninsula.

The main achievements of INEP in the studies of terrestrial ecosystems [26-46]:

First, digression and technogenic successions of northern-taiga spruce forests with moss and lichen pine forests, caused by airborne industrial pollution from cooper-nickel production were described. The main reasons for disturbed natural restoration process in these conditions were found out. It was shown by experiment, that optimization of nutrient status accelerates current restoration succession in birch open forests and “launches” the succession in wastelands;

Second, the changes of chemical composition of needle were studied as it grows older and it was shown, that in the process of degradation succession the concentrations of Ca, Mg, K, P and Al

in needle are changed non-linearly. At an intensive defoliation stage Ca and Mg concentrations increase and K, P and Al concentrations decrease; at the following stages the needle lacks Ca, Mg, Mn and Zn and is enriched with K. The degradation succession is characterized by non-linear variability of morphometric characteristics of pine needle. At the intensive defoliation stage the length and mass of needle is significantly higher compared to the background, due to higher mobility of nutrient elements in soil. At further stages these characteristics decrease. For description of changes of morphometric characteristics of pine assimilating organs a coefficient was suggested, which is calculated as a proportion of needle mass to its length. As a result non-linear character of interrelations between growth parameters and concentrations of nutrient elements in the needle of Siberian spruce in the process of degradation succession, caused by air pollution from the copper-nickel smelter was established;

Third, the studies of phenol components of needle and sprouts of *Picea abies* (L.) Karst. Were conducted for application of phenolic compounds as biomarkers, responding to climatic and environmental changes. The analysis of links between concentrations of phenols and carbohydrate, nitrogen, phosphorus, sulfur and metals and between total mass loss rate and phenol-containing components and climate factors (sum of temperatures and amount of precipitations). Elevated concentrations of easily hydrolyzed phenol forms in litter active fraction slow down the rate of total mass loss and contribute to immobilization of nutrient elements. On the contrary, positive connection can be detached between the original concentrations of nutrient elements (N, P, S, Ca, Mg, Mn, Zn) in active litter fraction and its destruction rates. The character of links between easily hydrolyzed phenols and destruction rate doesn't change in the litter, compared to the tree waste, though the links between original concentrations of nutrient elements and total mass loss rate acquire reverse character. Statistically notable influence of climate factors (total temperature and total precipitations) on decomposition rate was found out in both warm and cold periods of the destruction cycle;

Fourth, the age-dependent and seasonal dynamics of protein and nonprotein nitrogen in needle of Siberian spruce (*Picea obovata* Ledeb.) was studied as an indicator of living status under conditions of air pollution. It was demonstrated that the proportion of nitrogen forms concentrations in assimilating organs is an informative diagnostic criterion of technogenic stress of plants. The interconnection between phenol concentrations in needle and nonprotein nitrogen was established. The peculiarities of age-related and seasonal dynamics of nitrogen in the needle of Siberian spruce (*Picea obovata* Ledeb) in the northern timber line (the Kola Peninsula) in background conditions and under conditions of air pollution by copper-nickel production. With age the concentrations of total and protein nitrogen decline in the needle and concentrations of nonprotein nitrogen increase. Nitrogen concentrations in the needle increase in the end of vegetation period due to protein form. The changes in nitrogen content during digression of spruce forests were revealed. Positive correlation was revealed between content of phenol and nonprotein nitrogen, which tells about competition of phenols and proteins for carbohydrates.

Fifth, phenol components in the structure of vegetation waste and litter of pine forests with moss in the Kola Peninsula were studied. The dynamics of easily oxidized compounds (tannins and other non-condensate forms of phenols) and changes of monomeric phenolic forms at early stages of decomposition of litter and vegetation waste were studied. Based on HPLC technique the qualitative and quantitative composition of monomeric phenolic forms within the structure of

waste was identified, also the ways of their transformation in soil conditions were taken into consideration. It was shown, that water-soluble phenolic forms have high reaction capacity in soil and influence the destruction rate, biogeochemical cycles of nutrient elements. It was suggested to take into view the dynamics of phenolic forms during forecast assessment of influence of climate change view of endothermic character of their adsorption of soil matrix.

Sixth, the most significant basic achievement of the laboratory for terrestrial ecosystems, which had practical application, is the development of scientific grounds for ecological (succession) approach to rehabilitation of disturbed territories after negative impact of copper-nickel smelters. [38-39]

The main objective of the ecological (succession) approach is preparation of the environment in such a way that it would accelerate the restoration succession due to natural inhabiting of the territory with preserved plant species. One should strive for creation of a vegetation cover, capable of living and developing without permanent artificial energy and material support. A necessary condition of successful development of pioneer succession stages is optimization of the nutrient status by introduction of ameliorants and fertilizers into the soil. Important stages of the succession approach are:

First, introduction of ameliorants and fertilizers without plant seeds in order to assist the colonization of the territory with local species. It is supposed that by these measures it is possible to obtain positive feed-back in the ecosystems;

Second, creation of crop cover without preliminary preparation of the territory. It is supposed that ameliorants, fertilizers and crop seeds, stable in current conditions, are introduced into the soil. Numerous stones on the surface of soil can become traps for the seeds, which can be spread with the wind;

Third, usage of transplantates –monoliths;

Fourth, formation of blocks of vegetation cover with soil, which represent a mini-system with all necessary for ecosystem links between vegetation, soil and microorganisms and can serve for spreading of vegetation on a vast territory. For this purpose in our conditions we can use foxberry, black crowberry and wavy hair grass, which form mono species groups in the open woods, adjacent to technogenic waste lands;

Fifth, sowing and planting of trees, resistant to pollution. Sowing and planting of trees at soils, not covered with crops and small shrubs and soils covered with them. In the latter case the introduction of wood plants into crop and shrub cover can be regarded as following stages of restoration succession. Crops and small shrubs create conditions for introduction of trees, because they optimize water and nutrient status of soil and serve as traps for seeds of woody plants. Under conditions of permanently operating smelters accent should be put on more pollution resistant deciduous species – birch, willow, asp, rowan-tree and alder-tree;

Fifth, the difficulty of problem of pioneer stages in restoration successions is worsened by constant high degree of air pollution. Naturally, cease or sharp reduction of emissions would make it easy, but due to economical and social reasons it is impossible at present. Though such works are topical today, because firstly, it is necessary to hinder the spreading of technogenic waste lands and

secondly, for development of approached to land rehabilitation from waste lands and open woods in real (field) conditions a lot of time is needed, which cant be replaced by any model experiments.

Studies of industrial ecology

The laboratory of industrials ecology was established in the INEP by its leader Dr. A.P. Zosin in order to develop a concept and technology of environmentally clean nature management in the conditions of high latitude areas of the North of Russia and Fennoscandia. The main research direction in the laboratory is creation of adsorption-active materials based on hardening mineral dispersions (HMD-materials) and local mineral resources from nature management [47-57].

At present the industrial production has included in itself huge amounts of mineral raw resources, fuel and energy resources and natural resources: water, air, animals and biological resources, soils, forests, etc. Difficulties with recycling of production wastes, their immobilization and assimilation in nature have appeared. The concept of sustainable operation, taken as technogenesis without impact on environment and next generations, can't be realized without establishing of a "Noosphere" and including of mineral non-recuperated and unused raw materials and wastes into the cycles of matter movement in the crust of the Earth.

We formulated the main demands for mineral non-recuperated wastes, subjected for immobilization, based on the processes of matter movement in the weathering crust and these demands say: toxic wastes should be stored in coupled form, in the form of non-soluble and/or hard-soluble compounds and their physico-chemical and crystal-chemical composition should be similar or/and identical to crystal-chemical and physical composition of weathering products of a local geosystem, which represent an environment receiving wastes and further on will transform into technogenic deposits of delayed use. This will help to organize local closed biogeocoenoses.

It is known, that absorption coupling is the main way to exclude the influence of environmentally dangerous components of biogeocoenoses. Traditional techniques based on synthetic and natural adsorbents and ion-exchange resins provide for multi-cycle work and demands efforts for immobilization of regenerators, recuperation of spent adsorbent and dissipation of used energy and can't be used for these proposes without risk of secondary technogenic pollution. Creation of a class of solid-state materials, which possesses adsorption activity, developed pore structure, hardness and needed composition, which allows after its treatment to be applied for original raw material in other technological cycles, including hydrometallurgical treatment (selective leaching), and suggest their immobilization in natural environment. Such materials are suggested by out institute technical adsorbent-materials based on coagulation-condensation hardening structures high-concentrated mineral dispersions – HMD.

We offered a principle of gradation to efficient nature management: the first stage – processing of ecologically dangerous components of wastes and sewages and conditioning of solid wastes for their re-use in the future, and the second stage – transition to new low-potential processes of matter movement and obtaining of natural raw material of different quality, i.e. processes, modeling weathering in combination with adsorption concentration.

Use of HMD-materials in mineral technologies and waste immobilization give opportunity to form the "Noosphere", creation of conditions of sustainable operation and development of technogenic provinces.

Cations of heavy metals are the main polluting components in sewages of copper-nickel plants. For adsorption of cations by inorganic adsorbents a neutral or weakly alkaline medium is required. The choice of hardening mineral composition for synthesis of non-ferrous metals cations sorbents should be governed by the systems, which include dispersion media, and which suggest obtaining oxyhydrates, aluminosilicates and hydrated oxides during their hardening. Ferro-magnesian glasses-slugs meet these requirements and they can undergo a reaction with alkaline solutions as ultrabasic orthosilicates with low stability in alkaline solutions.

Slags of ore-thermal and leaning melting of copper-nickel plants, subjected to water granulation, represent black-colored glass, similar to gross sand fraction in its granulometry and consist of Mg-Fe-glass on 95-97%. Hydrochemical studies of weathering showed that slag glass can hydrate itself during granulation and steaming. It is unstable in diluted solutions of hydrochloric and sulphuric acids, sodium hydroxide and even sodium carbonate. Mg-Fe-slugs of non-ferrous metallurgy belong to acid ones with optimal hydraulicity during sulphate-alkaline activation and hardening in hydrothermal conditions. The most effective hardening activator agents in the technology of binding materials are oxides of alkaline and alkaline-earth metals. As a dispersion medium we chose solutions of sodium oxide and sodium silicate. Mobility and aquation of sodium cation and polymerization of silicate-oxygen anions determine the features of sodium silicates solutions.

The phase composition of binding cement stipulate for poly-functional features of HMD-adsorbent on its basis. Adsorption mechanism is determined by both ion exchange and chemical adsorption due to formation of sparingly soluble compounds. Study of adsorption properties showed that sorption cleaning can be carried out in dynamic regime in flow columns at linear rate of solution filtration 4m/hour and contact time of adsorbent-solution no less than 20 minutes at temperature from 0° to 50°C. In the described regime of adsorption the cation exchange of solutions from cations of heavy non-ferrous metals, zinc, mercury and radioactive nuclides was studied. The sorption of multi-component solutions was studied. Exhaust to saturation adsorbent presents interest for industry as ore for further processing, as concentration of metals in saturated sorbent is higher than in the extracted ore.

Experiments showed high efficiency of the adsorbent for cleaning of strongly mineralized technogenic solutions from radionuclides. The HMS-adsorbent due to its sorption capacity in combination with strength and corrosion characteristics can be recommended for immobilization of radioactive waste for further burial by the following concrete forms:

First, aluminium-, titanium-, zirconium-containing HMD-adsorbents were developed in the system: non-acidproof mineral (or waste) – acid solution. The technology includes: grinding of mineral till desired value of surface (0.19-0.30 m²/g); preparation of acid solution; mixing of dispersion components in fixed proportions S/L>3/1 ; granulation of the received dispersion; thermolysis at 110-130°C in the period 20- 60 minutes, adsorption capacity 1.0-1.2 mg-ecv/g;

Second, aluminium-containing adsorbents are synthesized in the system: nepheline-containing raw material (>40 mass.% nepheline) – hydrochloric acid solution and calcium chloride. The new formations are represented by amorphous phase, consisting of hydrated silica and aluminium oxides, aluminium oxyhydrochloride – Al₆O₁₄H₁₀HCl, calcium hydrosilicates- CaO₂SiO₂H₂O;

Third, titanium-containing adsorbents are synthesized in the system: sphen concentrate – sulphuric acid solution. The new formations are represented by amorphous phase, consisting of hydrated

silica, titanium and aluminium oxides, due to existence in the sphen concentrate of nepheline, gypsum – $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$, calcium disilicates – $\text{CaO} \cdot 2\text{SiO}_2 \cdot 2\text{H}_2\text{O}$; and

Fourth, zirconium –containing adsorbents are synthesized in the system: eudialyte concentrate - sulphuric acid solution. The composition of hardening products is represented by hydrooxysalts of zirconium, double-water calcium sulphate and amorphous phase, consisting of hydrated silica and aluminium oxides.

Our institute also suggested methods of utilization of waste HMS-adsorbents by secondary use after their grinding as a raw material for synthesis of adsorbents, the circulation can be repeated three times in the form of dispersion for production of adsorbents. Taking into consideration that new formations from waste adsorbents are represented by crystal-chemically stable mineral phases, their use in the form of passive or hardening stowing shift during underground mining is possible. Fields of application for HMD-materials were defined first, adsorption cleaning of surface and mine water from a range of cations and anions, suspended particles, dissolved oil products; second, dsorption-active addition to mixtures for allocation of waste areas of underground mines in order to decrease concentrations of salts in mine water and to increase the strength of concrete; and third, fastening of dusting surface of nepheline-containing procession slag-heaps.

By the example of phosphorus-, aluminium, and nickel-containing mineral, complex in its mineral composition, the outlook for perspective application of HMD-products was demonstrated in the processing technology for selective leashing of components – P_2O_5 , Al_2O_3 , Na_2O , K_2O , NiO , CuO , CoO in stationary or moving layer of adsorbent.

The achievements in the field of industrial ecology

First, the INEP suggested and tried a mineral adsorbent – catalyst for conditioning of drinking water from iron and manganese cations. Mineral rocks, containing salts of weak acids and weak bases, are used as agents of catalytically active groups and metalorganic complexes of transient metals are used as fixed catalytically active centers. Dinging water purification efficiency reaches 99.9% at original concentrations of iron cations in water – up to 9-10 mg/l and at sensitivity of analysis 10^{-4} mkg/dm³. The mechanism of water purification, consisting in iron (II) oxidation into iron (III), selection of oxyhydrate solid phase and co-deposition of manganese mixtures and other metals was studied. An industrial technology of the adsorbent- catalyst was developed;

Second, the INEP developed a technology of a mineral fluorine-selective adsorbent on the basis of nepheline-containing mineral for treatment of sewage and mine water from fluorine. For synthesis of the adsorbent, active to fluorine-ion, alkaline alumosilicate mineral rocks are suggested. Sorption-active centers of the sorbent, selective to fluorine-ion, are formed during the synthesis on the basis of oxyhydrate aluminium-containing complexes. The INEP also studied the purification degree at different concentrations. At the original concentration of fluorine-anions in water up to 20,g/l the cleaned water contains fluorine-ion less than 0.7 mg/l. The cleaning procedure consists in binding of fluorine-ion with the solid phase of adsorbent with simultaneous liquation of suspended matters in the cleaned water from 20 mg/l to 0.5 – 1.0 mg/l. A technology of fluorine-selective adsorbent was developed and experimental check was performed on real sewage water;

Third, the INEP developed a sewage-free technology of synthesis of thin-layer oxyhydrate titanium adsorbents on the basis of non-acidproof spheu-containing mineral for treatment of technological sewage at plants, processing radwastes. Spheu concentrate, produced during processing of apatite-nepheline raw materials of the Khibiny deposit, was suggested as a matrix for synthesis of thin-layer granulated adsorbent, active in the processes of radwaste deactivation. Nanoparticles of oxyhydrate Ti-containing complexes are taken as sorption-active centers, and aluminium silica gel, produced during acid treatment of spheu-concentrate in the condition of liquid phase deficit, serve as binding agent for granulation. Laboratory tests of the synthesized adsorbent were performed on real technological sewage of one of the plants, processing radwaste in the Murmansk region. With original activity of the sewage up to ^{137}Cs to 40 KBq/l the deactivation degree is 95.0%.

As regards modeling of environmental process I would like to mention the application of physico-chemical simulation in combination with other ecological methods, performed at the INEP. This work is developed by Mazukhina S.I., PhD (Chem.) and provides for solution of a scope of problems, including reconstruction of original composition of natural water in association with equilibrium gas phase, which is normally lost during sampling [58 – 63].

For the first time the INEP made a detailed study of supergene transformation of minerals in sulphide-containing slag heaps of the Kola Peninsula, including geoecological studies of technogenic objects and their physico-chemical simulation. It was established, that due to supergene processes the redistribution of proportions of silicate and sulphide forms of nickel in a benefit for the first takes place. The results of physico-chemical simulation of a “water-rock-atmosphere” system by minimization of Gibbs free energy (SS “Selector”) thermodynamically confirmed the opportunity for nickel to transform into a silicate forms. The experimentally determined nickel concentration in pore water of solutions is higher MCL, though pH values of pore solutions are more than 8, this testifies to ecological danger of not only acid, but alkaline water, which comes in contact with nickel in the silicate form in the slag heaps.

The institute performed an integrated physico-chemical, paleoecological and hydrobiological study of two lakes Pai-Kunjaur (Goltsovoe) and B. Vudjaur, located within the Khibiny massif. One of the lakes Pai-Kunjaur was taken as a model “conditionally background” water body, the other (B. Vudjaur) was subjected to technogenic impact from mining industry. Paleoecological and hydrobiological studied showed that the lake B. Vudjaur underwent qualitative and quantitative changes of species composition of phyto- and zooplankton and decrease of technogenic load wont change the negative character of this impact. But these studies only implicitly reflect the quality of water, pH values, presence of suspended matter and oxygen concentrations.

The application of physico-chemical simulation method for study of natural water formation allowed answering some questions like for example first, water formation within the Khibiny massif proceeds as a result of interaction “water-rock-atmosphere”; second, natural water, in contact with atmosphere, contains oxygen no less than 18%, which corresponds with the found diatom species; third, dredges of cold natural water consist of amorphous silica to 90%. Due to anthropogenic pollution of the lake B Vudjaur the violation of qualitative and quantitative composition of dredges took place, this was one of the reasons for violation of species composition of hydrobionts (diatoms, zooplankton).

The contemporary level of computer technologies of calculation of interaction results between natural water and technogenic sewage is quite high. Use of simulation models, determining the ionic composition of water, pH values, mineral composition of dredges, redox conditions allows forecasting the consequences of such interaction on ecosystems even at a design stage of the objects, which sewage will proceed into natural water bodies. Thus, based on integrated approach, the reconstruction and assessment of contemporary state of ionic composition of natural water were performed and also diatoms and zooplankton, belonging to these ecosystems. This suggested the degree of transformation of the lake B. Vudjaur, subjected to technogenic impact.

The formation of chemical composition of surface, near-bottom waters of the lake Imandra in long-term cycle and pore water of sediments under the influence of apatite production were studied. The influence of apatite production sewage on violation of physico-chemical parameters of the lake Imandra (r. Belaya) was studied by physico-chemical modeling based on minimization of Gibbs free energy (SS "Selector") and with the aid of 4-reservoir model, with respect for geographical location of the slag heap, r Belaya and Zhemchuzhnaya. The model reflects adequately the processes in surface, near-bottom and pore waters of the Belaya bay in the periods of decreasing and increasing of production rate. The simulation results coincide with the values, obtained by chemical-analytical methods in concentration of macro-components and pH values.

We also proved the possibility of forecast of water chemical composition according to chemical composition and sewage volume of the apatite-nepheline plant JSK "Apatit" in true time scale (annual cycles). The physico-chemical simulation showed that with constant volume of sewage, beginning from 1998 (40 mln.m³/year) the concentrations of Na⁺, So₄²⁻ will in 10 years increase 1.5 times in surface water and with growth of K⁺, F⁻, Cl⁻ concentrations and pH. The increase of sewage volume in 1.5 times (60 mln. m³/year), which began in 2001, will result in ten tears in degradation of the water body, which existed in the end of 1980s.

Using physico-chemical analysis and thermodynamic simulation (SS Selector) the institute studied supergene processes in slag heaps of apatite-nepheline processing. It was established that the slag heaps of apatite-nephelina production undergo changes in the process of their storage, both as a result of physical weathering and hypergenesis. Under conditions of washing in the Kola Peninsula, the smallest and lightest particles and products of supergene transformations of minerals move down due to suffusion. The newly formed phases are represented by mica (lepidomelane and libenerite), and also amorphous silica, titanium, manganese and goethite oxides. Such processes take place also during the formation of natural weathering crust, but in the slag heaps they are more intensive, because of activation of surface minerals and in the process of fining and concentration.

Environmental pollution by oil spills brought about the need to develop physico-chemical models, describing interaction processes "oil-natural water". In order to successfully simulate the processes of oil destruction the list of dependent components should include the following components: in water solution together with main ions – alkanes (C<33); arenes (C6 –C20); naphthenes (C30C8); carboxylic acids (C-C7), dissolved gases CO₂ CH₄ H₂S and other non-hydrocarbon gases. Gas phase should be presented by light alkanes (C<10), arenes and naphthenes. Solid phases should include mineral components (oxides, hydrooxydes, carbonates, alumosilicates, sulphates, sulphides) and heavy hydrocarbons alkanes, arenes, naphthenes and oxidation products.

Thermodynamic calculations (SS Selector) showed that in the interaction process the redox potential of liquid phase decreases with the formation of naphthenic acids and their derivatives. As a result of interaction of oil with waters of the Kola Bay naphthenic acids, their derivatives and metal-organic complexes are formed.

Conclusion

The digest does not cover all many-sided topics of the INEP in environmental protection. I would like to conclude the article with enumeration of all factors, which we consider as indicators of environmental health in the Kola Peninsula. These factors are first, high quality of all ecosystems, which provide the population health; second, high production rate of fish in aqueous ecosystems, which meet the requirements of the population in valuable self-restoring protein product; third, stable functioning of aqueous and near-aqueous ecosystems, supported by biodiversity and capacity for self-regulation and self-cleaning; and fourth, ecological and aesthetical appeal of natural complexes (recreation areas), which meet the requirements of population in recreation, education and mental improvement.

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Economic Co-operation across National Borders – a Battle of the Sexes?

Margrethe Aanesen

International co-operation, be it between independent nations or between sub-part of nations which form a trans-border region, often consists of a balance between common interests for the whole region and individual interests for each (part of) nation within the region. Common interests are typically collective goods as physical infrastructure (roads), environmental goods (clean nature) and common standards and regulations. Individual interests are the right to decide which standards and regulations shall be introduced, who shall plan, design and build the physical infrastructure, who shall set the environmental standards and how shall the costs be shared. In these aspects each nation within the region may have separate and conflicting interests.

About trans-border cooperation

Trans-border regions sometimes are formed between remote and economically less developed or less advanced parts of different countries. The motivation behind trans-border regional co-

operation is then often the need for economic development in all parts of the region. One example of this is the Barents region. Consisting of the North Calotte (the northernmost parts of Finland, Sweden and Norway) and Northwest Russia, the region is sparsely populated and has a small economic basis. The main markets for its products are outside the region, demanding long transportation of exports as well as imports. Based on extraction and processing of natural resources the service sector in general and especially the knowledge intensive branches, which is of significant importance for economic growth, are lacking in the region. As this is the case in each (national) part of the region the regional co-operation will contain an element of competition between its national parts in attracting economic activity.

From a fairness perspective one may argue for common, or “compromise” solutions regarding both the common and the individual interests. This implies that each part in the region contribute not only to financing goods and services of common utility to the region, but also in providing them. In the literature on co-operative game theory these are also called symmetric solutions (Holler and Illing 1998). From an economic point of view this will often be inefficient. To show why, let us use an example:

An example of a regional project with both common and individual interests is the implementation of a railway through all nations within the region. The “fair” or symmetric solution would be that each nation plans, designs and constructs the part of the railway on their territory, and then coordinates so that each part is compatible with the neighbouring parts. More efficient, however, may it be to let one single organisation be responsible for the whole project, and each country contribute to the costs according to their share of the railway. In this case transaction costs, in the form of coordination costs and the probability for misunderstandings are avoided. On the other hand, all nations must agree upon which organisation shall get the “enterprise” of implementing the railway project. This, of course may be decided by a tender, but each nations’ representatives in the board will have an incentive to prefer an organisation domestic to themselves¹. Hence, there is a problem in reaching upon an economically efficient solution.

Theoretical motivation

As most transborder regions have no unified, superior authority, binding agreements cannot be made between agents within the region (Janssen 1999). Hence, solutions to economic co-operation in a region can be seen as a result of a non-co-operative game between the parties in the region². Formally, this problem can be analysed by the use of a specific type of non-co-operative games; denoted the battle of the sexes (Rasmusen 1989).

Briefly, the game can be expressed as follows: There are two sexes; men and women. Men like to go to football matches and women like going in the opera. Individually, this gives the highest pay-off to each of them. However, as it happens to be, they are madly in love with each other, and thus want to do things together. The problem is to choose what to do (together). The question can be analysed by the use of a pay-off matrix, as the one given in figure 1.

¹ Of course it is an option to use an organisation external to the whole region, but then the region will lose the possibility to build up competence on the issues in question.

² The main distinction between cooperative and non-cooperative games is that in the latter type of games no binding agreements can be made (Binmore 1998).

The number up to the left in each square is the pay-off, or utility, to the woman. The utility is ordinal, which means that only the relative size of the numbers is important. If the woman chooses opera, she gets a pay-off equal to 10 if the man also chooses opera, whereas she gets a pay-off equal to 0 if the man chooses football. In the latter case the pay-offs are given in the square down to the left. As for the man, if the woman has chosen opera, the best he can do is to choose opera as well. This will provide him a pay-off equal to 5, whereas if he chooses football, which means he has to go without the woman, provides him a pay-off equal to 0. As a rational agent he will choose to go to the opera. On the other hand, if the woman has chosen to go to a football match, the man will choose the football match as well. This provides him a pay-off equal to 10, whereas going to the opera when the woman goes to a football match gives him zero utility. The same reasoning can be made when the man chooses first.

		Woman	
		Opera	Football
Man	Opera	10	0
	Football	0	10

Figure 1: Pay off to each party of each strategy

The point is that when the game is one-shot (only played once) there are two Nash equilibria³, and the game has a first mover advantage. If the woman has the possibility to buy an opera ticket in advance, her commitment will induce the man to also buy a ticket to the opera. And if the man can buy a ticket to the football match in advance, it will be in the woman's interest to do so as well. These are the two equilibria of the game.

With simultaneous moves it is not possible to decide which of the two equilibria that will be chosen. This will depend on the beliefs each of the players hold about the other with respect to which strategy he/she will choose. With many repetitions of the game they will gradually learn

³ Nash equilibrium is the most commonly used equilibrium concept in non-cooperative game theory. To be a Nash equilibrium each agent's strategy must be a best response on the other agent's strategy (Fudenberg and Tirole 1989).

about each other's strategies, and eventually settle on one of the equilibria or any combination of them.

Applied to the railway example a Nash equilibrium would be to let one of the countries in the crossborder region build the railway, and the other would contribute financially. Of course, the country that builds the railway will get the highest pay-off, i.e. 10 whereas all other get a payoff equal to 5. Important however, is it that for the other countries the pay-off is higher by contributing to the common railway than starting to build their own. The latter option would be the same as if the man went to the football match, though he knew that the woman had bought a ticket for the opera, which provides each with a pay-off equal to 0. If all agents wants the other to build the railway no railway will be built, and all agents will have a pay off equal to 0.

The environmental cooperation in the Barents Region

The Barents region is rich on metals and minerals, and an extensive extracting and processing industry takes place in all parts of the region. Due to lack of investments the technology used in the Russian part of the region is old and outdated, and causes huge amounts of emissions. The sulphur dioxide emissions (SO_2) from some of the plants on the Russian side of the border pollute not only Russian territory, but also Norway and Finland. For this reason both Finland and Norwegian authorities have offered financial assistance (subsidies) if the polluting Russian plants are modernised, and new technology causing less emissions is installed. The plant closest to the Norwegian border is Petsjenganikel, in the town Nickel only 45 km from the border. It was built by the Finns in the 1930's, and the Finnish technology firm Outokumpu has offered to modernise the plant. This offer was turned down by the owners of Petsjenganikel, because of its very high price (US \$ 600 in 1989) (Aanesen 2006). Also the Norwegian firm Kvaerner offered to modernise Petsjenganikel, at a price equal to US \$ 257 mill in 1996) (Kvaerner Technology 1996). In 2001 representatives from Norilsk Nickel, the mother company of Petsjenganikel, decided to modernise the plant by the use of Russian technology and Russian firms. The Norwegian government maintained the offer of financial support if the modernisation was implemented, and the Nordic Investment Bank offered soft term loans to the modernisation project. As of today (autumn 2007) the implementation of the modernisation project has not yet started.

This case is a typical example of regional cooperation in which both common and individual interests are present. The common interest is less pollution (SO_2 emissions) and cleaner environment and nature, and the individual interest is the industrial activity connected to developing and implementing the modernisation of Petsjenganikel. Thus we can analyse it as a battle-of-the-sexes game. To simplify we assume two agents in the game; a Nordic agent, denoted Norway, and representatives for the Russian company and Russian authorities, denoted Russia. The common interest is to modernise the polluting industry. In both Norway and Russia there are firms capable of developing and implementing such modernisation, and each agent has an individual interest in supplying the necessary technology.

Analysing the situation as a battle of the sexes game, figure 2 gives the pay-off to the Russian and the Norwegian agent of applying different strategies.

Only if both agents choose the same technology a modernisation of Petsjenganikel will be implemented. This is obvious for the Nordic technology. If the Russian agent doesn't choose this technology it will never be implemented. As for the Russian technology, we assume that if the Norwegian agent doesn't go for this technology it will not offer financial support to the modernisation project. Without this support the modernisation project will be too expensive to implement for the Russian agent⁴. If the two agents go for different technologies no modernisation will be implemented and this gives a pay-off equal to zero (indicated by the squares down to the left and up to the right). Choosing Nordic technology will give Norway a pay off equal to 10 and Russia 5 (up to the left), and choosing Russian technology will be the vice versa (down to the right). Hence, if both Norway and Russia choose the Nordic technology a modernisation project will be implemented by Norwegian companies. If Russian technology is chosen by both agents, a modernisation of Petsjenganikel will be implemented by Russian firms. These are the two equilibria of the game.

		Norway	
		Nordic Russian technology	technology
Norway	Nordic technology	10	0
	Russian technology	0	5
Russia	Nordic technology	5	0
	Russian technology	0	10

Figure 2: Pay off to Norway and Russia from choosing Nordic and Russian technology in the modernisation of Petsjenganikel

If we assume away first mover advantages for any of the agents and do not take into consideration repetitions of the game, it is not possible to select one of the equilibria. However, as it turned out the chosen solution was to use the Russian technology to modernise Petsjenganikel, and the Nordic agents contributed to finance the implementation. Taking into consideration that this was the result of more than 10 years of negotiations to find a solution to the transboundary pollution problem, this equilibrium can be explained by a repetition of the game.

⁴ The Norwegian financial support account for close to 1/3 of the project costs, and the soft term loan from NIB accounts for 1/3 (Aanesen 2006).

Repeated negotiations

When agents meet regularly to negotiate they have the possibility to build up a reputation, which in turn can be used by the other agents to form beliefs about what the agent in question will do in the future. As an example, if Norway and Russia has met x times to negotiate about a modernisation project, and Russia always choose the Russian technology, Norway will start to expect this strategy from Russia. Expecting that Russia will choose Russian technology implies, according to figure 2, that the best Norway can do is to choose Russian technology as well. However, the same argumentation goes for Norway. Consistently choosing Nordic technology will make Russia expect this choice in the next round, and consequently Russia will also choose this technology. Then we are back to the first mover advantage from the one shot game. From the literature it is well known that finitely repeated games with symmetric pay-offs have the same equilibria as the one-shot game, whereas in infinitely repeated games a wide range of outcomes are possible (Rasmusen 1989).

What can contribute to understand the actual solution is the fact that some agents may be more impatient than others. The more impatient an agent is, the more important is the pay-off today compared to future pay-off. Hence, if Norway as the more impatient agent, have observed Russia choosing Russian technology each of the previous rounds, it will expect Russia to choose this also in the next round. The same goes for Russia. However, being impatient there is a trade off between continuing to build a reputation by choosing “your” technology, and “give in” and choose the technology of the other. The latter option will give the agent a positive pay-off today, but lower than the pay-off of the other agent. Also, the agent will loose it’s reputation of being an agent sticking to her “own technology”, and thus the possibility for a higher pay-off (Fudenberg and Tirole).

In the negotiations between Russia and Norway about modernising Petsjenganikel it can be argued that the Nordic countries were the more impatient. This is especially true for Norway, where there were a political pressure to “stop the deathclouds” from the east. Russia, on the other hand, had environmental problems of far larger dimensions and importance than those connected to mining industry on Kola Peninsula, and hence did not give this case first priority. Also, during the period of the negotiations the Russian economy transformed from a centrally planned economy to a more market oriented economy. Much of the Russian industry, including that on Kola Peninsula, was privatised in this period, and environmental concern was not highest up on the agenda.

Lack of information and beliefs

Another aspect which may contribute to understand the actual outcome of the negotiations is asymmetric information between the agents. When one player do not know the pay off of the other, the game is said to have incomplete information (Fudenberg and Tirole 1989). Assume that Russia may have either strong or weak common (environmental) interests, and that Norway does not know whether she has strong or weak common interests. If she has strong common interests her pay off from implementing the Nordic technology is 8, whereas if she has weak common interests it is zero. The new pay off matrix is now given in figures 3a and 3b.

		Norway	
		Nordic Russian technology	technology
Russia	Nordic technology	10	0
	Russian technology	8	0
		Nordic	Russian
		technology	technology
Norway	Nordic technology	0	5
	Russian technology	0	10

Figure 3a: Pay off to Norway and Russia when Russia has strong common interests

When Russia has weak common interests it is always better or at least as good for her to choose Russian technology, independent of the choice of Norway. When she has strong common interests her optimal choice depends on Norway's choice of technology. The point is that only Russia knows which of the two pay off matrixes is the "true" one. Reformulating the game into a game of imperfect knowledge according to the Harsanyi's transformation (see e.g. Fudenberg and Tirole 1989) we have a standard game to which we can apply the Bayesian Nash equilibrium.

		Norway	
		Nordic Russian technology	technology
Russia	Nordic technology	10	0
	Russian technology	0	0
		Nordic	Russian
		technology	technology
Norway	Nordic technology	0	5
	Russian technology	0	10

Figure 3b: Pay off to Norway and Russia when Russia has weak common interests

Let y denote Norway's probability to choose the Nordic technology and x denote Russia's probability to choose the Nordic technology when she has strong common interests (remember that when she has weak common interests she will never choose the Nordic technology). Finally, let p_R be the probability that Russia has strong common interests.

Then it can be shown that there is a Bayesian Nash equilibrium given by⁵

$y = 1$	Norway chooses the Nordic technology	when $x > 1/(1+2p_R)$
$y = 0$	Norway chooses the Russian technology	when $x < 1/(1+2p_R)$
$x = 1$	Russia chooses the Nordic technology	when $y > 5/9$
$x = 0$	Russia chooses the Russian technology	when $y < 5/9$

This implies that Norway must choose the Nordic technology with a probability higher than $5/9$ in order for it to be profitable for Russia to choose the Nordic technology. The higher the probability that Russia has strong common interests, p_R , the more likely that Norway will choose the Nordic technology. As an example, if $p_R=0,5$ the probability for Russia to choose Nordic technology, x , must be higher than $1/2$ for Norway to choose the Nordic technology. If it is almost certain that Russia has strong common interests, i.e. $p_R \approx 1$, x must be higher than $1/3$ for Norway to choose the Nordic technology.

Norway and Russia met over several years to negotiate about a modernisation of Petsjenganikel, and each time Russia had objections against adopting the Nordic technology. It is rational to believe that such repeated objections must have led Norway to reduce its estimate on p_R . This means that Norway becomes more pessimistic with regard to whether Russia has strong common interests or not. A very low p_R implies that x approaches 1, which means that only if Russia chooses Nordic technology with almost certainty Norway will choose this technology as well. Given this strong condition, it is not very likely that Norway will choose the Nordic technology. As this is known to Russia, who has full information, she will choose the Russian technology. This choice then becomes the optimal choice for Norway as well.

Other examples of regional economic co-operation

The Russian-Nordic negotiation about a modernisation of Petsjenganikel is one example of cooperation in a cross-border region, where there are both common and individual interests. A similar case is the Russian-Finnish plan for SO_2 reductions in their common border area. Analyses show that in order to implement an abatement plan for the common border area, Finland should offer Russia a side-payment equal to 31 mill FIM a year over 15-25 years. This will give Russia the incentives to reduce SO_2 emissions to a level which is commonly optimal for the area seen as one (Kaitala et al 1992).

Another example is remote areas of one country. Often it is the case that these areas are not able to cooperate to attain common gains. One example is Northern Norway, consisting of three counties. Tourism is an industry which great expectations in each county. Still, the counties are not

⁵ When the condition inequalities are fulfilled with equality y and x are indetermined, and can take any value between 0 and 1.

able to cooperate on a common marketing of the region (Sparebanken Nord-Norge 2007). At the present time they are promoted domestically and abroad under three very different brand marks. In none of the counties the tourism industry has yet met the expectations. Unlike the Western coast of Norway, marketed under the common brand mark Fjordland and which had an increase in the number of tourists the summer 2007, each of the North-Norwegian counties had a decrease (www.reiselivsnyheter.no).

Conclusions

Forming a region may be seen as a tool for national governments to promote remote parts of countries and attract economic activity and development to the region. This means that all parts of the region have strong individual interests. In this situation symmetric or “fair” solutions to the cooperation will often be most attractive. However, we argue that such solutions often are not the economically most efficient. This, in turn is an obstacle to the goal of economic growth and increased prosperity to the region.

The common efforts by Nordic and Russian companies and authorities to try to reduce the polluting emissions from the nickel smelter in the town Nikel is an illustrating example. In this case it is probably inefficient that both Russian and Nordic firms cooperatively develop and implement modern and clean technology for the industry. At least this has not been proposed. In stead both Nordic and Russian firms have offered their solution separately to the problem. To explain why the agents finally agreed upon the Russian solution we may apply the Nash equilibrium concept from non-cooperative game theory and formulate the negotiations as a “battle of the sexes” game. Taking into consideration that the agents are not fully informed about each other’s interests in the case, it can be shown that the beliefs they hold about each other are crucial for the solution that can be reached in equilibrium. As an example, if the Nordic agents believe that the Russian agent has strong common interests they should play an individual strategy, i.e. demand that Nordic technology is used to solve the pollution problem. On the other hand, if the Nordic agents are very pessimistic about the Russian agents’ common interests, they should play a common strategy. This implies to accept that Russian technology is used to solve the pollution problem. In neither of the cases there will be a compromise between the agents in equilibrium.

The final solution to the case was that Russian technology was chosen and the Nordic countries supported the implementation financially. Hence, Russia kept to its individual interests and kept to their own technology as a strategy. The Nordic agents were regarded as having stronger common interests, which it showed by also going for Russian technology. This is an equilibrium when the Nordic countries holds it as unlikely that Russia will put much effort in the common interests of the region, i.e. abatement. Also, it demands that Russia holds it for likely that the Nordic countries will support a Russian technological solution to the abatement problem.

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Marine Protected Areas in Russian Waters: Legal Framework for a Climate Change Resilience Tool

Mikael Kalentchenko

Climate change is recognized internationally as a good example of a complex problem where site specific case studies and participatory methodologies are particularly appropriate. The effects of change unfold at the local level, and so do adaptive responses, creating opportunities to investigate the dynamics of the two. In this respect MPAs shall be regarded as the integral part of resilience building for marine areas. Regular monitoring within MPAs is an important source of information for decision makers. However, the efficiency of management largely depends upon cross sectoral coordination and trans-boundary implementation supported by adequate legal framework. From this perspective, the existing Russian legal framework is subject to the test on adequacy for MPA implementation in the Arctic waters under the Russian jurisdiction.

Introduction

Climate change brings about new challenges in terms of security by going “beyond traditional security” and encompassing both an environmental and a human security dimension (Heininen, 2007). Significant existing pressure on marine ecosystems, and especially vulnerable Arctic

ecosystems, is believed to be aggravated by growing demand for biological and mineral resources accompanied by easier access following the ice cap meltdown. If unattended, this pressure will soon exhaust the assimilation potential of the environment and decrease the ability to sustain the coastal populations and mankind in general (ACIA 2004). As Lassi Heininen and Heather Nicol stressed earlier, “if climate change impacts human security and peoples’ everyday security ..., it consequently needs and requests human responses in global, regional, national and local levels”. Therefore climate change calls for activities meaning both mitigation and adaptations in the levels of economics, politics and governance (Heininen and Nicol in this volume).

Understanding the challenge and scale of the response needed, however, leaves the question of the toolkit open. Thus we need to consider proper instruments to ensure the very existence of mankind “under the conditions of uncertainty of climate change” (Heininen 2007). Under the circumstances the concept of “resilience in socialecological systems” seems to be an interesting point of departure. Resilience in the broad sense is understood as “the capacity of a system to experience shocks while retaining essentially the same function, structure, feedbacks, and therefore identity” (Walker et al. 2006). The concept of resilience by the Resilience Alliance is applicable both to natural and social systems, as well as to the systems containing both components – socialecological systems or SES (www.resalliance.org). In the latter, social and ecological components are identifiable, though not easily parsed for either analytic or practical purposes. As social-ecological systems are dominated by human actions, the adaptability of such systems is mainly a function of the individuals and groups managing them. The capacity of the former to manage resilience with intent determines whether they can successfully avoid crossing into an undesirable system regime or succeed in crossing into a desirable one (Walker et al. 2006).

The concept of resilience suggests the shift of policies from attempting to control change in presumably stable systems, “to managing the capacity of social- ecological systems to cope with, adapt to, and shape change”. Consequently resilience building should be based on “adaptive management”. Adaptive management is supposed to allow simultaneously for different management policy tests and emphasizes learning on resource use and management, monitoring, and accumulating knowledge on the way. To match the dynamics and uncertainty inherent in the system, constant adjusting of the rules that shape our behavior is required (Folke et al. 2002). The adaptive management approach treats policies as hypotheses, and management as experiments from which managers can learn, accepting uncertainty and expecting surprises (Walters 1986; Gunderson et al. 1995; Ostrom 1999).

The above considerations prove the proposition that there is “no solution to ecological problems once and for all” (Haila and Heininen 1995). For these reasons defining of human security in the Arctic should be associated with the ability to establish adaptive management models aiming to prevent or/and withstand the disturbances (Heininen 2008). In this respect site-based measures should be welcome and marine protected areas (or MPAs) shall be regarded as the integral part of resilience building inasmuch as marine spaces are concerned. Regular monitoring within MPAs is an important source of information on the status of ecosystems for management purposes. Other useful effects of MPAs are preservation of living and other resources, and spill-over effects in adjacent areas. However, the efficiency of management largely depends upon cross-sectoral coordination and transboundary implementation supported by an adequate legal framework.

Two separate sets of challenges are easily traceable. On the one hand, coastal state jurisdiction in the major maritime zones, according to contemporary international law, “is being developed along functional, rather than zonal, lines” (Churchill and Lowe 1999). On the other hand, boundaries within marine natural systems do not coincide with the limits of jurisdiction of coastal states. As the border issues shall be addressed internationally (Breide and Saunders 2005) there arises an issue whether Russian national legislation is adequate to achieve MPA objectives. From this perspective, the existing Russian legal framework is subject to the test on adequacy for MPA implementation in the Arctic waters under Russian jurisdiction.

General legal framework for in situ conservation in Russia

First we need to acknowledge the fact that international law does not provide clearly set rules for MPA development and management (Breide and Saunders 2005; Bishop, K. et al. 2004). Accordingly the response by many coastal states shows a huge variety of management and underlying legal tools employed to establish the measures of marine conservation in situ (Salm et al. 2000). The legislation of the Russian Federation is also being developed along the functional lines acquiescent to the international legal regime of maritime spaces where sovereign rights or jurisdiction can be exercised by the coastal state. As the Russian law contains no specific tools for the Arctic conservation, general rules of the national legal framework apply. The only act containing specific rules for navigation along the Northern Sea Route sets out certain requirements as to ice-breakers use and passage authorization procedure. However, the measures stipulated by this act refer to navigation in the ice only and are challenged by some countries (E.g. Smith, 1992).

For the purposes of this presentation these acts may be categorized by the level of enactment (federal, regional or local), regulated activity (e.g. shipping, fishing, mineral resources development, etc.), space (land, air, sea or their particular zones), site (e.g. Especially Protected Nature Area or other Protected Area, Border Zone, etc.), resource other, than space (e.g. oil, fish, mammals, birds, etc.), or components not treated as natural resources (e.g. rare or endangered species, waste, etc.). By virtue of Art. 71 of the Russian Federation Constitution as of 1993 federal authorities have exclusive jurisdiction over inter alia all and any maritime zones, border zone and management therein. Consequently it is only federal acts and regulations in furtherance thereof that can establish legal regime of maritime spaces (and the adjacent air space) as well as most sea use related activities, including marine shipping, fisheries, construction of islands, cables, pipelines, etc.

For the time being, site based (including maritime spaces) conservation measures are stipulated by a number of federal acts. The backbone of the Russian conservation in general is associated with the Environmental Protection Act N 7-FZ as of 2002. This federal act is applicable at the RF territory as well as at the EEZ and the continental shelf. Article 58 (1) stipulates that specific legal regime may be granted for “prirodny obyekt” (“natural object”)¹ through inter alia establishment of “osobo okhranyaemaya prirodnyaya territoriya” (“especially protected nature area” - EPNA). Article 58(2) states that EPNAs can be established and managed in accordance with the legislation on EPNAs.²¹³ Meanwhile the same article 58(3) reads that in situ protection may be effected through establishing of either EPNA or “osobo okhranyaemaya territoriya” (“especially protected

¹ Art. 1 “Interpretation” of Russian Environmental Protection Act, 2002 defines “environment” as interacting components of natural environment, natural objects, anthropogenic objects, as well as natural objects modified by human activity. Where “components of environment” include earth, subsoil, soil,

area”). Further analysis shows, that purposes (protection of natural and other relevant values) and core of the legal regime (limitations or ban on certain activities within a designated area) of the latter allow classifying both as “protected areas”. However, the legal regime of non-EPNA site based measures may be established in accordance with other legal tools than Especially Protected Nature Areas Act N 33-FZ, 1995. This implies that protected areas framework in Russia consists of in situ measures established and managed in accordance with 33-FZ Act (EPNAs) and other protected areas without EPNA status²¹⁴. Whereas the legal regime of the latter will be governed by any acts other than 33-FZ Act (or regulations adopted in furtherance thereof). With the view to the above the system of Russian protected areas looks as, Table 1 shows surface and underground water bodies, air (all layers), plants, animals and other living organisms. The notion of “natural object” includes “a natural ecosystem, natural landscape and components thereof that preserve their natural qualities”. The confusion arises when one tries to grasp the difference between “natural ecosystem” and “natural landscape”. From the viewpoint of geography both of them mean interacting systems of organic and inorganic matter and living organisms in space. However, we shall not dwell on the subject any longer as the difference have not been sought so far in cases where practical disputes were resolved. What is essential is that “natural objects” are, in fact, systems of organic and inorganic matter and living organisms whose interaction has obvious spatial characteristics.

This is important as the Environmental Protection Act, 2002 was adopted after Especially Protected Nature Areas Act N 33-FZ had been introduced. The latter Act provides for six management categories of in situ measures where the management regime and status are strictly linked. There is general understanding among Russian experts on environmental law that EPNAs can be established exclusively under Act N 33-FZ and other tools adopted in furtherance of the same.

For practical purposes those site base conservation measures under Russian legislation without EPNA status will be referred to as “protected areas”.

Practical implications of this conclusion are shown below.

EPNA*	Other in situ measures **
zapovednik (biosphere reserve if UNESCO listed)	areas in which navigation is prohibited or dangerous (N/I)
national park	traffic separation schemes/sea lanes (N/I)
zakaznik	fishing regulations (N/I)
natural monument	especially protected subsoil objects (N)
nature park	buffer zones/research restrictions (N)
dendrology park or botany garden	
other to be decided by government	

* according to 33-FZ Act, national legal regime; ** applicable to marine environment only, both national (N) and international (I) legal regime

Opportunities for in situ conservation of marine systems

Applicable federal laws in this field are literally few. These are *ratione loci* based the Continental Shelf Act, the Internal Sea Waters, Territorial Sea and Contiguous Zone Act, 1998, the Exclusive Economic Zone Act, 1998, and *ratione materiae* based Subsoil Act, 1992 and the Fisheries Act, 2004. For instance, the Internal Sea Waters, Territorial Sea and Contiguous Zone Act, 1998 permits establishing of MPAs in the form of “areas in which navigation is prohibited or dangerous”. The limitations on activities are formulated in Art. 15 as follows:

1. In order to ensure the safety of navigation, safeguard the State interests of the Russian Federation and protect the environment in the internal maritime waters and the territorial sea, areas in which navigation is prohibited and which are temporarily dangerous for navigation may be established, in which navigation, anchoring, hunting for sea mammals, bottom fishing, underwater or dredging work, the taking of bottom samples, underwater explosions, navigating with a corroded anchor chain, the flying, hovering and landing (splashdown) of aircraft and other activities are completely prohibited or temporarily restricted.

In areas in which navigation is prohibited, the navigation of all ships, warships, other government ships and all other floating facilities is prohibited. Decisions to establish areas in which navigation is prohibited and to open them for navigation, and regulations for such areas shall be taken by the Government of the Russian Federation upon a submission by the federal executive body concerned. These decisions shall enter into force after they have been announced in advance in *Notices to Mariners*.

Areas which are temporarily dangerous for navigation shall be established for a specific period of time. Decisions to establish areas which are temporarily dangerous for navigation and the regulations for such areas shall be taken by the specially empowered federal executive body for defence. These decisions shall enter into force after they have been announced in advance in *Notices to Mariners*.

The boundaries of the areas in which navigation is prohibited shall be indicated on the navigation charts issued by the specially empowered federal executive body for defence.

Changes relating to such areas shall be published in advance in *Notices to Mariners* and shall be announced by radio.

<http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/STATEFILES/RUS.htm>

So we find detailed prescriptions as to purposes, procedure of establishing and management of protected areas in internal sea waters and territorial seas. Such legal regime can be efficiently imposed on Russians and foreigners alike though without prejudice to innocent passage rights under the international law. However, no specific authority is allocated to relevant bodies in terms of research and monitoring. There is another problem when one tries to draw a line between in situ measures according to the Act under review and EPNAs that can be established under 33-FZ Act in the same maritime zone.

The Exclusive Economic Zone Act, 1998 allows introduction of regulations as to fisheries, dumping and discharges, underwater cables and pipelines, installations, marine research, vessels traffic management (including those carrying hazardous substances). Limitations of activity in certain areas of Russian EEZ may be imposed by Federal Acts (laws), Government Decrees (on fisheries, cables and pipelines, installations, dumping and discharges) or by Government Decrees pending IMO approval (on sea lanes, traffic separation schemes). As for the continental shelf, protection there may be granted to subsoil, sedentary species. There may be imposed restrictions as to cables, pipelines, installations and sedentary species targeting fisheries, yet no restrictions may be imposed on navigation on a unilateral basis. Subsoil Act and Fisheries Act are applicable to relationships within any maritime zones where the RF enjoys sovereign rights or jurisdiction without prejudice to provisions of the above enactments on internal sea waters, territorial sea, EEZ and continental shelf. The former also contain provisions as to details of legal regime of various site based protection measures including limitations on activities, compliance, enforcement, monitoring etc. However, all the above acts allow establishment of marine protected areas (MPA) in an internationally recognized sense (see Table 2).

Discussion

The regime and status of measures described above, though, may conflict with the measures stipulated by the Especially Protected Nature Areas Act. As previously mentioned, this law was adopted in 1995 before Russia ratified the UN Convention on the law of the sea 1982 (in 1997) and leaves numerous gaps. Firstly, the scope of this law does not extend across the Russian maritime border. This means that no EPNA can be established in the EEZ and on the continental shelf. Secondly, EPNAs are ranked by categories that do not fit easily into the IUCN system and their legal regime is stringently linked to their status. Federal level EPNA status implies that the governance shall be affected by a specifically authorized body (for the time being such body is Rosprirodnadzor reporting to the Ministry for Natural Resources and Ecology). And the competence of Rosprirodnadzor to establish and manage EPNA obviously lies within 12-mile zone.

The point is that a number of federal agencies are authorized to implement certain enforcement and management functions under the acts based on *ratione materiae* concept whereas special authority (enforcement) is vested in Border Guard Service over all and any maritime zones under Russian jurisdiction. The latter, in turn, is not responsible for certain important aspects of marine environment protection such as research and monitoring. Thus general rules of governance over site based conservation of maritime space are not explicitly defined.

To summarize, on the one hand, the authority of different agencies as to governance of site based measures partly overlap in the internal waters and territorial sea. The degree of such overlap depends on the status of protection measures (EPNA or other protected area). On the other hand, no site based conservation measures outside Russian territorial sea can obtain status of EPNA. Adaptation of the law “On especially protected nature areas” to the needs of marine areas protection by just extending its scope across the maritime border will be of little assistance as further modifications of other federal acts will be required. To name but few, laws and regulations on border protection and natural resources management as well as bylaws of agencies responsible for border (Border Guard Service), subsoil (Rosnedra), aquatic biological resources

(Goskomrybolovstvo) shall be modified. As redistribution of power inevitably leads to “tug-of-war” between different agencies of federal level, this appears to be a dead end. The development of a legal framework for cross sectoral coordination is viewed as more preferable option.

Conclusions

We definitely observe certain shortcomings, both legal and institutional, on the national level. Both aspects are closely intertwined and inextricable. First, there is little or no coherence between EPNA and other legal instruments for in situ conservation of marine environment, while 33-FZ Act does not cover marine areas outside the 12-mile zone. Second, establishment of MPAs, on whatever legal platform, depends on the initiative of executive agencies. Third, though there is the agency with nominal responsibility for EPNAs, it is hardly to be expected to undertake to establishment and management of all legally possible forms of in situ protection of the marine environment other than that prescribed by 33-FZ Act. Fourth, monitoring, research and protection in the maritime zones are carried out by different agencies unwilling to co-operate, though even specifically authorized agencies lack capacity (equipment and competent staff).

It does not take genius to give an outline of possible consequences. First of all, information gaps will seriously hamper chances of adaptive management and resilience objectives will hardly be achieved. Meanwhile natural ecosystems stand little chance to survive under growing pressure. Possible solution in the field of site based protection of marine environment in the Arctic under jurisdiction of the Russian Federation could be the following:

- carry out inventory of the scope of different agencies;
- match real capacity vs. scope; and
- develop and introduce legal basis for co-ordination to achieve
- objectives of the adaptive management (adapt legal framework to the needs of MPAs establishment and management).

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Climate Change & Renewable Energy Prospects in North-West Russia and Energy Security as Part of Ecological Security

Svetlana Touinova

Introduction

In recent years scientists and ecologists from non-governmental organizations (NGO) around the world have concentrated their attention on finding new energy sources to cut levels of fossil fuel consumption. The dependency between climate change and fuel consumption has been proven by many scientific works. It is evident that the development of new energy sources will lead to not only better energy efficiency but also to improved ecological conditions.

The evidence of climate change cannot be ignored and is offered by different groups of society not only scientists such as climatologists, biologists and others dealing with earth sciences, but ordinary people as well, such as Reindeer herders and businessmen whose livelihoods depend on the climate

and weather(<http://www.gov-murman.ru/>). Winters have become warmer and periods of snow cover shorter. Warmer summers with changing temperatures increase the size of insect populations and have a detrimental effect of the ability for reindeer to eat healthily and gain weight. Colder summers produce a poor harvest with a detrimental effect for people and for animals. Short winters carry the greatest impact. Rivers freeze late and thaw early, limiting the successful migration of reindeer and herders. Winter ice roads can only be used safely for shorter periods, enforcing a greater reliance on helicopters. Householders report their dwellings overheat during winter and they need electrical heaters to keep them warm during the summer, while dark gloomy winters without snow cover and snowy wet summers increase levels of depression within the population. Moreover, biologists predict climate change will threaten the biodiversity and migration of species. It can be concluded that climate change does introduce economic challenge and does threaten ecological balance.

It is still arguable whether human activity is the main contributing factor to climate change. Ecologists from NGOs supported by foreign funding promote the construction of renewable energy sites as a possible way to withstand climate change. NGOs work with representatives across many different levels (authorities, mass media, education).

Renewable energy advantages such as “availability,” “stability,” “reliability,” “profitability” and a pollution-free environment will help to conserve fossil fuel for generations to come and will sustain increased energy demand due to rapid industry development. Scientists from the Kola Science Centre proved that wind energy could provide “energy well being” in the region by delivering stable and reliable energy supplies to the most remote districts of the region and protect customers from service disconnections (Dmitriev and Minin 2005). Moreover the successful introduction of wind energy would be able to bring about the decommissioning of the older nuclear capacity. Because of these findings, renewable energy will be a profitable sector of regional economy and will create new workplaces and income.

The principle Russian paper governing state energy policy (Russia’s Energy Strategy, 2001) indicates the importance of inclusion of non-conventional renewable energy sources into the national economy. These can best be exploited in areas which are inherently rich in such resources, but are lacking in traditional fuels. (Bezrukikh and Borisov 2002). The energy economy of the Murmansk region avails itself of hydropower resources on the one hand, while on the other, is heavily dependent on nuclear fuel, coal, oil products and liquefied gas imported from afar.

The region does have a wide range of renewable energy sources, but there are difficulties for development of these sources. Some of these difficulties relate to life in sub-arctic conditions and others lie generally with energy policy.

There is disagreement of policy within Russian corporate and authority bodies with regard to climate change and ways of obtaining energy or planning human activity. There is evidence of a determined “anti renewable energy policy” and support for ongoing dependence on nuclear energy and fossil fuel. This self-interest can give rise to the potential for corruption. It is evident that North-West Russia has a huge potential for renewable energy and its development is not only economically profitable, but would also be an example for the political image of this country. Fortunately there is authoritative evidence demonstrating cooperation between ecologists,

scientists, governmental and state economical authorities, and business in the Murmansk region today (Tuinova 2008).

The aim of this article is to put forward the prospects for renewable energy in North-West Russia's region from the point of view of adaptation and withstanding to climate change. The main content of the text is to show how the Region's energy policy and economy could be developed through non-conventional renewable energy sources and is covered from three parts. The first part of this paper considers the current and retrospective status of the energy sector to the region's economy. The second part of this paper evaluates the potential for non-conventional renewable energy sources within the region and looks at different types of non-conventional renewable energy sources (wind, small rivers, tides, solar, biomass, and low potential thermal energy) and assesses their prospective role in the region's economy. The third part of this paper provides some conclusions and recommendations for the development of non-conventional renewable energy sources principle instruments to withstand climate change. (The spelling of geographical locations and names of energy power stations mentioned here correspond to the transliteration of their spelling in original Russian spelling). The final part of this paper considers the implications of energy security as part of ecological security within North-West Russia.

Current and retrospective state of energy in Murmansk region

The Murmansk region is the furthest situated region in the North-West of Russia. When the region first started to develop its energy infrastructure in the 1930s, huge efforts were directed towards overcoming the difficulties of living in sub-arctic conditions with such a severe climate. When the subject of global climate change first started to be discussed, some Russians were relieved at the prospect of warmer temperatures. But now, as the evidence and consequence of climate change

Climate Change and Human Security from a Northern Point of View is better understood its full effect on the area is also better understood (Barannik 2004).

The Kola Energy Grid System supports a territory of around 70,000 square kilometers with a population of over 800,000 people living in the Murmansk region (Murmanskstat 2008). The Kola Energy Grid System is comprised of energy plants and energy grids under different ownerships. They can produce more than 20 TWh per year.

The Murmansk region operational capabilities include:

- 17 hydroelectric power plants united by six cascades installed on the rivers Niva, Paz, Kovda, Tuloma, Voronya and Teriberka with a total installation capacity of 1,588.8 MW (about 43% of the combined installation capacity of all power plants in the Murmansk region).
- Kola Nuclear Power Plant with a total installation capacity of 1,760 MW, (about 47% of the combined installed capacity of all the power plants of the region).
- Two Combined Heat and Power Plants in the cities of Apatity and Murmansk and a number of thermal electric power plants of regional enterprises with total installation capacity 385 MW.

Notably, the Kola Energy System began exploiting renewable energy sources from as early as 1934 when two hydroelectric power plants (HPP - the Niva-2 and Lower Tuloma) - were connected via high-voltage power lines. Due to the lack of natural organic fuel resources within the Kola

Peninsula's territory, the development of the region's energy economy relied heavily upon the construction of HPPs situated on easily accessible and strong current streams on the area's large and medium-size rivers. The annual installation energy capacity growth for that period was 50 MW (except during the wartime years between 1941 and 1945) and this was achieved primarily by means of the HPPs. It should be noted that the share of thermal electric power plants (TEPP) during that time did not exceed 10%.

The growing demand for energy dramatically increased between 1959 and 1973 and the impossibility of satisfying this demand solely using HPPs led to the decision to build new TEPPs.

Following this, the share of TEPP in the region's energy system increased to 36%. At the same time, several HPPs were also undergoing development. In 1973, the first reactor of the Kola Nuclear Power Plant (NPP) went online with an operational capacity of 440 MW, and within a few years, the plant reached its full design capacity of 1,760 MW. At the same time, TEPPs increased their share in the capacity balance of the regional Energy System to 59%, and their contribution to the region's combined energy output grew to 70%. Installed capacity growth rate for the period of 1973 to 1984 was around 200 MW per year which was accounted for mostly by the nuclear power plant (Krivorutskij and Barannik 1999). The year 1990 was a record year for energy consumption in the Murmansk region. With an annual energy output of 19.6 TWh and 2.9 TWh delivered to the neighbouring republic of Karelia, energy demand in the Murmansk region reached its highest peak of 16.6 TWh. The high reliability of the existing structure and capacity of the Kola Energy System meant that electricity could be produced at the lowest price across North-West Russia. This led to competitive capacity of regional goods on domestic and foreign markets (Barannik 2007). The last HPP's cascade built on the region's territory was a cascaded hydropower plant on the Teriberka River. Since 1984, the energy system capacity for the region has remained practically unchanged, although the region's energy policy was under constant reform during last decades. Energy reform has been more focused upon change of ownership.

Following a series of economic and political crises from the Soviet period through to contemporary Russia, the region's industrial consumption of electric power has reduced significantly. This has resulted in excess energy capacity output at the Kola Energy System which has led to a decrease in investment and new energy construction opportunity for the area.

On the one hand such a reduction in energy consumption can be regarded as a positive change for the ecology and for climate change. But on the other hand, it offers a number of policy makers a ready-made excuse to not initiate new programs for exploring nonconventional renewable energy sources for the North-West territory. It is convenient to claim "as we do not cause climate change so we do not need to pay attention and effort to solve this problem". Fortunately the North-West of Russia is rich in renewable nonconventional energy sources and also has the scientific resource to demonstrate the opportunities of these sources for the regional economy.

Renewable energy potential of Kola Peninsula

Wind energy

On the northern coast of Kola Peninsula, wind speeds reach 7 to 9m per second.

The Barents Sea coast is ideally situated for the application of wind energy converts (WECs). Notably, in the coastal area, the year-to year changes of average annual wind speeds do not vary

greatly, fluctuations are limited to within 5% to 8%. At the same time, the variation coefficient estimated for the regions river stream-flow rates ranges from between 15% and 20%. Thus, wind energy exposure is subject to less variability than the energy of stream-flow in the Murmansk region.

If wind turbines are built in these areas at a distance of ten wind wheel diameters from each other, then the total installed capacity of the WECs will reach around 120 million kW, while the annual power output (technical resource) will total about 360 TWh, this greatly exceeds the current regional electric power demand as mentioned above. The accessible part of these resources absolutely warrants inclusion within the peninsula's energy and economic model. Wind could supply electric power to remote decentralized consumers, such as small secluded settlements and villages, weather stations, beacons, border patrol quarters, and sites of the Russian Northern Fleet to significantly reduce high diesel fuel expenses. At the same time, the 17 HPPs with total capacity 1,600 MW (including over 1,000 MW near the shoreline of the Barents Sea) at the disposal of the Kola Energy System create unique conditions for a wide-scale wind energy application to include large-scale system-integrated wind turbine parks to support the electric and heat energy balance of the region. The favourable conditions— extensive areas with high wind potential, infrastructure availability of roads for WEC delivery, potential connection to the grid, and locations close to existing HPPs – are certainly of relevance to the Serebryanka and Teriberka HPP's cascades. It is scientifically proven that the total capacity of WECs placed here could easily reach 500 MW, more than a quarter of aging Kola NPP.

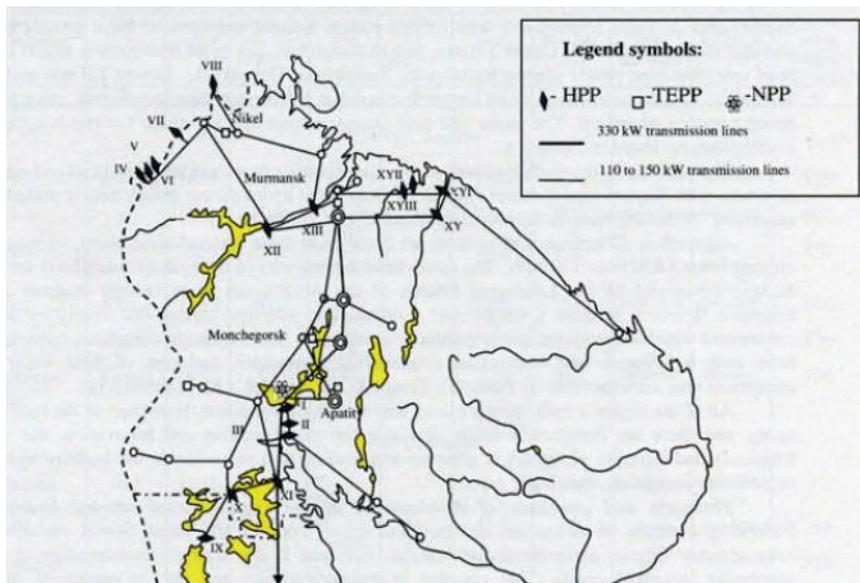
Stream-flow energy

There are two ways to develop HPP in the Murmansk region: from conventional larger rivers and also from the smaller rivers of the Kola Peninsula.

Large river first priority construction sites, include HPP's cascade projects on the Iokanga River with an installed capacity of 360 MW, on the Eastern Litsa River with a combined capacity of 380 MW, and on the Ponoj River with a combined capacity of 1,800 MW. All these projects have been designed as a peak of intermediate energy sources with the specific provision made that their construction will take place after the second construction stage of the Kola NPP has been completed. As of today, judging from their project capacity and output specifications, nothing stops them being used in conjunction with major wind energy converts of commensurable capacity.

As for the stream-flow energy development from small rivers, the first priority river sites for the construction of system-integrated small-scale hydropower plants are shown on fig. 2-1.

The aspiration to obtain a cheap and independent source of electrical and thermal power drives energy suppliers to explore the potential application of local renewable energy sources, in addition to those mentioned, wind and hydro power such as: tidal energy of Barents and White Seas; solar energy; energy of biogas from waste of agricultural activity, dumps and sewage of settlements; energy of sea waves; low-potential thermal energy (heat pumping from geo and water masses).

Figure 2-1. General layout of power plants of the Murmansk region (Minin, Dmitriev, 2007)

Today, the following approach to utilization of biodegradable waste from poultry breeding and livestock is widely applied in the world. Organic waste recycles organic fertilizers and into biogas. Gas methane is done in biogas installations (methane tanks) without oxygen (anaerobic digestion). Examples of energy contents in different substrates are given in table 2-1 (Briseid 2008).

Table 2-1. Examples of energy contents in different substrates

Substrates	Energy Contents (kWh/ton)
Manure from cows	140
Manure from pigs	180
Manure from poultry	450
Manure from grass	810
Manure from fruit and vegetable waste	950
Household food waste	1.300
Restaurant food waste	1.300
Slaughterhouse waste	2.000
Pure carbohydrates and sugar	3.900
Proteins	4.900
Fat	8.500

Regional NGO “GAIA” initiated several expeditions around the Kola peninsula to explore the perspectives for renewable energy sources and energy efficiency. During one such expedition to the Kovdor agricultural complex they found, the first on the peninsula, bio-reactors for bio-gas production, used for supplying electricity, heat and hot water for the “Leipi” complex. This first biogas installation started to produce methane in 2004. Low-potential thermal energy

The low potential heat of the Earth core can be extracted on the basis of the heat pump principle - working like a common refrigerator’s performance. The heat pump captures the low potential heat energy of the ground or water or even ambient air for heating buildings after a preliminary

transformation into high potential heat. The low potential geothermal energy in Murmansk region is not utilized yet. However there is a site in the Khibiny Mountains studied by geologists and covered by a net of drilled holes. This place is a unique potential source of heat. (Kotomin and Kamenev 2008)

Thermometer devices in 20 drilled holes demonstrated an average geothermal gradient 2.58oC on each 38.8m of depth. In most of these drilled holes can be seen a temperature line growing from +5oC on the 200m depth to +20oC on 800m depth. Such abnormally high thermo generation is not typical for the rest of the peninsula.

There are prerequisites for development of this renewable non-conventional source of energy. In the case here, there are huge mining complexes and, situated nearby, a satellite city with a high population density. Clearly, there is potential demand for heat energy in the cold climate above the Polar Circle sited near a unique source of thermal heat.

Extensive study of the ground's thermal features is essential before beginning mining exploration. On the territory of Kola Peninsula there are plans for new mine extractions and the earlier research from the company geologists indicate the possibility of new sources of geothermal heat being identified in the region.

Tidal energy of Barents and White Seas

Research on the possibility of harvesting tidal energy was carried out in Russia by Lev Bernstein beginning in 1938 (Bernstein 1987). The most significant technical tidal energy resources of the coastline of Kola peninsula are shown in table 2-2. The first Russian Tidal Power Plants (TPP) were situated in Kislaya Bay since 1968. Two TPPs may also be placed in Kola and Lumbovsky bays. The biggest tidal recourse is concentrated in Mezen neck.

Table 2-2. Technical tidal energy resources of the Barents and White seas

TPP	Tidal Height, m	Basin Area, km ²	Installed Capacity, MW Annual energy output, (million kWh)
Kislaya	2,30	1,1	0,4
Kola	2,36	4,9	40,0
Lumbovsky	4,20	92,0	670,0
Mezen	5,66	2330,0	15200,0

Energy efficiency and economy studies have shown that economically, tidal energy is more promising when using medium and large-scale TPP as these reduce specific fixed costs. Moreover the larger the TPP, the lower the unit costs derived from smoothing out the fluctuations in the TPP's energy conversion. The economic effect improves significantly if the energy from TPP (cycling from daily and monthly variations) is transformed into guaranteed supply energy with help of HPP of pumped-storage power plants. These were proven by engineering and feasibility research.

Energy of sea waves

The efforts to evaluate wind-induced wave parameters and the pattern of their variation, as well as research on potential impact of wave energy installations on the environment and shoreline erosion formation, and interaction with shipping were intensified at the beginning of the 1970's (Volshanik et. al.1983).

Renewable wave power is only part of full wave power. There are different opinions on the proportion. Some calculations show that for the Barents Sea, renewable wave power reaches 58.5 kW per one square kilometers of the basin (Matushevsky, 1982).

Table 2-3. Renewable power and annual energy values of White and Barents seas.

	Sea Wave energy flux Basin area,m ²	Total renewable power	
		(kW/m per minute)	(W / year)
White	10	0.09.1012	3.03.109
Barents	25	1.42.1012	0.83.1011

Solar energy

This resource is the most significant of the available renewable energy sources (Minin et. al. 1992). But the particular conditions in life in the sub-arctic do pose a number of difficulties with regard to developing solar energy. But as the means for exploiting solar energy continually develop then this resource warrants attention.

Scandinavia has demonstrated that solar power can be an effective solution providing a heat supply. Seasonal changes in sunshine durations at Sweden's Ingelstad and at Umba settlement on the northern coast of the White Sea also demonstrate this. Using Swedish heat accumulator designs, accumulators could be located at underground thermal reservoirs and at ground base reservoirs which are thoroughly insulated from their surroundings.

The practicality of solar heating systems depends not only on the geographic latitude of location and the duration of solar energy exposure but also on the solar energy collection cost compared against other conventional energy and fuel costs. Although as solar technologies become less expensive to produce so these technologies will become more viable.

In summary, it can be stated that well established renewable energy strategies such as availability, stability, reliability, and profitability are inherently sustainable and, they are pollution-free and are politically acceptable (when compared against fossil or nuclear energy) and if adopted, will help to conserve fossil fuel for generations to come and will satisfy growing energy demands. Furthermore, renewable energy can be seen to be economically viable and profitable and will create new workplaces and employment for the region.

Energy security as a part of ecological security

Expression of ecological security (EcS) and energy security (EnS) is commonly used today by many different specialists (for example scientists, power engineering specialists, businessmen, economists, officials). With these specializations however, EcS and EnS often convey different meanings. This part of the paper considers how the concept of EcS and EnS is changing (both regionally and internationally) in accordance with dynamic shifts in wider worldwide energy policy. This paper emphasizes the close interrelationship between EnS and EcS.

The Murmansk region is looked at more closely to highlight the threats that exist within existing regional and federal policies as things stand today. The outcome of these examinations make it possible to set out the main premise for introducing a coherent system of measures (prognosis, planning, preprogramming and preventive arrangements) that will help address the threats to delivering successful EnS and EcS and so deliver a healthier balance between the health and quality of people's life and the need to develop the industrial, communications, and agricultural complex of the region.

The Doctrine of Energy Security in the Russian Federation seeks to assure continued successful and uninterrupted supply of energy/fuel to the country (region). It is apparent that "energy security" is a term that conveys different meanings to different countries (regions) depending on whether they are energy producers or energy consumers (importers).

Different interests offer different determinations of Ecological security (EcS), although it can be agreed that for all, there is a common desire to assure the better quality of life and activity for the people inhabiting these territories. It is suggested that a contemporary system of EcS will provide the means to reduce threats to the:

- protection of soil and landscapes from industrial waste;
- protection of the urban-industrial atmosphere/environment;
- protection of water supplies;
- protection from electromagnetic pollution;
- protection from noise pollution;
- development of ecological risk management policy;
- education of the population to maintain ecological standards.

It can be concluded that the systems of EnS and EcS share a common desire to preserve and better protect the natural living conditions for the territory. EnS focuses upon the more technical aspects of energy production and consumption while EcS carries a wider, broader agenda. In so far as the energy sector is an element of the economy, we can assert that EnS is a subset of EcS.

Scientists within the Kola science Centre (KSC) assessed the Murmansk region's EnS capability by assessing five broad categories (parenthesis indicate the assessment for each category).

The scale of EnS assessment used is based upon a numerical range of design score indices carrying the following severity weightings:

Normal	1
Becoming Unstable	2
Unstable	3
Under Threat	4
Dangerous	5
Hazardous	6
Critical	7
In Extreme Crisis	8

Qualitative assessment was carried out against the following energy categories:

Energy Category	Assessment	Outcome Score
Electricity Supply	Normal	1
Heating	Becoming Unstable	2
Provision with Fuel	In Extreme Crisis	8
Structural Operational Block	Becoming Unstable	2
Reproduction of Key Energy Assets	Hazardous	6

Taking an “average” overall assessment across all energy categories would indicate that the region is “dangerous”.

The predominant EnS threat in the Murmansk region exists because there is an absence of any natural fuel base (and so no inherent territorial boiler-furnace fuel or petrol fuel capability); There is an over dependency upon (mazut) fuel; there is an excessive centralization of energy supply systems; central energy facilities are old and worn out; there is a lack of investment into reproduction of energy objects.

A forward looking approach towards achieving energy security will require a programme of activity across three major fronts:

- modernization of existing energy infrastructures
- introduction and regulation of new consumer technology
- adoption of energy saving and efficiency codes of practice

The modernization of energy infrastructure requires a timely and proper upgrading of existing energy technical components and facilities to assure a sustainable provision of reliable energy supplies (including emergency reserve supplies) delivering high-quality electricity and heat supply networks; reducing dependency on fossil fuel through adoption and investment in renewable and non-conventional sources of energy. The introduction and regulation of new consumer technology will ensure that energy consumers have appropriate energy-saving devices in place and increased understanding of energy conservation strategies to manage energy consumption. Finally, the adoption of energy efficiency codes of practice involves the authoritative regulatory control/audit

of energy usage, implementing energy management strategies to deliver industrial scale efficiencies and wider cost benefit.

In summary, in regard to energy security, it can be concluded that there are no contemporary measures in place within the Murmansk region to provide sustainable energy security in terms of the modern economic need to address necessary technical and policy complexities in energy delivery.

In summary in regard to ecological security, it can be concluded that city and urban development in the Murmansk region occurred at a time when ecological risks were not taken into account and as a result industrial facilities were often constructed near to dwellings and in areas most vulnerable to ecological threat. The absence of control and regulation protecting the environment from human impact has led and still leads today to ever higher levels of pollution (solid waste, chemical and radioactive contaminations, uncontrolled electromagnetic fields, and noises).

Modern policy on ecological security must take into account and seek to protect those areas that pose risk to human and socio-ecological impact. The list of environments with high anthropogenic pollution in the Murmansk region is in common with other similar regions in the world:

- ATMOSPHERE - motor transport, combined heat power plants, boiler-houses, emissions from industry;
- WATER – raw sewage and industrial chemical pollution
- LAND –dumps and land-fill sites, unstructured and undisciplined and uncontrolled and unorganized disposal of industrial waste sites
- RADIATION – heightened natural geological levels of radiation beneath the Baltic Shield; nuclear contaminations from underground and surface nuclear tests, nuclear contaminations from Kola NPP and atomic navy;
- ACOUSTIC noise pollution from increasing growth in transport usage;
- ELECTROMAGNETIC pollution from high-voltage lines, systems of cell and mobile communication devices, satellite connection stations, traffic speed radars, television and radio stations, microwave and infrared radiation, computers etc.
- POPULATION – lack of public education and participation in the management of the environment (for instance general absence of city green zones and poor adoption of horticultural practices).

Unfortunately the size, extent and impact of these complex interrelationships are extremely hard to quantify. Meaningful progress in estimating the extent and real size of the problem is slow and unstructured. There is no determined will on behalf of the government to manage these issues. Perhaps this is as a consequence of earlier ingrained bias towards sponsoring and supporting the greater immediate needs of state industry. As far as there is no creditable modern estimation of EcS and EnS in the Murmansk region, so regional policy for EcS and EnS is not aligned towards taking properly proper approach to “today’s” new challenges. On a positive note, small-scale business are deriving benefit by adopting modern (eg bio-gas) practices to better manage increases in prices for energy carriers and this does provide positive ecological benefit. Larger scale businesses see a need to project a positive ecological image and this also leads to progress in favor of environment protection.

Conclusions

Protecting the environment became a major concern to the people in northern Russia and this concern brought about the first example of multilateral cooperation between the Arctic states during the 1990s. The focus of studies and reports produced during this period all stress the importance of nuclear safety, particularly around the Barents Sea region (Bergman et al. 1996). Renewable energy sources could certainly be a positive force for not only withstanding climate change but also in lessening concerns around nuclear energy for the people in the northern Russia and its neighbouring western countries.

Energy issues are taking a central position in current relations between North America, Europe, and Russia. At the turn of 2005-2006 interruptions to the supply of energy from Russia, “made energy security a central topic” with her European neighbours (Heininen, 2007). This resulted in a more rapid development of nonconventional renewable energy sources which also, has been beneficial for climate change as well. It is a part of functional cooperation across national borders in the Barents Euro-Arctic Region.

The cooperation between ecologists, scientists, governmental and state economic authorities, and business, begun by non-governmental organizations in 2006, saw the creation of a working group to develop the region’s long-term strategic program - “Development of non-conventional and renewable sources of energy in Murmansk region for 2009-2015”.

Financing of the program comes mainly sourced from businesses. However the regional budget will provide 400,000 RUR by way of subsidies to the municipalities and enterprises falling within the scope of the program. It is projected that the amount of renewable energy produced in 2015 will be 7.7%. All this strongly contributes towards supporting the new prospects for renewable energy development within North-West Russia as one of measures to counterbalance climate change.

Investments and actions based on the – still imperfect – scientific understanding of human physiology, diseases, their prevention and cures are probably the cause of the greatest increase in human welfare over the past two centuries. It might well be that investments and actions based on the scientific understanding of what I call the physiology of the planet are the key to human welfare in the 21st century (Simon Lewis, 2009). In climate change terms we must move from residual skepticism to the implementation of solutions to energy needs without using fossil fuels as quickly as possible. A new strategic deployment of arguments, alongside precise protests to move society into a new direction, will be the means of getting there.

In summary, concerning energy security and ecological security, it can be concluded that there are no modern policy and contemporary measures in place within the Murmansk region to provide sustainable energy and ecological securities in terms of both the modern economic need to address necessary technical and policy complexities in energy delivery and protection of those areas that at risk to human and socio-ecological impact.

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Energy policy and (energy security) as a part of Russian foreign policy

Jussi Huotari

Introduction

In public debate a common claim has been that Russia uses its oil and natural gas resources and their transports as a power tool for getting more political influence in the former Soviet region. The Western media has often described Russia as an energy imperialist, unreliable energy supplier and unable to develop its own energy assets (e.g. Karaganov 2007). These kind of claims generate an image of Russia as a country that uses energy as a principal instrument to maximize state influence and power. In this regard, Russia is not an exception. Every nation uses its political connections, economic relations, military capacity and other available means to strengthen the nation's position in the international arena (e.g. Morgenthau 1993 [1948]).

Energy emerged as one of the top priorities in the EU-Russia relations after the Russo-Ukrainian gas dispute in turn of the year 2005 – 2006. This was the first time when energy transits from Russia to European Union were cut off. A consequence of the dispute was that it politicized Russian energy in the EU member states. The Russo-Ukrainian “gas war” led to the situation where almost

every contradiction in the EU-Russia relations was interpreted to deal with energy issues (Raeste 2006; Baev 2008). Russia's actions, like an impressive flag planting underneath the North Pole on the Lomonosov Ridge in August 2007 and the military intervention in Georgia one year later, set off speculation in the international community about the emergence of a new Cold War (e.g. Lukyanov 2010; Overland 2010). But everything changed after the global downturn in the world economy and its effect on the world market price of oil.

The changes in the world market price of energy have diverse effects in the economies of the nation states. This shows up as different geopolitical interpretations and competing discourses. One of the discourses describes the change in the world market price of energy as a threat to state sovereignty, a race for natural resources and conflicts (e.g. Borgesson 2008; Smith 2008). A contrasting interpretation to previous discourse claims that there is neither a race for natural resources nor conflicts between states in the case energy policy; on the contrary, states are ready and able to search together alternative energy solutions that ensure stable and peaceful development in the global context (e.g. Paillard 2010; Trenin 2010).

The relationship between politics and energy is not a new phenomenon. In fact, oil and oil politics has reshaped relationships between states for over two hundred years. Control over energy resources has influenced the emergence of conflicts. Even though alternative sources of energy are more common, societies will still stay highly dependent on fossil fuels in the future. This deepens and intensifies the interplay between energy, economy and politics (Finger & Finger-Stich 2010). It also promotes the preserving of the nation state as a principal actor in international relations, despite globalization.

Energy geopolitics, which is about access, supply and transit of energy resources, technology of production, state of logistical supply lines, processing facilities and transit infrastructures, is one of the major components of international relations (Kropatcheva 2011, 555). Natural and economic resources fuel state's industrial and military capacity, and consequently control over these strategic goods bestows influence and power. Uneven distribution of oil and natural gas resources makes some regions strategically more valuable than others. What happens in, and to such regions, has an impact on the lives of other states, which consequently will pay more attention, militarily or diplomatically to these regions. (Grygiel 2006, 30.) This question of strategic resources and geostrategic regions brings the concept of energy security into discussion, because these resources are vital for a state's survival. As one of the fathers of Realism, Hans Morgenthau (1993 [1948]), put it, "A country that is self-sufficient, or nearly self-sufficient, has a great advantage over a nation that is not, because it does not depend on the will or power of other states".

This article analyses Russia's energy geopolitics and its implications for energy security in the three geostrategic regions in the Eurasian landmass and its "Rimlands": Asia-Pacific region, Central-Asia and Eastern Europe, and the Arctic region¹. In the 21st century, interpretations of actions of the states have considered the "Rimlands" of the Eurasian landmass to be potential

¹ All these three regions are vital for Russia's energy and foreign policy. It has been estimated that one fourth of the world's undiscovered hydrocarbon resources and strategic sea route for energy transports exists in the Arctic region (Circum-Arctic Resource Appraisal: Estimates of Undiscovered Oil and Gas North of the Arctic Circle 2008). Also the role of the Central Asian and Caucasus states as a non-OPEC and non-Russian oil and gas producer is strategic; however these countries are dependent on Russian energy transport infrastructure i.e. pipelines. (Palonkorpi 2007, 57).

stages for geopolitical competition between great powers. The actors have been looking for a common understanding and consensus from different international institutional organizations (such as G8 and the UN Security Council) and ad hoc meetings (the five littoral states get-together in Illulisat, Greenland 2008 and in Ottawa, Canada 2010 and Russia's, France's and Germany's alliance against war in Iraq) for controlling Eurasian "Rimlands". For Russia's prestige it is important to be part in these international alliances with other great powers.

Russia's energy geopolitics in the light of geo-political theories

Russia is considered to be one of the great powers, because of her large territorial extent. She has reached her current shape following prolonged geographical expansion. One factor behind motivating conquest of new regions was natural resources e.g. minerals which exist in Russian soil. The Russian state's historically recurrent drive to mobilize human and natural resources for economic development and war was conducted under control of authoritarian political system. A strong sovereign has been a dominant feature in Russia's politics. This together with the centralized economy system and geographical expansion has led Russia to several confrontations with the rest of the world. Russia's foreign policy has been shaped by the struggle to stabilize empire's borders through the centuries. That has led to permanent military mobilization and frequent war, and has delayed country's economic modernization. (Legvold 2009, 30.) Because of this, Russia's economy has developed slower than the economies of the great powers in the West.

Russia's great power politics is often explained in the light of the three geopolitical theories. The first one is based on Sir Halford Mackinder's idea of the World Island, in which the governing of the Eurasian landmass is the key element for being world power. Mackinder's "Heartland" theory highlighted geostrategic factors e.g. rich natural resources of the Eurasian landmass (Mackinder 1904, 430 - 437). The second one is based on Nicholas Spykman's thinking. This theory emphasizes the "Rimlands" and sea areas that surround the "Heartland". This description underlines the meaning of the Central Asia as crucial for Russia's security (Heininen 1991, 21 - 22). The third explanation stresses the meaning of the strategic sea areas and sea routes for Russia's economic might and great power status. This interpretation is based on Alfred Thayer Mahan's Sea Power theory. According to Russian Naval officer, Admiral Sergei Gorshkov, (see Heininen 1991, 23 - 24) Russia is not only the biggest inland state, but because of geography, also a dominant sea power, whose coastline is almost two times longer than the United States' shore. Admiral Gorshkov stressed the meaning of the navy as an economic and military powerhouse also during peace, because with the help of the navy, a state is able to demonstrate its strength outside of her borders. The definition made by admiral Gorshkov is on based on technology models in classical geopolitics.

To outline Russian naval politics, it is essential to notice one geographical fact; Russia has only two harbors which are free from ice and have an open access to the world's oceans around the year. Rest of the Russia's oceanic harbors are struggling with the severe ice conditions, or they are located in inlet straits, which can be easily sealed (Heininen 1991, 23; Kefferpütz 2010, 3). Because of vulnerable sea routes, Russia is often considered to be an inland power in compliance with the "Heartland" theory. However, in recent years Russia has also showed up as a credible sea power. This is in line with Russia's Maritime Doctrine from 2001, in which it is stressed the aim to reassert her position among other leading sea powers (Maritime Doctrine of Russian Federation 2020

2001). This has appeared as an increased military patrolling in the oceans around the world. The opening of the new sea routes, which is the consequence of retreat of the sea ice, has led to the situation in which Russia has started to patrol regularly in the Arctic Ocean. The year 2008 was the first time when she did that since the dissolution of the Soviet Union (YLE Uutiset 17.7.2008).

All of these theories describe the regions that are important for energy production and transportation. In order to discover the energy geopolitical reality it is necessary to look at the location of resources and the lines of communication linking them. This brings in the concept of security, due to the importance of energy to modern industrialized societies. The configuration of these two variables assigns the strategic value to locations, privileging some over others. The dynamics of Russian energy policy becomes apparent in different geopolitical aspects to the strategic “Rimlands”. The “Rimlands” that surrounds the Russian Heartland create the geostrategic buffer zones between the East and the West. These buffer zones are defined militarily, economically and politically (Elo 2009, 54).

The early 21st century cuts in Russian oil and gas exports for neighboring countries raised questions about relationship between energy and foreign policy. Western critics of Russia and President Vladimir Putin tend to assume that everything the Kremlin does is geopolitically motivated (Lo 2008, 135). Russia was blamed for using “energy weapon” as tool in its foreign policy. However, this “energy weapon” interpretation neglects two important factors. First, it underestimates the importance of commercial considerations in Russian decision making. The Russian government and major energy companies such as Gazprom, Rosneft, and Lukoil are keenly interested in profits for its own sake. The price hike for Belarus in December 2006 highlighted the growing importance of commercial considerations (Lo 2008, 135; Liuhto 2010, 49 - 51; Casier 2011, 545). Secondly, energy trade between Russia and EU has almost 50 years long history without cuts in supplies. The gas and oil infrastructures, which were constructed during the Cold War between EU member states and Soviet Union, were an expression of common economic interdependence; the Soviet Union needed western currency and the EU desired energy to secure economic development (Stern 2005; Nies 2008, 18). The energy cooperation during the Cold War was a starting point for broader geopolitical change which culminated to the dissolution of the Soviet Union (Heininen 002, 101-102).

Energy as a part of Russia’s foreign political goals in geo-strategic regions

Russia acts simultaneously as an energy producer, exporter, importer, consumer, and a transit state. Russia’s foreign energy policy is influenced by the factors of global politics and economy, as well as by the developments at regional and bilateral levels, and the dynamics of the energy market. This diverse role in energy sector becomes clearly evident in the progress of the neighboring countries. The CIS² countries, former Soviet states are, despite their independence, often still regarded to be included in Russia’s sphere of influence, where Russia has legitimate interests (Medvedev 2008). The reasoning for Russia’s interests in her near neighbors is explained by existing geopolitical *status quo*, in what the shifts would mean global geopolitical instability. Despite political changes in the relations CIS *vis-à-vis* Russia, there are still elements from the Soviet system in the economic

² CIS= Commonwealth of Independent States.

relations. The economic networks, e.g. oil and gas infrastructures are difficult, if not impossible to dissolve. The CIS countries are dependent on Russian energy imports which give Russia the option to use these imports as an instrument of political power. Nevertheless, Russia's opportunities to use energy exports to the CIS countries as a political "weapon" are quite limited. The Russian Federation is vulnerable to the disruptions to its deliveries to the EU by Ukraine. The latter is able to divert natural gas, transported for the EU, for its internal purposes (See more Balmaceda 2009; Pirani, *et al.* 2009). The transit pipelines, which bind Russia and Ukraine, were built while the two countries were part of the Soviet Union as a transit and supply pipelines. Any disruptions of internal supplies may cause problems for external transits, as the pressure in the pipeline will change (Kropatcheva 2011, 556).

The land between Belarus and China comprises a hot spot for which states in the world community are positioning for (Juntunen 2009, 129). This very region has been a target for power struggle between great powers from the 19th century. In the 21st century the Great Game is going on in the region between the United States, China and Russia. Central-Asia, the Caucasus and the South-East corner of the Europe constitute a chain which control is essential for energy exports from Russia to EU. In this regard, natural resources and their transport infrastructures play a key role in the geo-strategic power game of Central Asia and Caucasus region. With its vast pipeline network, Russia acts as an important gatekeeper for Central Asian energy exports. Gatekeeper position is not only improving Russian foreign policy position vis-à-vis the Central Asian countries, which are dependent on hydrocarbon exports, but also strengthens Russia's powers of negotiation towards Ukraine (Liuhto 2010, 11-12; Shadrina 2010, 108-109; Casier 2011, 545). The Central Asian countries have started to look for geographical diversification of their energy ties, for reducing their dependence on Russian pipeline network. Over the last couple of years, Russia has been faced with competition, especially from China's side, on Central Asian oil and gas. The purchase-agreement of China for Turkmenistan gas has helped the Central-Asian states to demand higher prices for their gas from Russia.

Moscow has been aiming to restore its presence in the Asia-Pacific region through increases in oil and natural gas exports. *Energy Strategy for Russia the Period up to 2030* envisioned that Russia would increase its exports of oil so that the use of Russian oil would increase in the Asia-Pacific region would increase from 8 percent to of oil used in 2008 to 22 – 25 percent in 2030. Natural gas exports were predicted to increase from 0 percent up to about 20 percent in the same period (Ministry of Energy of the Russian Federation 2009, 140-141). The strategic goals for Russia in its so called eastern vector are, on the other hand, to increase energy exports toward the Asia-Pacific for creation of an "Asia card" vis-à-vis the nations of the Europe Union, and on the other hand, to attract domestic and foreign investments to modernize economic backwardness of eastern Siberia and the Far East, which Moscow considers a Russian weakness vis-à-vis geopolitical rival, China (Itoh 2011, 1).

In the Sino-Russian energy relationship energy and geopolitics are intertwined. At first sight the relationship appears to be based almost ideal complementarity: on one side the world's biggest exporter of oil and gas; on the other, one of the largest consumers of energy in the world. Also, China and Russia have a common border which makes possible to transport energy via pipelines without third parties.

For China, energy is not an instrument of geopolitical ambition, but the principal for more assertive foreign policy, on the contrary for Russia; possession of vast oil and gas resources is the power-equivalent of nuclear weapons in the Soviet era. Energy is not just an instrument of influence in itself, but impacts on other dimensions of power: military, political, economic, technological, even cultural and normative. (Lo 2008, 132-133.) The most fundamental is that Russia and China have very different understandings of energy security. China is most concerned of security of supply. The biggest threat to its energy security is an interruption to or a reduction in the physical flow of energy, and a rise in the price of energy. To reduce these risks China has diversified its energy imports to around the world (EIA 2010; Andrews- Speed & Dannreuther 2011, 65 - 71). For Russia energy security means security of demand. Oil and gas account for over two thirds of Russia's exports and a quarter of the country's GDP (Liuhto 2010, 9). The dependence of the Russian economy on the energy sector means that Russia's interest is to have long term contracts for its energy exports to protect commercial interests both in the Far East and in the Europe.

Another strategic compass point in Russia's foreign energy policy is north. Global climate change has catapulted the Arctic in the centre of the global geopolitics, as melting ice reveals options for new oil and gas deposits. According to Russian sources, most of these Arctic's oil and gas resources are located in Russian territory (e.g. Kontorovich, et al. 2010). The Arctic region is considered to be primary resource base and potentially important corridor for future ship traffic between the Atlantic and Pacific Oceans (Security Council of the Russian Federation 2008; Ministry of Energy of the Russian Federation 2009). However, it was not until 2008 that the Russian Federation managed to formulate a comprehensive state policy in its Arctic region. The Arctic State policy is strongly linked to other federal strategies and policies that are aiming to reduce socio-economic gap between regions within the Federation (Heininen 2011, 48). The development of the Northern Sea Route (NSR) alongside with the extraction of hydrocarbon resources is one of the fundamental goals of Russia's Arctic policy. This shipping channel is perceived as the sole means of transportation for Russian petroleum products from coastal and insular Arctic regions (Zysk 2010, 105). Potential opening of the trans-arctic sea routes and options for energy resources has got also the non-arctic states to look for the benefits of them. For example China, whose economy is dependent on imported energy and foreign trade, follows the development of the Arctic region carefully (Jakobson 2010).

In the future the meaning of the Arctic oil and gas resources for global energy security may increase. Events like, 'Arab Springs', an earthquake in Fukushima, Japan and Germany's decision to close its nuclear power plants by end of 2022 have promoted the Arctic's energy reserves as a choice for global energy security.

Comparison of Russia's policy between geo-strategic regions

The changes in Russia's energy policy from year 2000 to 2011 have appeared, mainly, as dynamics between internationalisation and nationalisation of energy sector. This dynamics has influenced to the meaning of analysed regions in Russia's foreign policy.

First common thing between the Eurasian "Rimlands" is their meaning in the protection of "Heartland", and that is why the strategies and policies of the Russian Federation which consider these regions include along with the other goals a security aspect. The security aspect is emphasized by concept of energy security which legitimates the states participation in energy production and

transportation. In this regard, Russia shows up as an actor who has a messianic task to take care of stable distribution and supply of energy in the Eurasia and Asia-Pacific regions. By using a comprehensive understanding of energy security, Russia justifies state's control over the energy policy. Matters, like environmental protection and human aspects, are well noticed in the concept of comprehensive energy security, and these kinds of "soft" security means are making the comprehensive energy security a received and eligible state of affairs. To succeed in this, Russia needs to control over its energy infrastructure and that is why pipelines are in strategic position.

A second common phenomenon is a geopolitical rivalry for the control over the strategic "Rimlands" which is levelled mainly at the United States and Nato. This is interpreted to mean that Russia's uses its energy assets as an instrument of power for protection of its national interests. However, in the light of Russia's Energy strategy, in which country's foreign energy policy objectives are defined "the maximum efficient use of the Russian energy potential for full-scale integration into the world energy market, enhancement of positions thereon and gaining the highest possible profit for the national economy" (Ministry of Energy of the Russian Federation 2009, 55), the "stick and carrot" policy seems to be false interpretation. Use of energy as a foreign policy mean is like a double-edged sword, because any threat of cutting or reducing energy supplies will have a negative effect to Russia's reputation as a liable trade partner. In this regard the geopolitical competition is not contested by means of the Cold War rhetoric's, and that is why it does not necessarily mean the return to arms race. In fact, this struggle is fought according to the rules of international law and international regional institutions.³ Russia is chasing to pursue extensive and multicenter cooperation, in which foreign policy's goal is to get the maximum profit from the eastern and western markets.

A third common feature underlines the state sovereignty. In Russia's energy policy, state sovereignty is manifested in the discussion of infrastructure and transport routes. By keeping the pipelines and oil and gas tanker fleet under state ownership, Russia shows that, even though the country is ready to open its strategic energy sector to foreign investments, she is not willing to give up the control of energy transport infrastructure. The desire to avoid transit states countries by building up new supply routes e.g. Nord Stream and South Stream, support Russian foreign energy policy goals. Transport infrastructure is crucial part of state's capacity to control energy policy. One of the biggest differences between analyzed regions is also related to energy transports. In the southern "Rimlands" of Eurasia energy is transported via pipelines, whereas in the Arctic main transport mean is planned to be oil and gas tankers. The existing pipeline network has its advantages and disadvantages. On the other hand, the pipeline network which Russia controls binds and makes former Soviet states dependent on Russia, but then again it prevents Russia from diversifying its energy exports geographically and from achieving maximum commercial profits. In this sense the use of tankers in energy transports seems to be logical, since it provides global markets for Russian energy.

In Central Asia and the Caucasus region Russia acts mainly as a transit state, while in the region of the Arctic and the Asian Pacific is energy producer and exporter. These different roles influence Russia's foreign energy policy in analyzed regions. The gatekeeper position in Central

³ In the High North under Arctic Council and Barents Euro-Arctic Council, in the East Asia, Central Asia and Caucasus regions under Shanghai Cooperation Organization, Common Security Treaty Organization and Eurasian Economic Community.

Asia allows the control of energy transports between China and the EU. The Central Asian states are trying to reduce their dependence on Russia by concluding bilateral relationships for energy exports and by planning alternative pipelines e.g. Nabucco project which are bypass Russian territory. On the other hand, in the Arctic region Russia is dependent on both technological and economical foreign investments. In order to encourage investments Russia has had to change the energy sector and to make it more open.

Conclusions

Energy became more central to Russian foreign policy due to the rapid rise in the world market price of oil in the beginning 21st century. High prices resulted from the exports of fossil fuels became the most important income for state. Rapid economic recovery and centralization of power revised character of Russian foreign policy. The strengthening of Russia did not mean return to expansive foreign policy, thus Russia's foreign policy is guided by the objective maximize its economic growth.

After Vladimir Putin's accession to power, both domestic and foreign policy was economy-oriented. The economic system was capitalist even though state's role was bolstered up. This affected also the energy sector in which state control increased as compared to privatization policy during 1990's. Strong state policy, led by president Putin, promoted better execution in reaching Russia's national interests. Putin's foreign policy did not mean Russia's isolation from the world markets because Russia still tried to integrate strongly into the global economy. However, the integration would only happen according to Russia's national interests.

Russia's foreign, security and energy policy documents and strategies do not differ from their targets as compared to Western documents, even though Russia and Western countries' have different approach to the post-Cold War world. Despite this, interpretations of the Russian strategies often highlight the security aspects of strategies and policies. This has politicised oil and gas, when Russia has had conflicts with other countries.

However, the use of "energy weapon" is bad policy from Russian point of view, because it reduces the incentive to do business with Russia in other sectors. After oil prices' peaked in 2008 Russia tried to modernize its economy by reducing the country's economic dependence on natural resources. The modernization policy has softened Russia's foreign policy. This has increased the prestige in doing business with Russia and has strengthened Russia's credibility. A politically and economically strong and steady Russia is crucial for world geopolitical stability and peace.

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Section VI: Climate Change – Human Security

Accepting Uncertainty: The Role of Nonhuman Agency in Shaping Responses to Climate Change

Lisa M. Cockburn

Introduction

Climate change exists somewhere between the material and discursive worlds. It is widely accepted that climate change is already occurring as a result of the anthropogenic elevation of greenhouse gas levels in the atmosphere (IPCC 2007b), making materially evident the warnings of environmentalists and the effects of current global power relations. With global causes and local impacts, climate change is a serious factor affecting human and environmental security (O'Brian 2006; Heininen, this volume). But 'climate change' is itself a concept created discursively by scientists, researchers, policymakers – humans – by weaving together multiple events, observations, predictions and beliefs; it cannot be directly seen, but is the result of making the material world discursive. Without the discursive elements of science, all the same things would be happening, but by tying multiple human- nature interactions together, attributing causality, and making predictions about the future, this phenomenon called climate change emerges: “The real threat of global warming exists in a future that has not yet come to pass. The links between the exhaust of my car and the extension

of the Sahara desert exist only in computer simulations. What should we make of that?" (Pickering 2005, 39).

Because the concept of climate change emerges through science, and because science is the dominant epistemology of Western society, it is to science that society looks for answers of what is going to happen and what our options for mitigation and/or adaptation might be. The material challenges of climate change are likely to be great, regardless of what worldview we hold; how we respond will depend largely on the discursive element of how we imagine the nonhuman world and our relationship with it. In other words, our human security depends as much on how we approach circumstances as the actual circumstances themselves.

The Arctic region is at the frontlines of experiencing the effects of climate warming (ACIA 2005), and indigenous peoples in the Arctic are already encountering and responding to climate change in their daily lives (Krupnik and Jolly 2002). Efforts such as those discussed by Crate and Tuisku in this volume show the importance of traditional indigenous knowledge in understanding environmental change and its effects on culture in the North. Climate change is thus a revealing arena where the strengths and weaknesses of the scientific worldview are brought to light through its interactions with other ways of understanding such as indigenous knowledge. Its unprecedented scale and scope also bring the potential of calling into question the underlying ontological and epistemological assumptions of science: namely, that the nonhuman world exists in a definite and determinate way, beyond our knowledge and interaction with it; and that the greatest challenge is gaining access to true knowledge and understanding of that world.

Agential realism¹ is a growing philosophy that merges ontology (what is) and epistemology (what can be known and how). As such, it allows a return to the materiality of the world without discounting the imagined and constructed discursiveness of it in the process. It offers new possibilities for encountering climate change by looking at the spaces between the social and the natural. While the physical sciences traditionally focus on the material world "from which all traces of humanity have been expunged" and the social sciences look at "a social world from which the material world has been magically whisked away by linguistic conjuring tricks" (Pickering 2005, 31), what is increasingly important and revealing is to look at the zone of intersection between people and things (Pickering 2005, 30). In agential realism, all that exists comes into being through interaction, or more precisely, intra-action: "Knowing is a matter of part of the world making itself intelligible to another part. Practices of knowing and being are not isolatable, but rather they are mutually implicated" (Barad 2003, 829). Agential realism's focus on relationships and interactions rather than things aligns it closely with indigenous knowledge, which is predominantly "knowledge that resides in doing" (Bielawski 2005, 951). Agential realism is able to bridge and dissolve dichotomies through its focus on intra-actions and its posthumanist relinquishment of agency as the sole property of humans; it is thus an ideal tool for examining and facilitating the meetings of science with climate change and indigenous knowledge.

Using agential realism as a framework, I will discuss some lessons that emerge for science from these meetings, particularly revolving around themes of uncertainty, spirituality, and nonhuman

¹ I join Karen Barad (2003, 2007) in labeling this philosophy "agential realism". In my reading of agential realist philosophy, I also draw from Iris van der Tuin's (2006) "new materialism", Donna Haraway's (1991, 2000) "situated knowledge" and "cyborgs", Andrew Pickering's (1995) "temporal emergence" and "dance of agency", and Nancy Tuana's (2006) "interactionist ontology".

agency. I end with a discussion of indeterminacy, and suggest it may be a more productive point of engagement with the nonhuman elements of climate change than uncertainty.

The Battle with Uncertainty

Uncertainty is a central element of climate change. In fact, climate change can be thought of as a phenomenon of *increasing* uncertainty, greater variability and unpredictable change. Scientific and indigenous worldviews deal with uncertainty very differently², and acts as a major barrier in attempts to bring together these knowledge systems. Differences in how indigenous knowledge and science come to know the world are closely linked to how they differently perceive and think about time³. Indigenous knowledge is relational in its dealings with time, thinking in terms of cycles that alternate rather than averages and extremes. Thus the idea of “normal,” so common in the Western worldview, is rarely used. For example, forecasting weather is “a lifelong and a twenty-four-hour passion” (Krupnik 2002, 172). Knowledge is lived and inseparable from living, gained not by imposing constructions of measured linear time onto the world, but through watching the world unfold. In many indigenous societies, talking about the future is not necessarily seen as productive, worthwhile or even appropriate. For example, Krupnik (2002, 176) quotes a Yupik hunter’s views on prediction: “You can never make a good forecast for tomorrow if based upon today’s weather. Better go out and check it in the evening. Make a guess and check it next day: it is better to see whether it is correct or not” (Chester Noongwook, 2001). Changes in weather and environment are followed day to day, and compared with what has happened in the past (Tuisku, this volume). Indigenous knowledge is not so concerned with what usually happens as what actually happens moment to moment, and change is expected.

Prediction is something science⁴ is purportedly good at, and for prediction to be meaningful, uncertainty must be quantified. The lack of attention paid to quantifying uncertainty in indigenous knowledge thus becomes a major barrier. But, by generalizing the variability of reality with averages, trends, probabilities, and confidence intervals, science obtains seemingly greater certainty, while the variability remains unchanged: “convergence among models is not the same as reducing uncertainties” (Manning et al. 2004, 33). In its drive to reduce uncertainty, science can end up masking the uncertainty that still exists. The increasingly uncertain world of global climate change means changes in what can be expected, non-uniform change on a scale that is quite literally as big as the entire earth and atmospheric system. Reductionism that aims to understand each individual part and then synthesize all this knowledge, seems an unrealistically lofty goal: the goal of reductionist science in the context of climate change essentially becomes complete understanding of the entire world and everything in it. This impossible paradox of seeking to understand

² This paper is based on my MSc thesis research, in which I conducted a discourse analysis of written texts published by, and qualitative interviews conducted with, researchers working at the intersection of indigenous and scientific knowledge of climate change. For further details on methodology and results, please see Cockburn 2008.

³ In this and subsequent sections, I speak of the philosophical underpinnings of indigenous knowledge as I have come to understand them in my research. It is not my intention to characterize and classify the true nature of indigenous knowledges and worldviews or speak for any of the indigenous groups whose knowledge this is. Instead, my purpose is to critically examine how indigenous knowledge appears when looked at through the lens of science, to see what this reveals about science: my discussions of indigenous knowledge are meant to be read as a lens for shining light back on science itself.

⁴ When discussing the philosophy of science, I am again referring to how it emerged in the science discourse in the texts and interviews I analyzed (Cockburn 2008), and do not mean to generalize all sciences, some of which see things very differently than discussed here.

everything leads to the never-ending calls within the science discourse for more data. But eventually, all scientific data must be synthesized, summarized, analyzed and understood by people, or remain useless: what is needed may not be more data, but more wisdom. The shift from single discipline data production to interdisciplinary research aimed at integrated understanding, discussed in the introduction and evidenced by this volume, is an important step in the right direction. Still, when it comes to climate change an ontological-epistemological framework that sets itself in constant battle with uncertainty, as science does, seems doomed to fail. Perhaps indigenous knowledge is not so good at prediction because it fundamentally does not believe that predicting the future is possible. Rather than quantify uncertainty, indigenous knowledge accepts it as an inherent part of the world.

Spirituality and Non-Human Agency

Spirituality emerges as a major barrier reinforcing the dichotomy between science and indigenous knowledge, a potentially irresolvable contradiction between the two (Cockburn 2008). Although long known to exist and often mentioned, very little headway has been made in addressing this “problem of the sacred” (Trudel 2006, 5). Since the time of Galileo, science has explicitly defined itself by the exclusion of spiritual elements (Bielawski 2005, 953), while a spiritual component involving “non-dominant, respectful human-nature relationships” is found in almost all indigenous knowledge systems (Berkes 1999, 163). The Yupiaq worldview described by Kawagley (2006, 14-16) illustrates just how greatly indigenous worldviews differ from science: the natural, spiritual and human realms each provide an essential support and must remain aligned and in constant communication to maintain balance and wellness in all parts. Similarly, Dene and Inuit conceptions of “environment” includes “people, land, animals, air, insects, water, fish, birds, plants, rocks, and *everything else we can perceive or imagine*” (Bielawski 2003, 313, emphasis mine), including all possible past and present relationships, and encompassing both social interaction and spiritual knowledge. This contrasts starkly with the Western worldview that maintains a strict dichotomy between human and nature, with the environment explicitly excluding us.

A telling example of the barrier spirituality poses is seen in the following story of an Igloolik hunter trying to explain to government biologists that polar bears, having intelligence equal to or greater than humans, make the choice of when to allow themselves to be taken by hunters. The hunter told of a time he was following fresh bear tracks only to find them suddenly end, “and there on the tundra was a rectangular block of ice. Clearly, the polar bear, not wanting to be taken, had transformed itself into ice. The government biologists were bemused at this explanation, whereupon the old hunter told them that if they did not, or could not believe him, then they knew nothing about polar bears” (*The Arctic Sky*, MacDonald 2000, 18, quoted in Bielawski 2003)

Apart from the actual spiritual meanings attached to explanations, what is it that this spiritual element brings to indigenous knowledge that is not present in science? Indigenous knowledge sees the natural world as possessing agency, while science fundamentally does not. If the natural world has agency – constantly changing, animate and full of surprises – then it is no longer expected to follow definite or predictable rules. Uncertainty becomes the norm, and easier to accept. Much of science is based on the assumption that when a natural system following static laws is observed by an objective observer, the results will also be static (i.e. predictable and replicable):

$$\textit{correct theory} \times \textit{static world} \times \textit{objective observer} = \textit{predictable result}$$

When this equation breaks down, science assumes it to be a problem with the observer or with the theory, because only humans are granted agency and thus the ability to throw a wrench into the works. It is the human capacity for understanding that is seen to limit science, not the nature of the world itself. Disciplines in Western knowledge split along this human-centric idea of agency: when humans are the subject, as in the social sciences, outcomes are seen as inherently less certain or deterministic than in the natural sciences. The way in which the Intergovernmental Panel on Climate Change (IPCC) handles uncertainty differently in its three working groups illustrates this point well: the methods of Working Groups I and II (The Physical Science Basis and Impacts, Adaptation and Vulnerability) are “judged to be inadequate” by Working Group III (Mitigation of Climate Change) in dealing with the “specific uncertainties involved in this mitigation report, as here human choices are considered” (IPCC 2007a, 23). Humans are seen to add greater uncertainty through their agency.

Amidst all this, it is helpful to remember that the dominance of science and its assumptions has not always been so. In the worldview of medieval Europe, the nonhuman world was dynamic and alive, and the relationship between humans and nature empathetic, “nature that must be read like a book, not dismantled like a machine” (Everndon 1992, 43). With the Enlightenment and the scientific revolution came the replacement of this knowable-through-lived-experience concept of nature by the belief that nature was only knowable through objective scientific study, a “non-experienced reality” (Everndon 1992, 53). Then followed a dramatic shift “from the fundamental assumption that the world is alive and that death is the anomaly to the assumption that death is the norm and life is the anomaly” (Everndon 1992, 90). Everndon argues this shift could not have been conceived, never mind accepted, until we effectively cut ourselves off from nature through the reinforcement of the human|nature dichotomy. If this dichotomy can again be dissolved, perhaps nonhuman agency can also be restored.

Re-Imagining Agency

Without actually invoking spiritual explanations, agential realism accepts uncertainty through its acceptance of nonhuman agency. The common understanding of agency, involving action or intervention aimed toward a specific result, is an attribute humans have long claimed for themselves as a defining feature of humanity. By recognizing voice and agency in the nonhuman world that is not merely a reflection of our own, agential realism reconceptualizes agency itself. As Gram-Hanssen (1996, 93) puts it, nature “does not speak for itself, nor does it totally disappear through human theorizing”. It is an ‘other’ with its own form of subjectivity and agency, and we can neither know it from its own perspective nor remove our own perspective from our knowing of it. This is helpful in understanding nonhuman agency: if we realize that our concept of agency is coloured by how we as humans experience it, we can start to see that this is but one viewpoint, and far from the only one. The concept of agency I am using has two requirements: first, for ‘A’ to have agency, something ‘B’ must be affected, and second, the resulting effect must be due to action or influence of ‘A’ which is more than the residual of ‘B’ not having the power to resist: something equivalent to intention is required of ‘A’. Simply seeing nature as powerful and difficult to predict is not enough: if unexpected outcomes are attributed to *human* limitations or failure to understand the structure well enough, then nature only *appears* to have agency.

Barad (2003, 818) describes agency as “not an attribute but the ongoing reconfigurings of the world” and matter itself as “a congealing of agency” (Barad 2003:818). The key to understanding nonhuman agency is that agency is primary. In Pickering's (1995, 6) words, it is “the idea that the world is filled not, in the first instance, with facts and observations, but with agency”. Relations are primary to relata (Barad 2007 136), and thus the lines between subject|object and cause|effect emerge through, not before, interaction: hence the term intra-action. Pickering describes how the posthuman space (which includes both human|nonhuman elements and agency) is temporally prior to anything that either the natural or social sciences may choose as an object of study; in this way, posthuman objects of study emerge in an “unpredictably open-ended fashion” (Pickering 2005, 34). All things, subjects and objects, emerge and are created through this constant iterative relationship. Agency is not something to be possessed: we do not have agency, we are agency – becoming through our intra-actions – and so is everything else.

Science itself can be thought of as the act of capturing material agency in a form that we humans are able to understand (Pickering 1995, 7). The increasing variation and unpredictability of climate change is the agency of the world becoming more visible to us: “No one knows where this kind of dance of agency is going. This is the sense in which such assemblages are prior to the objects of the traditional sciences. The latter come late, and try to understand what the dance of agency has made visible” (Pickering 2005, 35). Science can help make sense of things by creating objects of study *ex post facto*, after their creation through intra-action, and may at times succeed in applying the rules it derives to prediction of future outcomes. But as Haraway (1991, 199) reminds us, nature is a “witty where it fails that are most telling: here the nonhuman agency of the world becomes evident and the wisdom of the humility central to indigenous knowledge is highlighted.

Indeterminacy

The IPCC identifies two broad classes of uncertainty: “statistical” uncertainty occurs when specific values or parameters are not precisely known, while “structural” uncertainty occurs when functional relationships are not understood or it is not known if all relevant variables have been included (Manning et al. 2004, 2). But a third type of uncertainty, often referred to as “chaos” or “lack of predictability” (Manning et al. 2004), also exists, which can be alternatively viewed as a manifestation of the agency of the object of study. It originates beyond the epistemic level of the amount of empirical evidence known, the adequacy of conceptual frameworks, or our ability to understand. Agential realism offers not only a framework within which science and society can better accept uncertainty, but also an alternative understanding of this type of uncertainty as indeterminacy.

In developing her concept of agential realism, Barad (2007) uses examples from quantum physics and elaborates on the philosophy first suggested in the writings of Neils Bohr. The classic illustration of uncertainty vs. indeterminacy is a thought experiment of trying to measure both the position of an electron (requiring use of a fixed platform) and the measurement error incurred, determined by measuring the momentum of the electron (requiring a moving platform) (Barad 2007, 112). The key point is that the two experimental setups are mutually exclusive: the platform cannot be both fixed and moving at the same time, so greater accuracy in measuring position means less accurate measurement of momentum, and vice versa. One way of interpreting this problem is

as one of uncertainty: an epistemic limitation to what can be known (this is the interpretation present in the well known Heisenberg Uncertainty Principle). Barad contrasts this with Bohr's "complementarity," from which she derives an "indeterminacy principle": "the values of complementary variables (such as position and momentum) are not simultaneously determinate" (Barad 2007, 118). Indeterminacy refers not to an epistemic limitation as uncertainty does, but to an ontological one, an inherent feature of the world. Not just the unknown, this is the unknowable, or even "what can be said to simultaneously exist" (Barad 2007, 118).

Barad (2007, 148) discusses the importance of apparatuses as the "conditions of possibility and impossibility of mattering," enacting a local and contingent agential separation of object and subject. What is not determined until specific agential cuts are made through the application of specific apparatuses. While an apparatus is most obviously understood as the physical theories and beliefs that underlie the choice to (intra)act in a specific way. She further redefines the concept of objectivity as being tied to careful and detailed description of the apparatus used, because what is at issue is agential separability, the clear articulation of what is used to make the causal cut between object and subject: "resolution of the semantic-ontic indeterminacy provides the condition for the possibility of objectivity" (Barad 2007, 120).

How we think about the world has real material consequences, and how we react and adapt to climate change most certainly will depend on our underlying philosophical framework. How might an acceptance of uncertainty/indeterminacy help us to cope with climate change? Although simpler to grasp when applied to a single electron, the implications of indeterminacy are far-reaching. In climate change science, the battle with uncertainty verges on crippling: if we refuse to act until we are more certain, then we will never act if what we are dealing with is actually indeterminacy, because it can never be fully resolved. Yet our actions matter in a very real sense, as we are part of this global experimental apparatus: our intra- actions create what we are measuring, while excluding the possibility of other phenomena from existence.

Conclusions and Possibilities

The accumulation of indigenous knowledge can be visualized as a slow moving rain cloud that follows the topography of the land, each falling drop becoming integrated and embedded in space and time. In contrast, scientific knowledge generation is like a powerful hose positioned at one present moment: it sprays its water as far as it can reach and calls the circumference of its reach reality. Driven by its desire to increase certainty, science continues to divide the world into smaller bits, and as more and more data is packed in, the pressure builds up, threatening to explode. The posthumanist ontology epistemology of agential realism provides an alternate framework to look at the whole landscape – the land, water, hose and clouds – seeing the intra-actions between all of the components as primary and mattering, both literally and figuratively. Aligning more closely with indigenous knowledge systems than with science, agential realism explicitly recognizes the embodied and accountable nature of the observer in all knowledge claims and traverses academic disciplinary boundaries, offering a more holistic view of the world. And, by recognizing agency in the material world, it offers science a way of accepting uncertainty similar to what spirituality does for indigenous knowledge.

Climate change can challenge us to deconstruct how we think about borders (Koivumaa, this volume), how we cooperate with each other (Niemisalo, this volume) and how we define security

(Heininen, this volume): why not also how we encounter uncertainty? The earth is changing ever more quickly, not only beneath the feet of indigenous communities, but under us all (Crate, this volume). The future is constantly co-created and emerging through our intra-actions with it, and even when the changes we are witnessing are human-induced, the nonhuman world always plays a parallel role in this dance of agency. No matter how hard we try, we will never move beyond the present moment; however much we may fight it, we are still moving with the world at the world's pace just as indigenous knowledge is. By changing our attitude and cultivating acceptance of uncertainty/indeterminacy, we avoid engaging in a constant battle with what is, trying to simultaneously understand everything and make (or keep) it the way we think it should be. Science has a history of imposing its theories onto the world with little regard for where the fit is clumsy at best, disastrous at worst. But instead of constantly trying to erase our mistakes and stick to the plan, we could embrace the flow of the world as it emerges. Knowing we have made mistakes, even consciously trying to live and develop in ways that we believe to be better, we could still accept what already is. In the words of Pickering (2005, 41), "we could look for the beauty, very broadly understood, natural and social, in the outcomes of our interactions with the environment, and we could try to work on and amplify that when we find it." By accepting the partiality and limitations of our knowledge, posthumanism offers humility about our place in the agency-filled world. The future is not only uncertain (and as many oral traditions would remind us, always has been), but is also indeterminate. Things are not just unknown, mysterious, or beyond our control, they are not yet determined, and with that comes much hope and possibility.

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The Formation of Extended Security and Climate Change in the Arctic from 1987-2010

Willy Østreng

Introduction

The last decades have seen dramatic changes in arctic politics and natural conditions. Due to a set of intermingling political and environmental factors, civil societal organizations are slowly but surely gaining access to areas of the North previously either designated for military purposes only or sealed off from human exploitation by the frosty fences of the sea ice. As a consequence, a brand new set of values, interests and priorities are increasingly making their mark on the political agenda setting of the Arctic, affecting the geopolitical significance of the region in international relations.

The purpose of this article is to substantiate and explain some of the driving forces behind this shift as they have manifested in the last decades. Two kinds of changes are at work here. One is political, referring to the cessation of the Cold War and changes in the regional security thinking, whereas the other is environmental, stemming from the reductions in sea ice extent and volume. The interaction of these two changes provides new premises in regional security thinking and policymaking.

Political Changes: From Cold to the Post-Cold War Politics

Cold War Politics

During the Cold War three intertwined and partly overlapping political processes defined the preconditions for civil involvement in Arctic affairs: I. Militarization, II. Centralization, and III. Marginalization (see Figure 7-1).

(I) Militarization: None of the major industrial areas in Russia, North America, Europe, or Japan are located more than 3860 nautical miles from the North Pole. Or put differently: Some 80 percent of world industrial production takes place north of 30 degree N. latitude, and some 70 percent of all metropolises lie north of the Tropic of Cancer. Thus, the Arctic Ocean is geographically a military and industrial “Mediterranean Sea” lying in-between the most advanced and productive regions of the world (Stefansson 1922). The first to realize these features of the Arctic was the military-industrial complex.

In a speech to the US Congress in 1935, General Billy Mitchell maintained that “Alaska is the most central place in the world for aircraft. He who holds Alaska holds the world” (Swartztrauber 1965, 10). A scant decade later this was echoed by US Air Force General Henry H. Arnold stating that the North Pole would become a strategic centre point if a third world war should break out (Gould 1958). Some 200 years before them, the Russian scientist Mikhail Lomonosov held that “The Power of Russia shall be increased by Siberia and the Arctic Ocean.” These and similar statements – controversial as they were at their time - turned out to be rather prophetic. In actual military practice, they materialized as a response to the political tensions of the Cold War and the military technological inventions made during World War II.

In anticipation of what was coming, the British journalist Harry Smolka in 1937 made three predictions on how Soviet authorities would use the region in national military planning: 1. the city of Murmansk at the Kola Peninsula would be made the primary naval base in Europe, 2. the Northern Sea Route (NSR) would become an artery for naval transfers between the Atlantic and Pacific, and, 3. the ocean column beneath the sea ice would be used as an area for submarine operations. Ten years later, both sides designated the airspace above the polar ice cap as a deployment area for their strategic bombers and intercontinental missiles, and earmarked the water column beneath the sea ice in the Central Arctic Basin for future submarine operations. The use of the Arctic for strategic deterrence resulted in an extensive construction of air-attack warning and surveillance radar stations, airfields and missile bases on land along the whole periphery of the circumpolar area. This deployment pattern gradually made the Arctic transform from a military vacuum prior to World War II, to a military flank in the 1950-70 period and to a military front in the 1980s (see Østreng et al 1999).

The gradual inclusion of the North into Cold War nuclear planning made most governments conceive of arctic security solely in military terms. National security became synonymous with military security. This had its bearing on the way in which political decisions were made in all the Arctic states (Østreng 1999).

(II) Centralization: To retain authority and to avoid civil activities interfering – directly and/or indirectly - with military-strategic interests, central governments assumed control of the national decision-making process, and made arctic affairs the prerogative of the executive branch. Thus, interests of high politics, i.e those concerning the very military survival of the state, ruled the day

and defined the content of policy, managerial procedures and legislation in all littoral states to the Arctic Ocean. This prioritisation resulted in the (III) Marginalization of civil issue areas, which were subordinated to military needs and priorities were controlled to keep a low profile in regional affairs. As a rule of thumb, security considerations gained the upper hand in setting national priorities for the North, and civil issue areas like resource exploitation, transport, research, rescue operations, native communities, environmental protection etc. were integrated into the realm of military and political tension. Whenever the military establishment perceived of a conflict between the two types of interests, the civil sector was obliged to yield. For the Arctic this created from the outset of the East-West conflict a military defined concept of security in which civil issue areas were subordinated to strategic needs.

Thus, the combined processes of militarization, centralization, and marginalization deprived the Arctic of a cooperative atmosphere and sidetracked the interests of civil society in policy formulation. (See Figure 7-1). The military- industrial complex on both sides of the iron and ice fence ruled and directed regional affairs.

Post Cold War Politics: the First Phase

Soviet regional security thinking

The first public attempt to break out of the Cold War security thinking came from the party most rigorously insisting on it in the past. On 1 October 1987 Secretary General, Mikhail Gorbachev gave a speech in Murmansk in which he signaled a willingness to initiate international cooperation in five civil issue areas: energy planning, environmental protection, scientific cooperation, and transportation (Scrivener 1989). In identifying these areas, Gorbachev also introduced a distinction between military and civil security. Both were regarded as vital for safeguarding national security, but the civil component was to be given priority from then on (Parrott 1988).

Actually, the new approach held that security lay in the political rather than military sphere and that national security was a comprehensive and complex matter based on two principles: first, national security is an integral part of the security of others, implying that no country can be more secure than others and that one country's insecurity equals the insecurity of the rest. Thus, military imbalances and asymmetries should in the long term be eliminated. Second, common problems of a trans-boundary nature – ecological, economic or whatever – can only be resolved through international cooperation. The increased complexity and interdependence between states had, according to the new thinking, created a need to develop a comprehensive system of international security based on a mechanism capable of discussing common problems in a responsible way and at a representative level. The need was to extend the concept to comprise, in addition to military matters, economy, ecology and human rights. Thus, international cooperation in civil issue areas was defined as a measure to bolster national security (Granovsky 1989). The purpose was to create extended security through international cooperation by decoupling military and civil issue areas. Coexistence between rather than exclusion of interests was the prescription suggested to transform the region into a cooperative place for civil activities to take place on their own preconditions and on an equal footing with military activities Østreng 1992).

Prime Minister Ryzhkov clarified the implications of this distinction: “We do not make the implementation of the military and political aspects of the Murmansk initiative an absolute condition for the development of cooperation between the Arctic rim states in the economic,

scientific, ecological, humanitarian and other areas” (Rodionov 1989, 212). However, the close interconnectedness between the two components of national security made Ryzhkov underscore that “everybody will understand that even a sturdy house built as the result of such cooperation could easily be destroyed by the destructive power concentrated in the Arctic areas” (Ibid.). In other words, the civil and military sectors were regarded as being both separated (Murmansk program) and closely interconnected (Ryzhkovs statement) in the realm of national security and should as such be handled in an interactive, but sector-specific manner. The relationship between the two sectors should, however, be based on the premise that no sector was in a position automatically to violate the others’ independent abilities to fulfil their unique obligations to contribute to the extended national security opted for in the Murmansk program.

The separation of Arctic security into interrelated parts was an acknowledgement of the complexity of national security, the military component being only one. Whereas the Cold War concept was one of military partiality, regarding civil activities as a potential obstacle, or even threat to military security, the new thinking was one of comprehensiveness, regarding civil cooperation in many fields as one of two sets of measures to prepare nations to meet all kinds of threat to national security, military as well as civil. The new security concept was one of comprehensive complexity, extended to comprise and counteract all possible threats to the well being of states, civil as well as military. In achieving this, some civil issue areas should be the object of international cooperation (Østreng 1999, 21-38). The Soviet Union was on a brand new track in regional security thinking. The Murmansk speech and this change have been labelled the first iconic moment in modern Arctic history – a state change in which the complex dynamic political system of the High North underwent a sharp irreversible non-linear shift (Young, 2009). How did this shift reason with western conceptions?

Western regional security conceptions

Throughout the last twenty years of the Cold War, the western rim states had been somewhat more open to functional multilateral cooperation in non-military issue areas than the Soviet Union. This relative and conditioned openness was nourished by the heritage from U.S. Vice-President, Henry A. Wallace, who, during World War II, proposed that his country should lead the way in establishing an Arctic Treaty for, inter alia, scientific exploration and cooperation among the Arctic States (Pollack and Anderson 1973). The drafting and implementation of such a treaty never materialized, partly due to the hegemonic features of the Cold War, and partly due to lack of pressing contemporary needs for international cooperation in most civil fields. In the course of the 1970s and 1980s there are examples (AIDJEX, Polar Bear Agreement etc.) showing that western states cautiously took initiatives to open up for pan-Arctic scientific cooperation, a good ten years before the Soviet government did. The western approach proceeded along the lines later followed in the Murmansk program: Non-military issue areas appropriate for international cooperation were identified and then peeled away from those interests defined as pertaining to military security. The process was cautious and gradual, but in terms of security conceptions, the two sides stood on a fairly equal footing around 1987 when Gorbachev made his historic speech in Murmansk (Østreng 1999).

have been invited for participation: external polities (EU, non- subregional states), regional territorial states (Norway, Sweden, Finland and Russia), subnational regions (the eleven cooperative counties/oblasts), structural actors (Secretariat, the Regional and Barents Council), transregional actors (Samis) and societal actors (companies, universities, cultural organizations etc.). This multi-level and multi-player setting have given rise to a most pluralistic decision-making structure labelled the 'polity-puzzle' both of the BEAR and the overall security agenda of the post Cold War era (Eriksson 1994). Here, societal actors like companies, universities, cultural organizations etc. have been politically defined by central governments as the prime movers of regional cooperation and development. Since security policy constitutionally is the responsibility of central government, what the governments have invited their counties to do is, through their civil societies, to contribute to the creation of a new civil security order in their own neighborhood together with governments. In this perspective, the BEAR is a government-governed partnership between counties and governments across borders. As has been noted, "...the net effect on security (of this cooperative arrangement) may be positive,..., to the extent that regional power can allay local anxieties and neutralize violent separatist groups. In so doing, regions relieve pressure on national governments. It is by chance that regional power has grown with the willing assent of state – although it has grown in some places because national governments could not deter it by any acceptable means. (Newhouse 1977).

In this context, the concept of regionalization is a key notion, underscoring that political decisions are to be taken at the lowest possible level. According to one observer this should imply a new security role for provinces and interregional institutions in that the Contracting parties of the BEAR have agreed "to secure a peaceful and stable development in the Region." (Eriksson 1995). When directly asked, representatives of local governments in North Norway have, for example, emphasized that they are not simply acting in the interests of their provinces and counties but also in the interest of their national societies (Ibid., 271). The point illustrated here is that the polities either overlap or are included in each other as is the case with central and provincial governments (Eriksson 1994). In this way regional politics have become part of the state's foreign and security policy – a version that has been termed "decentralized foreign and security policy" (Stoltenberg, 1992). The polity puzzle confronting BEAR governments is that uncertainty exists about the security function of various polities (Eriksson, 1994). A different perspective is that transnational politicization as the one practiced within Bear stimulates mobilization from below that will not necessarily be given the consent of central government because the role of the states as a non-disputed supreme security subject is being challenged" (Eriksson 1995). Either or, the complexity of the Barents scheme makes the BEAR a composite laboratory-test of the operationalization of the extended concept of security – thematically, geographically and otherwise (Koivumaa, this volume).

It is noteworthy that the Barents cooperation has not designated any of its many working committees for security deliberations. Civil security is thus a topic not to be addressed directly in open discussions within the cooperative apparatus but rather a public goal to be achieved indirectly mostly through the civil activities conducted by "non-security actors." Actually, here the BEAR complies with the trend of Arctic regionalization and civilianization in general: Military matters, which are an integral part of any reasonable definition of extended security (Østreng 1999), have been excluded from all the regimes and agendas. The only regime that explicitly address the topic

of security is the Arctic Council, stating in its founding document that it shall not deal with “matters related to military security” (Arctic Council 1996, footnotes 1 and 5).

As has been observed, “Apart from the vague objective of promoting collective environmental security in the region, such features will not feature on the Arctic Council’s initial agenda” (Scrivener 1996). However, if not officially declared, the effects on Arctic security stemming from the results of the other cooperative arrangements do not, in principle, differ from that of BEAR. Provided those regimes produce what is declared, the overall cooperative process to civilianize and regionalize Arctic international relations, will by implication, affect the process to implement the new concept of extended regional security. Consequently, all regimes purport contributing indirectly to civilianize regional security. In the short and medium term perspective, the issue area most salient as an object to promote civil security in the Arctic is environmental preservation – the politically least controversial common denominator of all the regimes.

Combined the processes of civilianization, regionalization and mobilization make room for political authority and influence in different forms and on other levels than the state. None-state polities are increasingly claiming to be points of identification, as well as claiming greater political autonomy (Eriksson 1994). Thus, a new era of low politics and civil involvement in regional affairs has been put in the post-Cold War melting pot of Arctic affairs. Low politics have become part of high politics. The incentives to utilize this fresh political foundation for civil purposes is being strengthened by global climate warming and changes in the sea ice cover of the Arctic Ocean.

Environmental Changes: Sea ice reductions

Over the last 30 years, the average winter temperature in the Arctic has increased by six degrees Celsius. This warming has resulted in a decrease in snow cover and glacier mass balances, thawing of the permafrost, and a notable reduction in sea ice extent, thickness, and strength. Since 1978, the overall reduction of sea ice extent has been more than 10% (the International Arctic Science Committee 1999, 10). In the period 1976- 1990 the extent of sea ice was reduced by 1 million sq.km., i.e. an area bigger than Norway, Denmark and Sweden combined. Observed sea ice reductions in later years indicates an annual loss of 45 000 sq km. of sea ice (Arctic Marine Shipping Assessment (AMSA) 2009, 12). The extent of ice in the Arctic Ocean has an annual cycle of freeze and melting. March represents the height of winter and freeze with a maximum ice growth covering about 16 million square kilometer of the surface of the Arctic Basin. New extreme minima of summer ice extent have been established repeatedly ever since 1980. As an example, the September ice extent in the Chukchi Sea was in 1998 25% below the prior minimum value over a 45year period (Weller 2000, 43). In mid-September 2007, the Arctic Ocean reached its absolute sea ice minimum so far covering only 4.1 million square kilometers, i.e. a reduction of 74 percent as compared to the average sea ice coverage of March. One year later – in September 2008 - the extent of sea ice was about 1 million square km bigger than at the same time the year before, covering 5,2 million square kilometer (Doyle 2008). In March 2008 the ice extent rebounded rapidly to a winter maximum that was actually higher than in the previous four years. On these grounds, ice-experts expect strong natural variability events in the future, causing both decreases and increases of the arctic sea-ice cover on seasonal and decadal time scales (Johannessen 2008, 52).

This annual and inter-annual variability notwithstanding, expert opinion is that the thawing is long-term and that the ice-edge will steadily migrate northward along with a further thinning and

weakening of sea ice. Over the last 30 years, sea ice thickness in the Central Arctic Ocean - a sensitive indicator of climate change - has decreased by 42 %, a decrease of 1.3 meters – from 3.1 to 1.8 meters (Weller 2000, 40) As a consequence, the influx of multiyear ice from the Central Arctic Ocean to the coastal areas has decreased by 14 percent from 1978 to 1998. This decrease greatly benefits economic activities in coastal waters.

On the basis of these and other scientific observations, model experiments suggest a further decrease in sea ice thickness of some 30 %, and an ice volume decrease between 15 and 40% by 2050 (Naval Ice Center 2001, 3) If this trend continues, one postulate is that summertime disappearance of the ice cap is possible in the course of this century and that significant areas of the Arctic Ocean may become permanently free of sea ice in summer (Ibid.). One of the models simulates an ice-free Arctic Ocean in summer by 2050. This scenario implies that the physical occurrence of multi-year ice can possibly disappear from these waters in the future improving further the conditions of economic activities. This is not to say that the Arctic Ocean will become an ice-free ocean also in winters. As concluded in the Arctic Shipping Assessment Study (AMSA): “Even after the first ice-free summer is recorded, there will almost certainly be subsequent years when all of the ice does not melt in summer but survives to become “old” ice the following year. It is ... generally agreed that the Arctic waters will continue to freeze over in winter” (AMSA 2009, 178). Russian scientists go one step further maintaining that the likelihood of an ice-free Arctic Ocean in the future is small even if the air temperature continues to increase. Their doubt is founded on the argument that the sustainability of the composition and functioning of the structure of the upper layers of the Arctic Ocean will control and reduce the melting process (Ugryumov and Korovin 2005, 110-111). Thus, different sources assume sea ice to be a lasting characteristic of the Arctic Ocean.

Since science on complex non-linear systems, like the global “weather machine,” cannot be modelled exactly to make sure predictions, our knowledge on the relationship between global warming and climate change will remain somewhat simplified and limited, leaving room for scientific uncertainties, doubts and even controversies. The questions still causing some debate is how the recorded changes should be interpreted and what causes them? Some experts claim them to be nothing but cyclical natural variations of a limited duration, others think of them as evidence of long-lasting climate change, whereas a majority seem to agree that they are a combination of both.

Prominent climatologists estimate the probability that the recorded trends result from natural climatic variability to be less than 0.1 percent (Vinnikov et al. 1999, 1934-1937). The UN International Panel of Climate Change (IPCC) follow suit, claiming with increasing certainty that the prime driver of global warming is anthropogenic, mainly caused by greenhouse emissions. This stand is substantiated by independent model experiments suggesting that there is a 90 percent match between rising greenhouse gas emissions, mainly from use of fossil fuels in recent decades, and observations of a retreat of sea ice. Thus, only 10 percent are due to cyclical variations (Johannessen 2008, 51-56). Furthermore, observations over the last 20 years strongly suggest that more ice is disappearing from the Arctic Ocean than what the IPCC- models tell (Ibid.) In this perspective, IPCC estimates are conservative. Although, scientific uncertainties still prevail the ‘majority vote’ of climatologists and sea ice experts seem to be that global warming at present is driven by anthropogenic emissions of climate gases and supported by natural variations. On this

‘vote’, most governments form their climate and regional policies. This chapter is based on the same vote.

The projected trends in sea ice changes raises a whole new set of social, economic, environmental, political, cultural, human rights and strategic questions, presenting governments and civil societal organizations with complex challenges as well as fresh opportunities. The first version of extended post-Cold War security is about to be put to the test by a dwindling sea ice cover.

Post-Cold War Politics: The Second Unfinished Phase

At the time of the Murmansk initiative, governments did not pay much attention to the political, economic and societal implications of a changing sea ice regime, or for that matter global climate change. Their preoccupation was with changing politics - the dismantling of the Cold War and the reconstruction of a new international political order. Global climate change became headline politics only in the later part of the 1990's, and rose to prominence in the 2000s. This fresh input into the political process has been labelled the second ‘iconic moment of state change’ in the Arctic in the post-Cold War period (Young 2009). It came to realization in two stages – in 1998 with the release of the AMAP Assessment Report. Arctic Pollution Issues, and in 2005 with the issuing of the Arctic Climate Impact Assessment (see Figure 1).

In recent years, the Arctic Ocean seems to attract interests from an increasing number of extraterritorial states, European as well as Asian. As of the present, the Asian newcomers seems to include important countries like China, Japan, South Korea and India. Thus, we may add a fourth process, globalization, to the three post-Cold War processes going on in the Arctic as of now. The fourth process is still fairly weak in expression, but is likely to grow in significance and impact on regional matters in the years ahead.

Four key political consequences of regional significance stem from these releases: a rise of new economic interests, in particular energy and shipping, a growing prominence of extraterritorial actors, an emergence of jurisdictional issues (Ibid.), and a change in military operational conditions (see Heininen, this volume).

To cope with these consequences, the ‘politics of Murmansk’ are now in a process of redefinition in most Arctic capitals through a juggling of positions between multiple actors – external and internal, civil and governmental - representing different sectors and issue areas. How this re-evaluation process will play out in detail and what adjustments the Arctic Eighth will undertake to secure their individual and collective interests is much too early to tell. What can be said with certainty is that the economic and military sectors are facing very different challenges in adjusting their societal functions and interests to a changing sea ice regime.

The Role of Sea Ice in Post-Cold War Policy Formulation

The Murmansk initiative opened the Arctic for civil activities on an equal footing with the military. This could be done because the two activities were geographically separated by sea ice in the region. Strategic deterrence could be secured by strategic submarines operating in the deep water sections of the Central Arctic Basin, whereas the fringes – the seasonally ice free areas – of the Arctic Ocean were designated civil activities. For the oil industry it was important to shield its installations from contact with the unpredictable forces of moving sea ice, whereas strategic submarines used the ice cover as a protective shield to enhance their survivability (see below) (Østreng 1987). The

interference of the two interests in each other's activity areas only occurred in the Barents Sea – the thoroughfare of the Northern Fleet based at the Kola Peninsula (Bergesen, Moe and Østreng 1987). Obviously, this amount of interference was acceptable, if not desirable to the Soviet leadership. On the premise that Soviet scientists told their political leaders that the sea ice cover was stable and permanent (see above), Gorbachev could change Soviet policy and security thinking in the region on the basis of political needs and premises only. It lasted until the turn of the century before the state of sea ice became a prime driver of political change.

The rise of new economic interests in Arctic energy As shown above, the annual reductions in sea ice extent in the Arctic Ocean amounts to 45 000 sq. km., i.e. more than the size of Denmark. This melt is accelerating, opening up sizeable chunks of previously ice closed continental shelf areas for exploration and exploitation. Expectations are that the oil industry will follow the ice edge northward in its search of oil and gas until it reaches the southernmost fringes of the Central Arctic Basin.

According to the US Geological Surveys' (USGS) most recent estimates, the Arctic may hold up to 24 percent of the world's undiscovered hydrocarbons, i.e. 51 billion tons of oil equivalents (o.e.) (Focus North 2007). Of these resources, the shelf is supposed to contain a reasonable share. The interest in exploiting these resources is fuelled by two extraterritorial and geopolitical reasons.

First, the global rate of oil finds has dropped drastically since the late 1960s, indicating that world energy production may be on a steep downhill track in the years ahead. At the same time the demand for oil is expected to increase by some 60 percent over the next 30 years. Here, find rates, supply and demand are on a course of fatal collision. New energy forms, sources and provinces are in high demand. The assumed role of petroleum in this rather bleak futuristic scenario is that oil and gas will remain the dominant form of energy supply for at least 40 more years (BP Statistical Review of World Energy 2005).

Second, to take energy resources from the Arctic complies with the policy of most oil and gas importing countries to reduce their vulnerability of being subjected to energy blackmails from governments in politically unstable and volatile areas. The attraction for Arctic oil and gas is fed by the war against terrorism, piracy in southern waters and the enduring political dramas of the Middle East and Central Asia providing the bulk of fossil energy to import-dependent countries in the Western world. The six Israeli/Arab wars, the Gulf war, the Afghan War, and the 11 year long war between Iraq and Iran, all introduced severe uncertainties in the supply of oil to energy dependent countries, and made energy prices soar to unprecedented levels seriously hurting the world economy

Regional Military Security

According to US military sources an ice-free Arctic Ocean is likely to increase the scope of naval operations in the region. It is projected that new capabilities will be required in many aspects of air, space, surface and subsurface operations and support. (Naval Ice Centre 2001, 3). This, in particular, will impact on the military dispositions of Russia - the main strategic user of these waters. The most drastic changes will apply to the operational conditions of strategic submarines (SSBNs) operating beneath the sea ice canopy in the Central Arctic Basin. The sea ice has ever since the late 1970s, early 1980s acted as a "protective shield" preventing the effective application of anti-submarine warfare (ASW) against SSBNs seeking protection from detection under the ice cover. It

prevents the effective use of most ASW measures from the ocean surface (i.e. deepwater bombs) and reduces the effectiveness of listening devices on the sea bed. Even hunter-killer submarines are restricted by sea ice conditions in their efforts to detect, track and destroy SSBNs in these waters (Østreng 1987). The US Office of Naval Research puts it succinctly: “The geographic proximity of the Arctic Ocean to North America, Europe, and Asia makes (the Arctic Ocean) a particularly attractive area for the stationing of strategic (ballistic missile) submarine. (T)he ice canopy makes deployment of surveillance systems costly and difficult. Stationary submarines can take refuge near the ice, where they are virtually undetectable and invulnerable to attack: or in the marginal ice zones, where environmental noise masks their presence” (Naval Ice Center 2001, 14). The Central Arctic Basin has to a large extent served Soviet/ Russian SSBNs as an operational sanctuary for decades, contributing to the preservation of the strategic balance. The gradual disappearing of the sea ice will, according to the US Office of Naval Research, “eliminate the haven now provided to stationary submarines by ice keels. Active sonar detection of submarines, both by ASW sonars and acoustic torpedoes, will become feasible ... (and) the melting of sea ice will turn (the Arctic Ocean) into a conventional open-ocean ASW environment, with none of the advantages it now affords to an adversary strategic submarine” (Ibid, 15). The usefulness of the sea ice for enhancing the survivability of Russian SSBNs is declining, requiring alterations in existing military operational concepts.

What is more: the Arctic Ocean is the only ocean providing the Russian fleet with direct access to the high seas without passing through straits or confined sea areas controlled by other states. In times of hostilities these waters can be blocked for transit, hurting Russia’s military operational capabilities. Thus, the dwindling of the sea ice cover in the Central Arctic Basin relates to the geopolitical problem Russia faces as a sea power in southern waters. What counter measures Russia will apply to mitigate these operational handicaps is not known at present, but they may reshuffle the balance between the civil and military components in the concept of extended security applied to the region (see Figure 7-1). Recently, President Dimitri I. Medvedev announced a military build-up of Russia’s strategic forces to counteract what he perceives to be a renewed containment policy on the part of NATO and the USA. If implemented, such a move will have regional consequences.

Summing up

Changing politics and environments have altered the operational preconditions of human involvement in the utilization of Arctic potentials. Strategic submarines may be in the process of losing the operational advantages stemming from a sustained sea ice cover, whereas the civil sector benefits from its gradual disappearance. Civil activities are in the long-term moving northward along with the ice edge, closing in on the operational space of strategic submarines, whereas thin hulled surface warships may be redeployed to use the ice free coastal waters of the circumpolar Arctic, interfering with the prime operational space of civil economic activities. Geographically, the sectors are no longer distinctively separated by natural features. This increases the likelihood of contacts between spheres of interests, enhancing the possibility of conflicts, not only between sectors but also between interests in civil societies and across national borders. The processes of civilianization, regionalization and mobilization have been supplemented with the process of globalization, expanding the number of voices claiming a legitimate interest and say in the conduct of regional affairs. Thus, the political need is for cooperation within and between sectors, nations and governments extending beyond the region itself. The Arctic is gradually being assigned a more

complex geopolitical role in global affairs. The overall challenge of this development is to find ways of cohabitation between interests approaching each other's operational spaces. The combined effects of recent policy additions and changes is that the balance between the components of the extended security concept as defined in Murmansk may be altered. A likely outcome is that central governments will try to keep control by tightening their grip on regional politics with jurisdictional means at the expense of regionalization (see figure 7-1).

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The Amazing Race. On resources, conflict, and cooperation in the Arctic.

Teemu Palosaari

Introduction

“Loss of ice will mean extinction for many species, including one of the world’s most iconic animals, the polar bear. But perhaps most importantly, the scramble for the Arctic’s minerals may lead to conflicts that threaten not only iconic animals, but world peace itself.”

– Richard Sale, *the Scramble for the Arctic* (2009, 9).

Ice melts, world peace is threatened, writes glaciologist Richard Sale. And he has certainly not been the only one to propagate such a view. Thanks to the ongoing melting of the Arctic Ocean sea ice the Arctic natural resources have become an increasingly topical issue in international politics. The media often describes the situation as a “Cold Rush” or “Arctic Race” in which the coastal states US, Russia, Canada, Denmark, Iceland and Norway are competing for the ownership of and control over the new oil and gas resources and the transport routes. Many “non-Arctic” actors, such as China and Japan, have also shown increasing interest in Arctic activities lately. Consequently, the conflict potential in the Arctic has been repeatedly in the headlines. The climate change is presented as a factor that results in growing political and military tensions between the

Arctic states. The evidence for this view has, however, usually been found in individual events, such as military exercises or flag planting underneath and above the Arctic Ocean's surface.

To contrast that view, it is argued in this article that while *ice melts, peace prevails*. There are numerous factors that point towards continuing peaceful development in the Arctic. So, no Arctic Race to the resources, no "Wild North", let alone new Cold War – but rather a process where international law, UN conventions, environmental regimes and scientific guidelines are followed. Thus, what is amazing about the "Race" is that there actually are clear rules, which are followed, and that peaceful change and territorial claims in resource-rich areas coexist.

Furthermore, it is argued here that the traditional, state-centred hard security concerns draw attention away from the actual Arctic security problems, which relate to environmental and human security. Thus, the second key argument of the article is that the main security challenges in the Arctic are not related to traditional interstate security questions. Instead of issues like maritime delimitation or cold-water military capacities we should be more concerned about a) the *local* level: for instance the dilemma between traditional means of livelihood and modern hydrocarbon industry b) *global* environmental impacts of glacier melting, and c) *moral* issues related to the utilization of the new Arctic oil and gas resources (the so-called Arctic paradox).

Concepts originating from Peace Research are applied here on the Arctic case to give a general framework for analysis.¹ A purpose of the article is to point out that deeper transformation from negative peace (absence of war/violence) into positive peace (integration, cooperation) in the Arctic still calls for solving dilemmas that concern environmental and human security. Although the Arctic is best described as a case of continuing peaceful change, there is no lack of environmental and human security problems.

A complex scientific debate is ongoing on the impacts of climate change on the Arctic ice melting. For the purposes of this article the following mainstream findings are found sufficient: the average temperature in the region has risen and rises faster than in any other area in the globe² and the ice cap is shrinking³. The environmental impacts of climate change are naturally more diverse and concern flora and fauna as well as traditional means of livelihood (see e.g. ACIA 2004, 2005), but the sea-ice retreat alone has effects on international politics – on which this article focuses.

The article is structured so that in order to provide background and context for the analysis, a brief comparison of the 1990s and the current situation in the Arctic is presented first. That is followed by an analysis of two main International Relations interpretations of the Arctic (state sovereignty and international governance perspectives). It is explained how both perspectives support the conclusion that peaceful change is likely to continue in the Arctic. Final part of the article discusses topical environmental and human security issues in the Arctic and explains how solving these problems could contribute to the strengthening of positive peace in the area.

¹ Peace Research is seen here as "an intellectual enterprise devoted to answering a simple – or is it a complex – question: what are the causes of war and conflict and what are the conditions of peace?" (Dunn 2005, 7).

² In 2000-2007 the spring temperature has been on the average 4 degrees higher than between 1970-1999 (US National Oceanic and Atmospheric Administration NOAA).

³ In September 2007 the amount of ice was 50% smaller than in the 1950s and 1970s (National Snow and Ice data Center, University of Colorado 2008). According to NASA the permanent ice cap around the North Pole has thinned 40% between 2004 and 2008 (NASA 2009). The satellite pictures too indicate a significant change (see e.g. NASA Earth Observatory, <http://earthobservatory.nasa.gov>).

The comeback of the Arctic: a comparison of 1990s and the current Arctic wave

The first Arctic wave: post-Cold War euphoria

During the Cold War the Arctic region was central from the military perspective, but otherwise marginal and peripheral (Palosaari & Möller 2004). The Arctic sea and land areas played an important role in the strategies of the superpowers US and Soviet Union (Jalonen 1992, Heininen 1992). The international cooperation in the Arctic gained momentum in the early 1990s – in fact, cooperation had started to evolve even before the end of the Cold War. Cooperation started with environmental issues, they were perceived as “low politics” that were easier to cope with in the antagonist atmosphere. The speech by Mikhail Gorbachev in Murmansk 1987 is often presented as a milestone in a process that increased the international interest towards the Arctic and eventually led to the establishment of various international cooperation bodies. The so-called Rovaniemi Process and Arctic Environmental Protection Strategy were among the first forms of international cooperation between the Cold War parties in the Arctic. The Ottawa Declaration of 1996 established the Arctic Council as an intergovernmental forum to provide a means for promoting cooperation, coordination and interaction in issues of sustainable development and environmental protection. The Arctic Indigenous peoples’ organizations were also involved in the Council’s work.

The way how the Arctic Council was launched describes tellingly the logic of international action in the Arctic during the 1990s. The states utilized environmental issues as “soft”, non-ideological, almost non-political themes with which to start cooperation. The cooperation then materialized as various initiatives and organizations in the region: AEPS, Arctic Council, Barents Euro Arctic Council, International Arctic Science Committee IASC, Arctic Military Environmental Cooperation AMEC, etc. The resulting international cooperation in environmental issues, culture, science, tourism and other soft themes played a noteworthy role in the process where solutions were sought for in order to mitigate the Cold War tensions (see Åtland 2008). At the same time the founding of various regional and subregional organizations, international treaties and other institutions meant that new non-state international actors were introduced to the Arctic arena. At first this took place in terms that were defined and controlled by the states, but the regionalization process eventually resulted in broader political agenda and the forms of international cooperation in the North.

In the 1990s desecuritization and disarmament took place and the military importance of the Arctic declined to some degree (Palosaari & Möller 2004). The Arctic cooperation agenda was increasingly defined by environmental security instead of military security. In addition to the actual concerns on the vulnerable Arctic environment this was influenced by the fact that technological advances in ice breaking and underwater drilling enabled new multinational oil companies’ activities in the region – which in turn called for international cooperation, economical and scientific (Archer 1992).

The political and economical change in the North Europe after the Cold War took place without any major conflicts. It has been argued that the region became a postmodern playground of regionalisation: a hub of transnational connections, cultural exchange and cross border cooperation, where confrontation was replaced with cooperation and new regional idealism (see Joenniemi 1997; Browning 2005, 2006). Although for instance disputes concerning national

resources and their utilization were not totally lacking, they appeared mainly inside states, especially between governments and indigenous peoples (Heininen 1992, 40).

During the Cold War the local actors had basically no influence on how the role of the Arctic in international politics was defined. When military security dominated the Arctic agenda the local actors and their interests remained in the margin. In the 1990s, however, for instance the indigenous peoples got a chance to participate in the Arctic international cooperation. In the Arctic Council the indigenous peoples' organizations were given the status of 'Permanent Participants'. This recognized the concerns of the indigenous peoples and gave the local actors the possibility to participate in a new way. Thus the introduction of environmental security in the Arctic bolstered the position of the local actors and advanced their possibilities for participation in the political process (Palosaari & Möller 2004, 261).

Summing up, the situation in the Arctic in the 1990s can be depicted with the following concepts: the key actors were the international and regional organizations founded by states. Regionalization – basically a post-sovereign process – served as the dominant logic in international politics. The security politics of that time are best described by the broad security concept. A sector of broad security, environmental security, provided topics with which it was possible to create cooperation on many levels. The relationship between local and global level enabled the political mobilisation of Arctic indigenous peoples, and local political actorness was enhanced.

Second wave: dawning of a “post post-Cold War Arctic”⁴

In many of the studies concerning the first Arctic wave the buzz word appears to have been “end of the Cold War” and the role played by the Arctic in the process leading to it. The change from confrontation to cooperation inspired both political actors and researchers: the Cold War military theatre of arms race, submarines, missiles, nuclear weapons turned into an area of new initiatives, new regionalisation, crossborder cooperation, post-sovereign politics, fuzzy borders, new identities. There appears to have been a general feeling prevailing according to which “everything is possible”: an era of new politics had begun. The second Arctic wave, or the situation in the 2000s, is in many ways opposite to this. Melting glaciers, sea level rise, environmental problems and sinister visions of conflicts between states on Arctic regions and sources create a feeling that everything is *impossible*. The buzz word, obviously, is climate change.

Compared to the 1990s climate change has by now made its way from the scientific agenda to the political agenda. The impacts of the climate change are now more visible and better documented. The *securitisation* process related to climate change seems like a textbook example of a securitisation move in the environmental security sector: the public awareness of issues in the scientific agenda increases and issues on the scientific agenda become recognized by policymakers. This is followed by the acceptance of political responsibility and arising political management questions concerning “international cooperation and institutionalization, the effectiveness of unilateral national initiatives, distribution of costs and benefits, free-rider dilemmas, problems of enforcement, and so forth”. Clearly, the presumed urgency of climate change has become a political issue (cf. Buzan *et al.* 1999, 72).

⁴ Cf. Heininen 2010.

Another significant change has been that the Arctic has become exposed to globalisation. New ways have emerged in which the Arctic is becoming more integrated part of the global economy. Arctic has, actually, for long been global in the sense that there has been Northern fishing grounds, whaling, fur trade, mining which connected the Arctic to markets around the world (Heininen & Southcott 2010, 1). But the new forces of globalization are boosted by the climate change. Obviously there is growing interest towards the Arctic sea routes and natural resources that become available as the sea-ice melts. The numbers are telling: the transport route Tokyo-Amsterdam via Panama is 23 000 km and via Suez 21 000 km, but via Northwest Passage 15 500 km and via North-East 13 500 km. This means significant savings in time (10-15 days), fuel and transit fees. Concerning natural resources it can be noted firstly that fishing fleets are moving North as seas become warmer and more navigable. Secondly, new oil and gas resources available: Arctic contains a substantial portion of the world's oil and gas reserves – the Shtokman gas field in the Barents Sea alone holds 113 trillion cubic feet of natural gas reserves (which equals about twice the known gas reserves of Canada) (Offerdal 2007, 139). What is typical to the second Arctic wave is that there is a growing interest towards the region from *outside* of it. Non-arctic actors such as China, India, Japan and Philippines find the region interesting particularly from the viewpoint of fisheries and transport.

Two basic interpretations of the current situation on the Arctic

The Arctic political puzzle contains a variety of political actors: in addition to the Arctic states there are a number of active intergovernmental, regional, indigenous, environmental, scientific and non-governmental organizations. In the academic debate there appears to be two major, and somewhat competing, interpretations as regards to the near future Arctic international politics. The first of them underlines the role of states and sovereignty and the relationship between the eight Arctic states; whereas the second highlights international governance and cooperation, UN Convention on the Law of the Sea (UNCLOS) and environmental regimes. The former can be called state sovereignty perspective and the latter international governance perspective. What seems to connect the views is that, in contrast to the mainstream media picture, *both contain a number of issues that point to the continuity of peaceful development of the Arctic*. In the following a brief overview of both views is presented. After that the elements that facilitate peaceful change in the Arctic are discussed.

1. National interest and national security in the Arctic

Geopolitical transformation in the Arctic is a key point of departure in the state-centred view that focuses on national interest and national security. The map of the Arctic is redrawn as the ice melts. New transport routes are opening and new energy and mineral resources become exploitable. From the viewpoint of national sovereignty these changes inevitably impact on the way the Arctic states view their national defence, territorial integrity, and control over internal waters. Furthermore, the access to and ownership of new energy resources is typically regarded a national security issue.

To support the state sovereignty perspective, it can be noted that despite the regionalisation process during the first Arctic wave, the role of states remained central. Many of the 'post-sovereign' processes were actually initiated and controlled by the states. In a traditional state-centred security perspective the Arctic is typically connected to general perceived security threats stemming from the climate change. These less geographically specific threats are seen to carry potential for global

environmental crisis and even related military escalations. According to this view the rising temperatures, glacier melting and sea level rise might result in storms, drought, mass migration and pandemics, which in turn might weaken governments in various countries and thus create instability in the international system. Military security policy solutions are then seen as a key means to respond to such threats. The defence administration in many countries envision that climate change will cause security issues and challenges in the future, and climate change will therefore find its way into the national security strategies. For instance in the US defense policy discussions environmental are no longer simply 'soft issues', but the so-called green hawks have brought them to the national strategic thinking (Chalecki 2007, Durant 2007).

When the state sovereignty perspective is more specifically focused on the Arctic, the impact of ice retreat on issues that concern the national interest gets highlighted. For instance changes in the accessibility to energy resources may have impact on the power relations between states. Consequently, in addition to territorial defence, it becomes a question of oil, gas and minerals and safeguarding their availability and ownership. The emphasis remains on states as sovereign actors that compete with each other for resources and power. Furthermore, it is typically noted from this perspective that unlike is the case with the Antarctic, there is no Arctic Treaty that would limit territorial and sovereignty claims in the spirit of peace and scientific cooperation.⁵

In addition to the retreat of ice there are other recent developments that have made the extraction of new Arctic resources more likely. According to Offerdal these include the "depletion of oil and gas in more southerly fields of Arctic oil and gas producing countries, continuing unstable political developments in producing regions elsewhere, the need for greater security in energy supplies, high oil and gas prices, better technology and renewed interest in the Arctic as an energy region on the part of political as well as industrial actors" (Offerdal 2007, 139). Lee finds that the Arctic together with the Antarctic forms a "Polar Tension Belt", that is to say an area with the most climate change which thus "will have the potential for the most dramatic swings in conflict likelihood" (Lee 2009, 11).

From the viewpoint of traditional security politics the key actors in the region are the Arctic states: Canada, US, Denmark, Iceland, Norway, Sweden, Finland and Russia. Additionally, NATO and EU have to some extent enhanced their Arctic profiles (de Hoop Scheffer 2009, CNN. com 29.1.2009, European Commission 2008). In addition to China and Japan there are other Asian states that have shown interest towards the Arctic. South- Korea, for instance, participates in the activities of the Arctic Council as an *ad hoc*-observer. The current Russian security strategy emphasizes the significance of the Arctic. Some Russian activities have lately aimed at showing *global military stretch* in the Arctic: strategic bombers fly over the Arctic, Northern Fleet naval ships and submarines conduct patrols in the Arctic, and military capabilities in the Arctic are increased (BaretsObserver 13.2.2009, 4.10.2010). US, Canada, Denmark and Norway have responded for instance by participating in military exercises in the Arctic Ocean. US National Security Presidential Directive on Arctic Region Policy also contradicted Russia's claim to bigger portion of the Arctic (9.1.2009, Reuters 12.1.2009). Denmark called upon a meeting of the five Arctic coastal states to discuss i.a. ways in which territorial claims on the sea bed can be agreed on in line with the current law of the sea. This resulted in the Ilulissat Declaration.

⁵ For the debate on the Arctic Treaty see e.g. Koivurova 2008, Koivurova & Molenaar 2009.

Canada has announced funding for new Arctic patrol vessels, deep-water port and cold weather training center (Arctic Council News Service, 16 July 2008, 5 March 2008). Canada finds that the Northwest Passage is part of its internal waters, rather than an international strait open to vessels from every country without constraint (as for instance US considers it). So far Canada has not turned away vessels from the Passage, even if they had not sought for Canada's consent for the voyage. Up until now the Northwest Passage has not been navigable twelve months a year, but that is likely to change in the coming years. The Canadian domestic debate has touched upon Canada's ability to prevent unauthorized crossings by foreign vessels, maritime surveillance, and the related alleged "silent" threat to Canadian sovereignty (Byers 2009). Also the dispute between Canada and Denmark on the ownership of the tiny Hans Island has played a role on the Canadian politics. The Northwest Passage is seen to have noteworthy strategic significance to Canada and there has been concern on US, Russian, British and French submarines operating in the area.⁶

It has been argued that in the 21st century regionalism has been replaced by more "statist" and "modern" international politics in the North. Borders are no longer fuzzy but more securitized and divisive again. Military capacity, internal and homeland security and territoriality have found their way into the discourse (Browning 2005). A silent remilitarization has perhaps started in the Arctic (Palosaari & Möller 2004). Indeed, already in the early 1990s Jalonen pointed out that "it would be premature to conclude that the assumptions of traditional naval thought will be discarded now that the Cold War is over. Naval thought is not a product of the East-West conflict but a far more fundamental expression of the economic, military, and geographical foundations of the foreign policies of the western maritime powers. Therefore, he argued, it is reasonable to expect that especially in the case of the United States the navy's capability for overseas deployments will be maintained (Jalonen 1992, 12). In this light the current showcasing of military stretch and flag waving in the Arctic is not a new issue caused by the climate change, but rather a phenomenon that has longer historical roots.

2. Arctic governance and cooperation

In addition to the national interest and state-oriented perspective, the current Arctic development is often be perceived from a viewpoint that highlights the global, transborder nature of threats that relate to ice melt and the role of international law in solving disputes. In this perception it is a question of a broader security threat that goes beyond the threats on territorial integrity or sovereignty of the states. The environmental security threats are global and cannot be tackled with military policy or traditional security politics of single states. Consequently it is seen that international institutions and regimes play an important role in the Arctic. The sovereignty of states turns out to be relative: the actions of states are delimited by the norms of international law. In this interpretation the regionalisation that started in the 1990s has been complemented with mechanisms of *Arctic governance*. The existing international law contains extensive rules on the utilization of the sea areas which concern both military and commercial vessels navigation rights as well as the rights of coastal states. There are also established rules in place for solving cases of overlapping maritime claims. These mechanisms also tend to reinforce themselves in the course of

⁶ On the Canadian Arctic sovereignty debate see e.g The Ottawa Citizen (November 15 2009): Cold Call; The Globe and the Mail (Nov 12 2009): Arctic Sovereignty: Lets' join the Texan and St.Nick; Riddell-Dixon 2008. On Northwest Passage, US and Canada relations and law of the sea see e.g. Sale 2009, 142-154.

time: as the increasing number of territorial claims are handled via the UNCLOS, the prestige of international law in maritime issues increases.

Furthermore, the environmental protection of the seas defines national and international rules actions against pollution. For instance the International Maritime Organization (IMO) has developed security instructions for ships operating in the Arctic ice-covered waters. There are also treaties that limit pollution from ships and ocean dumping. The Arctic Council has produced Arctic offshore oil and gas guidelines (Arctic Council 2009). Despite the sea ice retreat UNCLOS continues to apply in the Arctic and regulates and manages coastal states claims in the Arctic Sea. In the light of this the planting of the Russian flag under the North Pole, for instance, carries no legal significance. (Corell 2008, Gahr Støre 2008, Arctic Council News Archive 27.3.2008). US did not ratify the UNCLOS but has lately showed signals that it might join the treaty (National Security Presidential Directive on Arctic Region Policy, 9.1.2009).

Environmental security holds a central place on the agenda of Arctic international cooperation. The risks related to climate change are now more consistently analysed and reported and communicated to the public and policy-makers. Particularly the working groups of the Arctic Council as well as WWF Arctic Programme and UNEP have been active in this work. In 1990 it was still possible to consider “ignorance, or insufficient scientific knowledge regarding the physical and biological processes in the northern environment” as an outstanding threat to the Arctic environment (Stokke 1990, 23). Currently, however, the environmental threats have been identified and demonstrated so that they have aroused international political attention. It is no longer question of lack of knowledge but of finding sufficient political will to act.

From the perspective of international governance the Arctic Council has played a significant role, despite its non-binding, soft law status. The working groups of AC have made substantive contributions in the ‘fact-finding domain’ through environmental research and monitoring. Arctic Council has also enhanced political mobilisation of the indigenous peoples by offering chances for representation. (Stokke 2007.) Their expertise and knowledge on climate issues, snowhow, has been used in the scientific research on climate change (ACIA 2005).

Conclusion: peaceful change in the Arctic

At the outset of the article I pointed out views according to which the melting of Arctic ice may lead to military conflicts and even threatened the world peace. However, in the light of the above-presented two main interpretations less conflict-oriented conclusions appear more convincing.

Firstly, from the state-centred perspective, a conclusion can be drawn that the development in the Arctic is likely to remain peaceful. In a historical perspective it is clear that the previous era of antagonism between states in the Arctic has been replaced by more cooperative relations. During the Cold War the Arctic became a central stage of the arms race between the superpowers, but after that states have managed to create stability in the region, and it is in their interests to keep it that way. For instance, when it comes to maritime claims in the Arctic, the rules of international law as well as the procedures of the UN Convention of the Law of the Sea have been followed by all. As political instability and conflicts continue in many of the traditional oil production areas around the globe, the Arctic is seen as a welcome exception in this respect. Additionally, the challenging environmental conditions in the Arctic mean that international cooperation is often needed in making possible the exploitation of the undersea natural resources.

Consequently, drawing similarities between the Cold War and the current second Arctic wave is, to put it bluntly, stupid. It makes no sense to talk about a "new Cold War" in the Arctic. There is no ideological antagonism, and the Arctic is far from being a military theatre similar to the 1970s and 1980s – when it served as a main military theatre in the arms race between US and Soviet Union. The strategic situation that unfolded there after the late 1960s provided a "good example of a classic security dilemma" (Jalonen 1992, 6). Military expansion started in the 1970s when the Soviet Union and US appeared in the Northern seas to maintain "the global balance of power" (Käkönen 1992, 67). In the 1980s the strategic development (Soviet Northern Fleet, US Naval strategy, submarines, missiles) further increased the strategic importance of the Arctic (Archer 1992, 100).

In such historical perspective it becomes clear that the 1990s witnessed a change from confrontation to cooperation. Stability and peaceful institutionalized cooperation was achieved, and continues to be valued by all the key actors in the region. The value of international law is also widely acknowledged, as manifested, for instance, by the Ilulissat Declaration: "the law of the sea provides for important rights and obligations concerning the delineation of the outer limits of the continental shelf, the protection of the marine environment, including ice-covered areas, freedom of navigation, marine scientific research, and other uses of the sea. We remain committed to this legal framework and to the orderly settlement of any possible overlapping claims." (Ilulissat Declaration 2008; US, Russia, Denmark, Norway, Canada.)

Since the 1990s various international and regional organizations have emerged in the Arctic region. Environmental regimes, wide security agenda, and crossborder cooperation have gained a recognized role in the Arctic politics. Consequently, the mechanisms of Arctic governance are already in place. From the viewpoint of international governance, polar ice melt and other environmental impacts of the climate change can be perceived as a common, global threat which calls for cooperation between all Arctic actors. Thus, rather than causing tensions between the states, climate change can give a boost to international cooperation and further strengthen the institutions of multilevel Arctic governance. This also challenges the narrow views on national sovereignty, interest and presents a broader view on security. The global attention on the melting of the North Pole and Greenland's glaciers will also bring the Arctic issues into the international agenda defined as environmental and human security issues, rather than as traditional national security issues.

Summing up, it can be stated that although often reported otherwise, the scramble for the Arctic's minerals is unlikely to lead to conflicts that would threaten the peaceful development in the region (Table 1). Moreover, it is difficult to see any concrete evidence of an "emerging Polar Tension Belt", as suggested by Lee (2009), where "populations will move on large scale" and "arms race in terms of Cold War military capabilities" will take place (Lee 2009, 119-122).

Consequently, it can be asked where does the biased conflict-centred Arctic vision then stem from? The Arctic resources and seabed mapping have been in the headlines and repeatedly in a way that highlights the perceived conflict potential.⁷ A reason for this biased media hype can be located in the

⁷ E.g. "An Arctic War is Getting Closer" (Arctic Council News March 5, 2008), "Arctic Oil Rush Sparks Battles Over Seafloor" (National Geographic News August 23, 2007), "Climate Change as Threat to U.S. Security" (New York Times 9.8. 2009), "Europe's Arctic Adventure The new cold rush for resources" (EU observer 7.11.2008), "Are the Russians Coming? (see Byers 2009, 1), "Cold Call" (The Ottawa Citizen November 15 2009), "Arctic Sovereignty"

ongoing securitization process concerning the climate change. Climate change is becoming an increasingly weighty topic in international security politics. According to the logic of securitization this means that climate change is constructed as an issue that is beyond normal politics, a question that calls for exceptional measures. When the related securitisation move is successful, climate change is socially constructed as a global emergency that threatens the whole biosphere and humankind. As a by-product of this process, when Arctic issues are discussed in the context of global climate change it is the conflict scenarios, rather than the continuation of peaceful development, that get highlighted.

Table 1. Two interpretations of the current situation in the Arctic and the elements supporting peaceful development.

	State sovereignty	International governance
Actors	Arctic states Japan, China?	IGOs (AC, BEAC) NGOs Multinational corporations?
Dominant logic	National interest Resource competition Territorial integrity	Global interest, the commons Law of the sea Arctic governance, regimes
Security	Military security. Climate change as a cause of disputes	Environmental security Climate change as a common, unifying threat
Role of the indigenous peoples	Remarginalization. Greenland: towards statehood?	A8+ <i>Snowhow</i> , grassroots climate expertise. Increasing political mobilization
Background in the first Arctic wave	Regionalisation controlled by states	Environmental security and international institutions challenged the statist paradigm
Elements that support the peaceful change	<i>Conflict-free oil and gas production area. Stability created in the early 1990s. Similar interests and clear rules with a tradition to follow the rules.</i>	<i>Strengthening mechanisms of international law and regimes. UNCLOS. Active NGOs. Global climate change attention towards the Arctic.</i>

Secondly, what also might explain the attraction of Arctic conflict scenarios are the romantic historical visions that concern the polar expeditions in North and South. The heroic and patriotic races to conquer the white spots on the map (such as the epic race Amundsen vs. Scott), naming new geographical areas in the honor of the motherland and struggles against the forces of nature still resonate with the public consciousness when it comes to the Arctic. Similarly, the history of the Cold War has left a persistent mark on how Arctic affairs are perceived in the media: far too often the situation is understood simply as a rivalry between US and Russia, West and East over the control of the Arctic. As a result the complexity of the Arctic case is oversimplified and seen merely as a question of military security.

Environmental and human security

In the above-presented analysis it was shown that from the viewpoint of negative peace the conclusion is that world peace is not threatened by Arctic issues, and that there is no real potential for military conflict in the area currently. The Arctic is characterized by absence of direct violence and there is very low likelihood that such would occur. However, from the perspective of positive peace the picture is more complex. The remaining of the article is motivated by the question: Is there “indirect” or “structural” violence in the Arctic?⁸ It is argued that the key security challenges

(The Globe and Mail November 12 2009), “Arctic Meltdown. The Economic and Security Implications of Global Warming” (Borgersson 2008).

⁸ On negative peace and structural violence see e.g. Galtung 1969.

in the Arctic are related to environmental security, and that in addition to the vulnerability of the Arctic nature more wide-ranging issues are at stake.

The Arctic paradox

The faster we use fossil fuels, the sooner we get access to new oil and gas resources. This is the Arctic paradox: hydrocarbon use contributes to the climate warming, which makes the Arctic sea-ice melt and new oil and gas resources become available. Using those resources then further accelerates climate warming.

So far this paradox has not had significant impact on the national Arctic strategies of the Arctic states, despite the global climate debate surrounding the UN climate talks. The moral dilemma regarding the Arctic energy resources has not really yet been grasped by the state sovereignty perspective or international governance viewpoint. Nevertheless, the first calls for moratorium on industrial activities in areas historically covered by sea-ice by NGOs have taken place. Greenpeace has argued that Arctic oil in such areas should remain untouched.⁹ Similarly, the indigenous peoples organizations have tried to highlight the issue:

“[S]ea ice has helped sustain Inuit for thousands of years. And now it is thinning and melting. We need the ice to access our resources and to sustain us. Ironically, and perhaps tragically, others need the ice to melt so that they can access easier travel routes and resources found deep beneath our world, the Inuit homelands.”

– Patricia Cochran, *Inuit Circumpolar Council Chair* 29.4.2009.

What also complicates the picture is the Greenland’s goal to gain full independence. Becoming economically self-sufficient with the help of its possible petroleum resources is seen as a step towards sovereign Greenland state (Kuupik Kleist, Greenland’s Prime Minister, 10.1.2011). Issues concerning melting ice and oil production have already resulted in internal tensions in the Inuit community. Arctic mining and offshore oil and gas development have been divisive issues. A related dilemma concerns the tensions between modern oil and mining industries and the traditional means of livelihood (fishing, hunting).

From the perspective of human security the issue is complicated, as it ultimately concerns local people’s right to social and economic wellbeing. Pleas for moratorium has been rejected by arguing that “what the rest of you have been benefiting from should not be denied to us in the Arctic” (Inuuteq Holm Olsen, Greenland deputy foreign minister.)¹⁰ Green concerns by the EU, for instance, have been perceived as form of neo-colonialism – the developed world has for long exploited oil resources, but when oil is found in indigenous peoples’ lands it is claimed that they may not benefit from it.

The environmental dimension of global Arctic

The typical perception of globalization of the Arctic can be symbolized by the Chinese icebreaker, Snow Dragon, operating in the Arctic waters. However, the global Arctic has other dimensions too: it is a broader issue than just the growing interest towards the Northern sea routes and fishing stocks by the non-Arctic states. The environmental impacts of climate change mean that what

⁹ Greenpeace International in the Arctic Frontiers conference, Tromsø 26.1.2010.

¹⁰ <http://www.guardian.co.uk/environment/2010/oct/15/eu-greenland-stewardship-arctic>

happens in Arctic has effects globally. Sea- level rise affects coastal regions throughout the world. In Bangladesh, for instance, the sea level rise is complemented with the melting of Himalayan glaciers which has caused erosion and flooding and saltwater intrusion into aquifers and freshwater habitats. This has led to consequent loss of agricultural land and mangrove forests. In search for new land for agriculture local population has been forced to move into the natural habitat of Bengal tigers. Therefore, as has been the case with the polar bears in the Arctic, the habitat of tigers has declined due to melting glaciers. (See WWF Climate Change Programme 2003.)

The most obvious environmental security issue in the Arctic stems from the vulnerability of the Arctic nature. That point has been well driven home by the work of the AEPS, Arctic Council and other Arctic environmental actors. Issues like persistent organic contaminants, heavy metals, radiation, military waste, acidification, biodiversity conservation, sources and pathways of pollutants, their impact on flora and fauna, long range pollution, protection of marine environment, etc. have become integrated in the well-established Arctic international cooperation. Lately the risks related to growing oil and gas transportation and extraction have also steadily made their way to the international awareness and to the agenda of Arctic governance and cooperation. As the Emergency Prevention, Preparedness and Response working group of the Arctic Council (EPPR) states the “harsh conditions and the lack of infrastructure in much of the Arctic create a higher vulnerability to emergencies than in more temperate climates.”¹¹ The recent oil accident in the Gulf of Mexico has caused discussion on the risks of “BPing” the Arctic. The cleanup work in the Arctic conditions would be extremely difficult: “Industry representatives acknowledge that they still have no effective way to clean up oil under ice. (...) Recent experiments conducted by a coalition of oil companies fall far short of the needed proof that oil spills can be contained in arctic ice.” (Norlen & Gordon, *The Circle* No.1 2010) Moreover, the environmental impact of the Exxon Valdez oil spill in Alaska still continues.¹²

What this conventional view on Arctic environment has so far largely missed, however, are the global dimensions of Arctic environmental change. The link between Arctic glacier melting and global sea-level rise ought to be better incorporated in the Arctic environmental thinking and cooperation. Also the local level dilemma between traditional livelihood and modern hydrocarbon industry, and even the above- mentioned moral issues, should find their way to the established Arctic cooperation agenda, both in the form of interstate cooperation and international governance. This would further strengthen the peaceful development towards more positive peace in the Arctic.

¹¹ EPPR, http://arctic-council.org/working_group/eppr

¹² 2100 km of shoreline fouled, 250000 seabirds killed, nearly 4000 sea otters killed, 300 harbor seals killed, 250 bald eagles killed, more than 20 orcas killed, billions of salmon and herring eggs destroyed. \$20 billion in subsistence harvest losses, \$19 million in lost visitor spending in the year following the spill, at least \$286.8 million in losses to local fishermen (WWF International Arctic Programme 2010).

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Arctic break up: Climate change, geopolitics, and the fragmenting Arctic security region

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Introduction

This article examines the transformation of the Arctic as a *security* region or regional security complex (RSC), namely an area in which relations of security between state and non-state actors are determined. Despite the enthusiasm for new institutions and inter-state cooperation that has surrounded the Arctic since the end of the Cold War, I argue that the circumpolar Arctic is undergoing the second fundamental change in its security dynamics in 30 years. The first was the change away from Cold War hostility towards a peaceful region of dynamic inter-state cooperation. The second is the current change away from an integrated security region towards a fragmented Arctic comprising three distinct sub-regions in which conditions of security are principally shaped by geopolitical factors related to North America, Europe, and Eurasia, respectively. While the post-Cold War period was defined by Arctic actors coming together to improve their security, the question now is whether the Arctic security region is breaking up. I argue it is, and identify the catalysts for the fragmenting Arctic security region as climate change, specifically the warming of

the Arctic Ocean, and resurgent geopolitical competition, including a reassertive Russia, newly assertive China, and, importantly, divided Western powers.

First, this article discusses the emergence of the Arctic as a security region in the late 1980s and early 1990s, and outlines the theory of regional security complexes. It presents the argument that the Arctic has become a 'zone of peace' in which states are committed to institution-building and peaceful settlement of disputes. Second, I explain how the Arctic RSC is fragmenting as a result of climate change and geopolitics, resulting in the emergence of North American, European, and Eurasian sub-regions characterized by different sets of actors and diverse security issues. In the third section, I offer reflections on what this fragmentation may mean for the future of the circumpolar Arctic, and the people, societies, and states that comprise it.

Security and the Arctic

It was only quite recently that the Arctic became an integrated geopolitical region. During the Cold War, the Arctic was at the geographic centre of strategic competition and nuclear deterrence between the United States and Soviet Union, which resulted in dichotomous processes of over-militarization and under-politicization. Superpower rivalry transformed the Arctic "first into a military flank, then a military front or even a 'military theatre'" (AHDR, 2004: 218), and restricted the emergence of political institutions that included all states with territory in the region, divided as these were between different Cold War blocs. As a result, the Arctic suffered from a lack of political institution-building from which it has still only partly emerged (Keskitalo, 2007: 194). Though scholars have detailed how shifts in global politics and increased cooperation among circumpolar states caused the emergence of a transnational Arctic identity from the 1970s onwards (Keskitalo, 2007; Young, 2005, 2009), only as relations between the superpowers became less hostile was it possible for a single Arctic region to emerge.

Indeed, the impending collapse of the Soviet Union opened space to normalize inter-state relations in the circumpolar region. In 1987, Soviet leader Mikhail Gorbachev's famous Murmansk speech called for the Arctic to become a "zone of peace" characterized by a nuclear weapons-free zone in northern Europe, restricting military activity and conventional armaments, and implementing confidence-building measures (Åtland, 2008: 294). Notably, northern environmental challenges were the focus of early efforts by Soviet officials to engage their Western counterparts on initiatives to improve scientific and environmental cooperation and establish new political institutions such as the Barents Euro-Arctic Region, the Arctic Environmental Protection Strategy, and, a few years later, the Arctic Council (Eriksson, 1995; Hønneland, 2010). The Murmansk speech set in motion a new normative structure for the post-Cold War Arctic in which states and Indigenous peoples committed to a cooperative and rules-based regional order organized through consensus-based institutions.

The rapid transformation of the Arctic from a space of conflictual to cooperative political behaviour led to excited assessments of the circumpolar region as geopolitically unique. Building on its long history as an area distinct from the southern metropolises from which it was governed, the concept of ‘Arctic exceptionalism’ emerged to characterize “a unique region detached, and encapsulated, from global political dynamics, and thus characterized primarily as an apolitical space of regional governance, functional cooperation, and peaceful co-existence” (Käpylä & Mikkola, 2015: 4). While still peripheral, the Arctic is seen by many as a region that can offer lessons in *Arctic Yearbook 2019* inter-state cooperation, non-violent dispute resolution, and consensus-based decision-making to other parts of the world (Exner-Pirot & Murray, 2017; Storey, 2013). This assessment rested upon the view that the Arctic had become an integrated and coherent region of global politics, and was reinforced by a flurry of Arctic foreign and security policies and practices recently released by states and other actors that articulated their common ‘Arctic-ness’ in terms of the geopolitically coherent and distinct nature of the region (Heininen, 2012). Though the Arctic has never ceased to be characterized by sovereign states and the pursuit of their interests, the dominant political discourse in the Arctic since the end of the Cold War has emphasized cooperation, common interests, and the fundamental connectedness of the circumpolar region, exemplified by, inter alia, the 2008 *Ilulissat Declaration* by the five Arctic coastal states or the vision of the region as ‘One Arctic’ that animated the recent American chairmanship of the Arctic Council (Lackenbauer et al, 2017).

The Arctic Regional Security Complex (RSC)

Building on discussions of the Arctic as a distinct geopolitical region, some scholars have examined the Arctic as a distinct *security* region (Chater & Greaves, 2014; Chater, Greaves & Sarson, 2020; Exner-Pirot, 2013). According to Buzan and Wæver (2003), regions are the most generally relevant level of security analysis because interstate interactions – ranging from alliance, cooperation, rivalry, hostility and war – have typically been determined by geographic proximity. That is to say, for most people and states around the world, conditions of security and insecurity have been determined far more by one’s neighbours than by global factors. The unit within which most states’ security is determined is the regional security complex (RSC), defined as “a group of states or other entities [that] must possess a degree of security interdependence sufficient both to establish them as a linked set and to differentiate them from surrounding security regions” (Buzan & Wæver, 2003: 47-48). The Arctic has historically *not* formed its own RSC but was either an “unstructured security region” or an “insulator” between separate North American, European, and Soviet and post-Soviet RSCs (Buzan & Wæver, 2003: 41, 62). The Cold War prevented an Arctic RSC from emerging because regional security relations were secondary to the global strategic considerations of the USA and the Soviet Union; so long as its security relations primarily reflected broader Cold War dynamics, the Arctic could not comprise a regional security complex of its own.

The Arctic RSC emerged as a result of the desecuritization of superpower relations in the late 1980s, and from the unique opportunities and challenges afforded circumpolar states as a result of the Arctic environment. As Heather Exner-Pirot notes, the Arctic RSC was

centered around its historically frozen ocean; political and institutional underdevelopment related to territorial boundaries, sovereignty claims, and economic activity; and incorporation of Indigenous peoples into regional governance. However, “the Arctic is exceptional in that the environmental sector dominates circumpolar relations,” making it, in effect, a regional *environmental* security complex (Exner-Pirot, 2013: 121-122). This means that security for Arctic states and peoples have been linked, both positively and negatively, through factors related to the natural environment.

Environmental issues such as transnational pollution, marine risks and ocean management, and climate change have been widely recognized as relevant to Arctic politics and security. Less discussed is how environmental factors have mediated the emergence and severity of other security issues, including in the military and political sectors. For instance, Arctic environments provided unique natural systems that supported human subsistence and flourishing across the region, producing conditions of human security that have been disrupted by climate change (Greaves, 2016a, 2016b; Hossain et al., 2018; Hossain & Petrétei, 2016). The Arctic’s inaccessible terrain, vast distances, cold weather, and sea ice also helped deter military aggression and prevent some inter-state conflicts, such as allaying concerns of a Soviet ground invasion of northern Canada during the Cold War (Coates et al, 2008: 55). The deterrent effect of the harsh northern climate remains relevant to national security, with the chief of Canada’s defence staff citing it as recently as 2010 as part of his lack of concern over the need for conventional defence in the Arctic.

While many observers have noted how issues such as environmental monitoring, wildlife protection, ecosystem conservation, and the decommissioning of Soviet/Russian nuclear reactors have influenced regional cooperation and produced new regional security issues, most view the need for environmental cooperation as driving closer political integration within the region (Åtland, 2008; Exner-Pirot, 2013; Keskitalo, 2007; Young, 2009). Whereas some argue that climate change will lead to a ‘polar Mediterranean’, will facilitate Arctic integration through economic activity and political normalization, or even lead to a political renaissance akin to the political revolutions in post-communist Eastern Europe (Zellen 2013, 343), by contrast, I suggest the transformation of the Arctic environment due to climate change is *undermining* the material basis for assessing security in the Arctic at the pan-regional level. If the natural environment provided a shared foundation for Arctic security in the post-Cold War period, it follows that as the environment changes so, too, will the conditions and dynamics of regional security.

Climate change and the fragmenting Arctic RSC

The Arctic RSC is fragmenting into three distinct security sub-regions. The primary catalyst for this change in Arctic security politics is human-caused climate change, most specifically the warming of the Arctic Ocean that has increased maritime navigability and opened new opportunities to profit from non-renewable resource extraction. Numerous studies document the environmental changes occurring in the Arctic (ACIA, 2004; Larsen et al., 2014). Sea ice declined by 9-13% per decade between 1979-2012, reaching an historic low nearly 50% below the average 1979-2000 extent in the summer of 2012. As of June 2019, sea ice extent for the year was already below the 2012 record (NSIDC, 2019). Climate

records continue to be broken, and dramatic changes include more extreme seasonal variation, reduced sea ice, receding glaciers, diminished snow cover, thawing permafrost, changing terrestrial water systems, invasive species, temperatures increasing at twice the global average, and other stressors on plant and animal populations. Numerous Arctic locales have recorded record high temperatures in the last two years, reflecting the accelerated pace of global warming and likely climate feedback loops in the region related to loss of sea ice albedo, warming ocean temperatures, and permafrost thawing (Samenow, 2019). The Arctic, a region characterized by its frigid climate and the frozen ocean that forms its core, is predicted to be free of summer sea ice by the middle of this century (Wang & Overland, 2009), marking a radical alteration to the defining physical feature of the northern polar region.

The most geopolitically significant of these climate impacts is the increasing navigability and accessibility of historically ice-covered Arctic waters. When the Arctic Ocean was frozen for most of the year, states had little incentive to quarrel over disagreements such as maritime boundary disputes. Arctic boundaries had little effect on their core national interests, and states were unwilling to risk the global strategic balance or their diplomatic relations over trivial Arctic issues. Moreover, the inaccessibility of the Arctic made its natural resources largely moot. But as sea ice has receded, states have paid greater attention to their Arctic boundaries and expressed greater *Arctic Yearbook 2019* interest in settling outstanding disputes. In addition to the symbolic value and popular attachment to particularly Arctic geographies, notably the North Pole, states' interest in asserting their Arctic sovereignty is informed by their desire for the greatest economic benefits from Arctic resources (Mazo, 2014). At stake are shipping lanes, fisheries, minerals, and an estimated 13-30% of global undiscovered hydrocarbons (Gautier et al, 2009). This has coincided with the need to submit claims to their extended continental shelves within ten years of ratifying the UN Convention on the Law of the Sea (UNCLOS). There is also greater interest by non-Arctic states, notably China, in circumpolar governance, as discussed below. Overall, global warming has changed the conditions of possibility for human activity in the region in ways that invite involvement by a wider range of actors with distinct, sometimes conflicting, interests. The critical point is that climate change has facilitated a resurgence of geopolitical competition as Arctic and non-Arctic states have sought to maximize their own interests in the region through the deployment of both military and civilian assets and resources (Huebert et al., 2012).

Climate researchers describe the physical effects of climate change on the Arctic Ocean as 'Atlantification' and 'Pacification', referring to the northward intrusion of warm water, nutrients, and fauna from the Arctic's neighbouring oceans (Katz, 2018). Numerous fish and animal species have been sighted at higher latitudes than ever before, taking advantage of milder conditions caused by the large volumes of warm water flowing into the Arctic from further south. While researchers are struggling to keep up with the pace of climate change in the region, it is clear that "the Atlantification and Pacification of the Arctic Ocean will only intensify in the coming decades as the world continues to warm and the Arctic becomes increasingly ice-free" (Katz, 2018). The circumpolar Arctic, long perceived as distinct from the rest of the world due to its unique environment, appears certain to increasingly resemble other ecosystems.

I argue that this ecological phenomenon is also occurring geopolitically as Arctic security dynamics transform due to climate change. Atlantification and Pacification thus serve as appropriate descriptions for the fragmentation of the Arctic from a single regional security complex into distinct security sub-regions, or regional security subcomplexes. As Buzan and Wæver (2003: 51) describe: “Subcomplexes [are] a ‘half-level’ within the regional one [...] Subcomplexes have essentially the same definition as RSCs, the difference being that a subcomplex is firmly embedded within a larger RSC. Subcomplexes represent distinctive patterns of security interdependence that are nonetheless caught up in a wider pattern that defines the RSC as a whole.” As such, while I argue that the pan-Arctic RSC is fragmenting into distinct North American, European, and Eurasian sub-regions, this does not mean that these sub-regions or the actors within them have nothing to do with each other, or that conditions of security in each region are entirely distinct. Rather, it means that the practices and relations of amity and enmity that produce RSCs as either cooperative or conflictual spaces are principally occurring at the sub-regional level involving sub-regional actors. In time, though sooner than many might expect, security within these three sub-regions is likely to be determined by their incorporation into the security dynamics of the broader North American, European, and Eurasian RSCs or super-RSCs (see Buzan & Wæver, 2003: xxvi), meaning the end of the Arctic as its own security region. Given that the Arctic RSC was premised on the ecological holism that unified all regional actors around a particular set of security concerns, the physical Atlantification and Pacification of the Arctic Ocean are similarly resulting in Atlantification and Pacification of Arctic geopolitics and the fragmentation of the pan-Arctic RSC.

Atlantification

Geopolitically, the Atlantification of the Arctic RSC is somewhat misleading as it actually refers to its fragmentation into two sub-regions that reflect distinct North American and northern European security subcomplexes. These sub-regions possess distinct ecological and socio-economic conditions, but also different relationships to the neighbouring Eurasian sub-region. Two political dynamics account for the emergence of separate European and North American Arctic sub-regions: first, is renewed tensions since 2007 between Russia and the other Arctic states; second, is their different relationships towards both Russia and climate change. Both dynamics demonstrate the extent to which Arctic politics and security are affected by non-Arctic events and the decisions of Arctic actors based on their non-Arctic interests.

The deterioration of Western-Russian relations began in 2007, when a Russian parliamentarian planted a Russian flag on the Arctic Ocean floor at the geographic North Pole. While not legally meaningful, the flag planting launched a period of “finger pointing” in which many actors portrayed Russia’s efforts to determine the limit of its extended continental shelf under the UN Convention on the Law of the Sea (UNCLOS) as part of a strategy of post-Cold War revanchism (Dodds, 2010). Subsequently, circumpolar states have vied over conflicting claims to their extended continental shelves, and engaged in a substantial remilitarization of their Arctic policies and practices. Circumpolar states have: reinvested in Arctic military capabilities and infrastructure to support military operations; renewed Cold War era military activities, such as long range bomber patrols and ‘buzzing’

of neighbours' airspace; and sought to deter the influence of non-Arctic states in the region (Åtland, 2014; Chater & Greaves, 2014). While actual spending has often fallen short of commitments, military investments have contributed to a dominant narrative of a militarized race for Arctic territory and resources (Landriault, 2016).

The diplomatic relationship between Russia and its Arctic neighbours has been even more strained since 2014, when Russia illegally annexed the Ukrainian region of Crimea after the overthrow of a pro-Russian Ukrainian president in a U.S.-backed popular revolution (Burke & Rahbek-Clemmensen, 2017). Russia then launched an unconventional armed conflict in eastern Ukraine that has claimed more than 13,000 lives, including 298 people killed when Malaysian Airlines Flight 17 was shot down by Russian forces in July 2014. Ever since, relations between Russia and the Arctic members of NATO (Canada, Denmark, Iceland, Norway, and the U.S.) have been their worst since the Cold War, with Western states imposing sanctions on Russian individuals, companies, and officials, and Russia retaliating. Russia, NATO, and the European Union all subsequently increased their military activities in northern Europe, and the five Nordic countries began unprecedented military cooperation with each other and the nearby Baltic states. Norway's military reinvigorated its moribund northern defence apparatus, while Sweden, which was neutral during the Cold War, has considered seeking NATO membership, and in 2018 the government issued a manual to every household in the country with guidelines for how citizens should respond in a national crisis, including war (Chater, Greaves & Sarson, 2020). In October 2018, NATO held Exercise Trident Juncture, its largest military exercise in decades. The two week exercise to defend against a 'fictitious aggressor' in the region between the Baltic Sea and Iceland comprised more than 50,000 troops from 31 NATO members and partner countries, and included land, air, sea, and cyber military assets.

The rise of military tensions and activity in northern Europe suggests the distinctive features of the European Arctic security subcomplex. First, the European Arctic holds the largest number of state actors and the densest web of regional governance (Chater & Greaves, 2014: 126-131). It encompasses the Barents region, an area of longstanding security interaction between Russia and Europe (Eriksson, 1995; Greaves, 2018; Hossain et al., 2017), with distinct regional institutions such as the Barents Euro-Arctic Council. In addition to six circumpolar states (Denmark, Finland, Iceland, Norway, Sweden and Russia), the subcomplex includes non-Arctic states with polar proximity, interests, or identities, such as the United Kingdom and Scotland (Depledge & Dodds, 2017), neighbours such as the Baltic states of Latvia, Lithuania, and Estonia (also NATO members), and self-governing, non-sovereign polities such as Greenland, the Faroe Islands, the Sámi parliaments, and the European Union (Adler-Nissen & Gad, 2014). NATO itself is a key actor in the European Arctic in a way that the military alliance is not in the North American context, and which also implicates the United States in the sub-region's security (Østhagen, Sharp & Hilde, 2018).

Second, the European Arctic is, in effect, simply the northern zone of the broader European RSC. Unlike most of the circumpolar Arctic, Northern Europe has a relatively large, urbanized population, and is tightly integrated with proximate southern regions. In this respect, the European Arctic most closely resembles non-Arctic regions in terms of its levels

of economic development and social well-being (Larsen & Fondahl, 2014), and, notwithstanding the rise in political tensions and military activity, is a region that prioritizes 'business as usual'. As such, states in the sub-region have worked to: resolve outstanding issues, such as the negotiated bilateral agreement between Norway and Russia in 2010 to resolve their disputed maritime boundary in the Barents Sea; promote investment and further economic development, including the continued extraction of oil and gas in the North Sea and Barents Sea; and facilitate technical, scientific, and other forms of cooperation across various policy domains, including the adjudication of their extended continental shelf claims under UNCLOS. Overall, regional actors strive to balance continued engagement between the West and Russia – considered essential for regional peace and stability – with firm, but measured, collective responses to state-sanctioned wrongdoing. Relations between Russia and the other circumpolar states remain strained, but Russia has exercised some restraint with respect to responding to Western sanctions and the fallout from the Ukrainian crisis, seeking to insulate Arctic cooperation from other political disputes (see Burke & Rahbek-Clemmensen, 2017; Konyshev, Sergunin & Subbotin, 2017).

By contrast, the North American Arctic security subcomplex differs significantly from its European counterpart. Whereas northern Europe is perceived as part of the larger European community, the North American Arctic remain fundamentally peripheral to mainstream politics and society, and reflects unique challenges. The North American sub-region is characterized by three factors: the central role of sub-state actors, including self-governing Indigenous peoples; severe socioeconomic and ecological challenges that create chronic and acute human insecurity; and a politics of exceptionalism that politicizes and complicates public policymaking.

First, the North American Arctic – roughly defined as the area north of 60°N, though with some variation and significant exceptions (see Bennett et al., 2016) – principally consists of territory governed by sub-national governments: the state of Alaska; the Canadian territories of Yukon, Northwest Territories, and Nunavut; the four self-governing Inuit regions of Canada (Inuvialuit, Nunavut, Nunavik, and Nunatsiavut); and Greenland. While dependent in various ways on the national governments of Canada, Denmark, and the United States, particularly in the area of foreign and defence policy, these sub-state actors exercise considerable devolved and symbolic authority as legitimate governmental representatives of 'the Arctic' within their national polities. They are critical actors for Arctic policymaking, and play an important, though complex role, in shaping the conditions of amity and enmity that make up a security region (see Chater & Greaves, 2014; Dubreuil, 2010; Loukacheva, 2007).

Second, geographic, ecological, and socioeconomic factors have produced communities that are typically small, isolated, and heavily dependent on fiscal support from southern governments. Notable exceptions to this are the cities of Anchorage and Fairbanks, Alaska, which comprise 55% of the state's population. Even then, however, Alaska is only connected by road to the continental United States via Canada, and the rest of its population, much like that of northern Canada and Greenland, is spread across many small communities, most of which are only accessible by water or air. Life for residents of these

communities can be challenging, with high levels of poverty, ill health, chronic social issues, culture and language loss, political and social alienation, exposure to pollution, and the rapidly advancing effects of climate change causing both short term acute harms and producing conditions of chronic poor well-being (see Larsen & Fondahl, 2014). Together, this has led some analysts to discuss the North American Arctic as a region experiencing pronounced human insecurity (Chater & Greaves, 2014; Exner-Pirot, 2012; Greaves, 2016a; Hoogensen Gjørøv et al., 2014; Nickels, 2013). This contrasts with the European Arctic, whose population does not experience worse wellbeing or human security than the rest of their societies (Greaves, 2016a; Rautio, Poppel & Young, 2014).

Third, the North American Arctic is characterized by a politics of exceptionalism that politicizes and complicates public policymaking, in contrast to the European Arctic where politics are mostly treated as a northern extension of normal domestic policymaking. In this respect, the North American Arctic is prone to having decisions over contentious issues such as land use and non-renewable resource extraction being determined by southern political institutions, with sometimes limited local input, on the basis of southern political or ideological considerations. Sometimes characterized as an ongoing form of colonialism (Canadian Press, 2017; Gritsenko, 2018) this is demonstrated most clearly by the politics of climate change and fossil fuel extraction in the region, which can have particularly strong impacts on human security (Bazely et al., 2014; Slowey, 2014). Numerous projects – including the Mackenzie Valley pipeline project, the Arctic National Wildlife Refuge, and drilling off the Alaska, Canadian, and Greenlandic coasts – have become intensely politicized and securitized as either essential for the *economic* security and wellbeing of northern residents and national economies, or as devastating to the *environmental* or *social* security of affected communities and ecosystems (for examples see Greaves, 2016a; Nickels, 2013; Schlosser, 2006; Wilson, 2017). These competing securitizations also mean that public policy decisions in the North are prone to reversal when elected governments change, such as the Canada-U.S. joint moratorium on Arctic oil and gas drilling, signed by President Obama and Prime Minister Trudeau, which was reversed by President Trump and remains mired in litigation (Associated Press, 2019; Greaves, 2017: 113-116).

The fact that climate and energy security in the North American Arctic are more contentious than in northern Europe is driven, in part, by the fact that climate change is having greater impacts in the former, raising the stakes of fossil fuel extraction that will worsen global warming. For instance, mean annual temperatures in northern Scandinavia have risen by about 1 degree Celsius since the 1950s, and average winter temperatures by about 2 degrees. By contrast, mean annual temperatures in the North American Arctic have increased by nearly 2 degrees Celsius over the same period, with winter temperatures increasing by as much as 3-5 degrees (Larsen et al., 2014: 1579). With northern North America experiencing more than twice the warming of Northern Europe, the effects on seasonal sea ice coverage, flora and fauna, permafrost thawing, and weather unpredictability are more acute. The ecological differences between the two Atlantic Arctic sub-regions demonstrate the relationship between environmental change and changing conditions of security (Greaves, 2016a: 474-475), with the warming Arctic Ocean resulting in the fragmentation of the Arctic into distinct sub-regions, in part, on the basis of their

ecological differences and the corresponding impacts of the physical environment on state interests and human wellbeing.

What I describe as the penchant for exceptionalism in the North American Arctic applies not only to the securitization of unconventional security issues, such as energy and the environment, but also the relationship with Russia. In contrast with the European Arctic, where Russia poses a very proximate source of insecurity, and is thus treated seriously as a potential military threat, North America has little to fear from Russia. It thus has greater leeway to portray it as threatening (see Greaves, 2016a: 476-477; Østhagen, Sharp & Hilde, 2018). Multiple studies have demonstrated the construction of Russia as a threatening Arctic Other within public discourse, government policy, and the media in Canada and the United States (Lackenbauer, 2010; Landriault, 2016; Padrtova, 2019). Because there is little practical reason to fear Russia, the costs to politicians of invoking Russia as a security threat are low, particularly in the context of poor relations since 2014. The spectre of Russian aggression has proven effective at crafting a popular image of the Arctic as threatened or at risk, even if the most serious disputes in the North American Arctic are actually between its own states: Canada and the United States disagree over their maritime boundary in the Beaufort Sea and over the legal status of the Northwest Passage, while Canada and Denmark disagree over the sovereignty of Hans Island (Byers, 2009).

The security issues in the North American Arctic differ significantly from those in the European Arctic, as do the actors involved. The sub-regions remain linked in important ways, not least of which is the overlap between some state actors, the role of the United States as lead actor in NATO, and the fact that perceptions of Russian behaviour are relevant to both security subcomplexes. But the social and political contexts for each region are distinct, and their different experiences of climate change means that security in the North American and European Arctics will continue to diverge, as the highly developed and geographically proximate European Arctic is incorporated more thoroughly into European political institutions, while the geographically vast but socially isolated North American Arctic becomes even more peripheral to mainstream North American politics.

Pacification

The Pacification of the Arctic RSC refers to the emergence of a distinct sub-region centred on Eurasia, incorporating the long Russian coastline along the Northern Sea Route, the bulk of Russia's Far North and Far Eastern territory, and the emergence of Asian actors pursuing circumpolar interests. Russia is pivotal to the Eurasian Arctic sub-region; indeed, some analysts have described it as the most significant actor in the region (Charron et al., 2012; Konyshev et al., 2017), and as the sole circumpolar state with territory in Asia it is uniquely central to that security subcomplex relative to other Arctic actors. As the previous section describes, Russia is relevant to security throughout the Arctic, making it critical for the relations of amity and enmity that determine conditions of security within the region. Despite the domestic and economic focus of its Arctic strategy and the belligerent rhetoric by some other Arctic states (Lackenbauer, 2010; Sergunin & Konyshev, 2018), Russia has often been characterized as aggressive by its Arctic neighbours, though its behaviour has

sometimes fuelled these suspicions. For instance, weeks prior to NATO's Exercise Trident Juncture in fall 2018, Russia held its own military exercise called Vostok 2018, which involved more than 300,000 personnel deployed across the Far North and Far East, reportedly the largest Russian military exercise since 1981 (BBC News, 2018).

It is difficult to overstate the importance of the Arctic Zone of the Russian Federation (AZRF) to the Russian economy or its national security interests. The AZRF contains 95% of Russian oil and 70% of Russian natural gas reserves, and 50-90% of Russian mineral deposits. 11-20% of Russia's GDP and 22% of its exports are produced north of the Arctic Circle, and in 2015 the Northern Sea Route experienced the same volume of marine cargo – approximately 7 million tons of cargo per year – as it had in 1987 before the collapse of the Soviet Union reduced it to approximately 1.5 million tons in the 1990s (Sergunin & Konyshov, 2018: 135-137). The vital contributions of the Arctic to its economy has led Russia to insist on its peaceful intentions and desired cooperation with its polar neighbours, since large-scale conflict that would disrupt Russia's capacity to extract and export its Arctic resources would be devastating for its national economy, causing far more harm than the relatively small portion of economic activity the other Arctic states experience in their northern regions.

The Eurasian Arctic sub-region is also structured around the growing role of Asian states, most importantly China. Whereas Russia has been an Arctic power for centuries, China only recently signalled its commitment to developing Arctic capabilities in order to pursue its Arctic interests. The Chinese government has made significant investments in Arctic science, research, cooperation, resource extraction, and tourism, and *China's Arctic Policy*, released in 2018, declares it a "near Arctic state". China has built a cutting edge ice breaker (*Xuelong 2*) to go with its original, repurposed heavy ice breaker; established a climate research station on Svalbard; provided financial support for various Arctic meetings and activities; and wooed support from smaller Arctic states, such as Iceland (Koivurova et al., 2019). China has become one of several Asian states to receive Observer status at the Arctic Council, giving it a direct window into multilateral Arctic negotiations as well as improved access to the Arctic Council's Members and Permanent Participants. Other Asian states such as Japan, India, South Korea, and Singapore have also become Observers of the Arctic Council and invested in natural resource extraction in the Russian Far North (Lunde et al., 2015), deepening the political and economic connections between the Russian Arctic and the Asia-Pacific region. Overall, however, it is China's Arctic aspirations that have attracted scholarly and policymaking attention as it has established itself as the foremost non-Arctic state active in the circumpolar region (see Brady, 2017; Byers & Lodge, 2019; Kopra, 2013; Lackenbauer et al., 2018), with potentially global significance for Chinese-American great power competition (Durfee & Johnstone, 2019, 97).

Whatever its own capabilities, China's current influence on Arctic security is closely related to its relationship with Russia (Bertelsen & Gallucci, 2016). As the two most powerful states in Eurasia, global powers, and the foremost non-democratic countries in the world, China and Russia have forged a mutually beneficial partnership in the Arctic. The cornerstone is the \$27 billion project to ship liquified natural gas from Russia's Yamal Peninsula to China via the Northern Sea Route. The foreign investment in Russia from this deal has been

critical in mitigating the damage to Russia's economy caused by the Western sanctions imposed over Crimea, particularly with respect to oil and gas extraction that has been severely hampered due to an inability to partner with major, Western-based energy companies. The need for refueling, surveillance, and search and rescue infrastructure to support increased traffic along the Northern Sea Route has also provided the justification for Russian investments in military infrastructure along its northern coastline. This reinvestment has, in turn, been part of the evidence cited for the 'remilitarization' of the Arctic. Sino-Russian Arctic cooperation is not limited to the economic, energy, and environmental security dimensions of major fossil fuel projects, however. More than 3200 Chinese soldiers, as well as artillery and aircraft, participated in Russia's Vostok 2018 exercise, marking a significant deepening in their military cooperation and reflecting the pragmatic partnership between the two foremost non-Western global powers.

The rise of Chinese influence in the Arctic has been met by concern by the other circumpolar states, reflecting a desire to limit China's power to the Eurasian sub-region. The Canadian government has intervened to prevent Chinese companies from acquiring private corporations on the basis of national security, even though Chinese investment could help fund sorely needed infrastructure and natural resource projects. In 2019, Denmark prevented Chinese companies from winning the contract to construct three new airports on Greenland, citing national security. But, in other contexts, Chinese interests are heavily involved in providing Arctic infrastructure projects that are in high demand from many northern governments. Chinese engagement in the Arctic highlights this tension between local and regional infrastructure demands and state-level security concerns (see Chater, Greaves & Sarson, 2020), a dynamic playing out across the region. Again, the significance of these developments lies in the fact that security in the Arctic is difficult to analyze at the pan-regional level, but varies across the different sub-regions where security and insecurity are produced according to the actions of primarily regional actors.

Conclusion

The central argument in this article is that climate change and ensuing geopolitical competition is undermining the holism of the Arctic and producing three distinct security sub-regions across the circumpolar world. This process is analogous to the Atlantification and Pacification of the Arctic Ocean due to global warming, in the sense that the distinctiveness that previously characterized the Arctic relative to adjacent parts of the world is being replaced by the incorporation of the Arctic into the political and security dynamics of neighbouring security regions. This sub-regionalization of Arctic politics marks the end of the post-Cold War period of Arctic exceptionalism in which the circumpolar world was seen as separate from the competition and great power manoeuvring that characterize global politics. As the Arctic Ocean warms and Arctic ecosystems lose their distinctiveness to resemble zones at lower latitudes, so Arctic politics and security are increasingly becoming a northward extension of the forces that dominate further south.

The fragmentation of the Arctic RSC does not mean that inter-state conflict is inevitable, or even more likely to occur. All eight Arctic states, as well as increasingly important non-Arctic states like China, have repeatedly affirmed their commitments to a peaceful and rule-governed Arctic order based on international law and the peaceful negotiation of disputes, and their Arctic policies state that there is no prospective military threat in or to the region (Heininen, 2012). While the Arctic's vast natural resource wealth has often been identified as a potential source of conflict, the majority are believed to lie in undisputed sovereign territory relatively close to shore, and doubts remain over the viability of developing these resources, making major conflicts over them an unlikely gamble (Keil, 2014). Moreover, given the priority that Arctic actors place on the economic benefits of natural resource development – particularly the importance of Arctic resources to the Russian economy – it is unlikely that they would pursue violent conflict that would disrupt their capacity to operate as usual and export commodities to the global market. While some observers have expressed worries over an emerging Arctic security dilemma (Åtland, 2014), it remains the case that conflict in the Arctic is more likely to be caused by outside effects spilling into the circumpolar region than overt competition within the Arctic itself.

But the fragmentation of the Arctic RSC will likely affect current patterns and structures of Arctic regional governance and cooperation. Pan-Arctic governance may weaken as issues are negotiated bilaterally, and as Arctic sub-regions become incorporated into adjacent blocs of regional politics with their own intergovernmental institutions. This will likely reinforce the growing “Westphalianization”, i.e. state-centrism, within Arctic politics at the expense of sub-state governments, local decision-making, and self-governing Indigenous institutions (Shadian, 2010). Fragmentation will also occur in terms of what ‘security’ is understood to mean across the region, as the different subcomplexes experience distinct political, economic, social, and ecological conditions. This variation in security will further drive the erosion of the Arctic as a single, coherent region over the course of this century, and may strain the region's governance architecture as states with different interests and priorities pursue their distinct conceptions of Arctic security. The result will be a circumpolar region that is less distinctly ‘Arctic’ than in the past, as the exceptional and cooperative nature of recent Arctic politics is replaced by adjacent security sub-regions characterized by different combinations of great power influence, economic nationalism and investment, environmental change, and ongoing human insecurity. Security in the Arctic, always highly contested, will become a reflection of the specific factors within the adjacent political areas, less distinctly Arctic and more global, as climate change renders the Arctic a region of the world that is distant from the centres of political influence, but no longer one that is especially distinct.

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Section VII: Military, Security, Stability and Peace

Potential Tensions in Icy Waters; Some Prospects

Erkki Nordberg

From the beginning of the 1980s, the employment of modern technology has changed the military situation in the Northern Waters and increased the strategic importance of the area. This is due to improved possibilities in operating beneath the ice- fields, on top of them and in the icy climate. The Soviet submarine launched ballistic missiles (SLBMs) can nowadays also be fired to their intercontinental targets from the Barents and Kara Seas instead of the Norwegian Sea.

Accordingly, the present naval strategy of the United States is ostensibly aimed at countering the activities of Soviet strategic submarines and forcing its attack submarines to protect the nuclear ones. This means that the crisis-time focal point of the underwater naval operations would be on the line between Svalbard-Bear Islands-Finnmark, rather than on the level of Greenland-Iceland-United Kingdom, as was expected in the 1970s.

Across the Northern Waters, it is possible to threaten the United States by intercontinental and cruise missiles and strategic bombers, and the sea lines of communications of Western Europe by submarines and by airforce. Norway is exposed to attacks by aircraft, cruise missiles, surface-ships and amphibious forces, and Iceland by naval forces, aeroplanes and cruise missiles operating in the area.

For the United States the Northern Waters are not a European question only. At least her North American Aerospace Defense Command (NORAD), Strategic Air Command (SAC) and elements working with strategic nuclear deterrence lay a great emphasis on that particular area. For them, the Northern Waters, being part of the Arctic, are a central area and not a remote northern hemisphere as the Europeans used to see it. (Lindsey, 1989, 5)

For the Soviet Union, or Russia, the Northern Waters and its airspace represent a direction from which her main nuclear second-strike capacity and her only all the year-round ice-free harbour with unchallenged access to the high seas can be threatened. The threat may come from the air by ballistic missiles or strategic air force across the Arctic, or by sea- or air-launched cruise missiles approaching along the friendly and air-defended Norwegian coast, or by surface and submerged naval forces.

The main Soviet nuclear second-strike capacity is mounted on board 62 ballistic missile submarines (SSBN) of which 38 are based in harbours situated in Kolafjord and Litsafjord. The Northern Fleet is the strongest of the four Soviet fleets and two flotillas, and its submarines and surface combatants also mainly represents the most modern Soviet naval outfit. The area of operation of the Northern Fleet covers the Arctic and the Atlantic Ocean and thus also the Northern Waters. (Militærbalansen, 1990-1991, 167-8, 190, 193).

Besides of its attack submarines and vessels the Northern Fleet also has a spetsnaz brigade of its own. The number of marines garrisoned in Kola is estimated to be one 4-battalion 4,000-men brigade while another brigade is allegedly being under establishment. The naval air force comprises 150 combat aircraft including some 28 (Anttila, 1991) Tu-26s with a range of over 4 000 kilometers, now permanently deployed at bases in Kola (Ellingsen, 1991), as well as some 100 helicopters of various types. (Militærbalansen, 1990-1991, 168-9, 188, 192-9).

The size of the naval air force was in 1990 increased by a fighter regiment of 40 MiG-27Js. That regiment was withdrawn from Hungary, and redeployed in Kola peninsula instead of Novgorod, where it was originally planned to be based. (Weiss, 1990; Militærbalansen, 1990-1991, 168; Financial Times, 5 July 1990, 2) This deployment, at a time when military forces are generally diminished in Europe, further emphasizes the importance of the Northern Fleet and the defence of the Kola for the Soviet military.

The air-base network of the Kola Peninsula, altogether some 17 major military and one civilian airports, naturally makes it possible to reinforce the air-defence and air-strike capacity quickly and unnoticed. An interesting point in this respect is that in early 1991 one interceptor regiment was transferred from Petrozavodsk in Karelia somewhere to Siberia and replaced by a fighter-bomber regiment demobilized from Central-Europe. (Militærbalansen, 1990-1991, 166-7; Akhromeyev, 1990).

The present military arrangements and activities as well as the three peace-time active army divisions (Militærbalansen, 1990-1991, 164) nowadays deployed in the Kola Peninsula, can generally be seen as being mainly defensive. During crisis or war, forces stationed there anyhow provide plenty of possibilities to project and use naval and naval air power all over the Northern Waters. The inevitable future increase of Soviet ground forces in Leningrad Military District (Haapavaara, 1991, A18) makes it also possible for the Soviets to project even the power of their active Army divisions in the Nordic Cap more easily in the years to come.

Where Advantages and Threats Meet

In the international political circumstances prevailing in 1991, an acute crisis in the sanctuary of the Northern Waters does not look very likely. The significance of those waters, the economic and military importance of them and the adjacent coasts and waters, is not diminishing, but increasing. Thus, the built-in crisis possibilities are worthy of closer scrutiny.

In the Northern Waters there are three main issues which may cause conflicts, namely transportation of economic resources; resources within the region; and deliberate connections between resource and security issues (Archer & Scrivener, 1986b, 6-7). In two particular spots at least the two last of these are important: in the Svalbard archipelago and in the disputed shelf area [just outside the South-Eastern corners of Svalbard administrative area] in the Barents Sea.

The strategic value of Svalbard is based on its location. By establishing a military presence there, it could be possible to block access of the surface ships of either the Soviet Northern Fleet to the Barents Sea or the Western naval forces to the Norwegian Sea. From the standpoint of maritime and air surveillance, military installations suitable for these purposes would give both parties the same assets during peace-time.

The second possible conflict-area lies just outside the South-Eastern borders of the Svalbard administrative area. The key question here is how the sea borders of the Soviet Union, or Russia, and Norway are to be drawn and to whom the shelf belongs. However, the most important issue concerning this particular area is also strategic: how close to the military installations based along the coast of Kola Peninsula a permanent foreign presence can be established.

Evolution and Adventurism

In this particular area there are some possible, although not highly probable, potential causes of a potential crisis. Firstly, the intensified scientific research activities and the economic utilization of the natural resources in connection with the increased amount of Western foreigners they bring to the area, could evoke a political backlash in the Soviet Union (Scrivener, 1986, 228). Perhaps this cause is not sufficient for igniting a crisis as such, but might act as a booster in some phase of strained relationships.

Soviet, or Russian, insistence on a joint military development project - say construction of an airfield or a radar station - together with Norway in Svalbard, might cause a crisis between the two nations. Such a Soviet approach has been made earlier (Scrivener, 1986, 226), but without any success. In theory it is solely up to Norway to accept or reject such a proposition. The fact that it is the responsibility of NATO to defend Svalbard makes the situation more complicated.

A third way to a crisis could be paved with the evolution of the military infrastructure. As Scrivener argued in 1986, 'the Soviets have... in all probability installed seabed acoustic devices throughout the Barents Sea, including the waters of the Svalbard archipelago' (p. 211). The Soviets also have surveillance systems on board their ships and installed on ice fields. It is also in the interests of the United States to expand its C3 network to these areas.

Once the drilling of oil and gas nearby Kola Peninsula starts, the security issues become all the more important. During the installing of the oilrigs, it is possible to establish an acoustic surveillance network in the very vicinity of the bases in the Kola. The platforms will also canalize

seafaring and movements of the submarines, increasing the threat of collisions; and the security of the oil-rigs presupposes certain military measures as well.

The security issues inevitably connected with a possible crisis in the Northern Waters, may bring in certain military adventurism. Such adventurism - of which good examples are e.g. the secret redeployment of SS-23 missiles from East Germany to Czechoslovakia instead of Russia by the Soviet military without the approval of the political leadership in early 1990 (The Times, 11 July 1990, 22); or the nuclear test explosion carried out in Novaja Zemlya on the United Nations' Peace Day, 24th October 1990, only a short time after it had been made public that the Nobel Peace Prize was awarded to President Gorbachev - may even act as a trigger for a crisis.

As well as submerged surveillance, the enhancement of electronic warfare (EW) capabilities is likely to be in the interests of all involved. The easiest way to improve Western EW capabilities would be the permanent deployment of EW vessels in these waters, but that would be regarded as normal activity. More provocative, would be the installing of some additional EW equipment to the existing Norwegian facilities. The Soviets could improve their positions by deploying new stations on board a ship, or somewhere on the icefields.

The new installations could not be concealed, and could therefore also be physically checked by the counterpart, bringing the special forces into the affair. It is not known how many oznaz and spetsnaz personnel the Soviet community in Svalbard absorbs, but it would be unusual if none. If some reinforcements were required, the spetsnaz brigade of the Soviet Northern Fleet, stationed in Murmansk, could supply a usable reserve trained and accustomed to harsh circumstances. Foreign forces could at first enter the islands disguised as scientific personnel.

As Örvik pointed out in 1963, there are numerous small Norwegian islands between Norway and Spitsbergen with strategic importance, to which the Soviets might send their oznaz or spetsnaz patrols to gain de facto control over them with plausible pretexts and pleading peaceful intentions (p. 33). Such a move would trigger a troublesome crisis for Norway, because the alleged pretexts might be hard to rebut and the intruders difficult to remove without using force.

The deployment of special forces could actually intensify the situation to the level of a Low Intensity Conflict, which could bring a certain amount of military adventurism with it, especially if the activities of special forces cause incidents either in Svalbard or in adjacent waters. Such incidents could for instance be demolition 'attempts on surveillance installations, chasing of opponent's special forces personnel and other features linked with covert operations.

Heightened activities in the area would also increase the need for intensified aerial surveillance. The capacity of the 4 Norwegian Orions at Andöya would undoubtedly soon be reinforced by those based at Keflavik. That might also mean Dutch involvement, should the one Royal Netherlands Navy P-3 plane, based at Keflavik (JONSSON, 1989, 27) be used. Reinforcement of the Keflavik-based Orions would depend on the predictions and needs of the United States.

AWACS capability would also be brought up to the level in which there would be one plane in the air round the clock. If NATO does not want to get involved further, the aeroplanes needed would be provided by the US Air Force. The use of Keflavik base does not necessarily make the overall situation worse, and the stepping up of the aircraft activity there could probably be explained as an improvised air force exercise.

The regular use of non-Norwegian aeroplanes in Svalbard would not necessarily mean that Norway would have to lift the flying restrictions beyond 24 c E that it has imposed on NATO allies. The use of allied planes in the airspace of the Barents Sea would anyhow presuppose that decision, thereby changing a decades old procedure. This might thus be regarded as a provocative measure by the Soviets.

The increasing use of aerial surveillance and EW capacity in the airspace of the Barents Sea would be much easier for the Soviet Union than for Norway because of the numerous Soviet surveillance aeroplanes based at Kola or operating from its bases (Militærbalansen, 1990-1991, 46, 168). They provide the Soviet Union with the potential to step up activities on a round-the-clock basis without any additional reinforcements. The coverage of these activities could also be extended to the North Atlantic without difficulties.

Should the situation in Northern Waters become more strained, Soviet and Norwegian submarines would probably be the first naval forces brought on the spot. The need to show the flag also implies some surface combatants would be deployed in the area. Norway is handicapped in this respect because of the size of its Navy in comparison with the length of its coast and with the strength of Soviet Northern Fleet.

It has to be noted that the deployment of major Western naval forces in the Northern Waters might trigger a crisis for the Soviet Union. Therefore, the first additional Western naval forces should possibly be, for instance, at the level of a group of about half a dozen destroyers or frigates, and mine warfare vessels. Such a NATO naval force can be seen showing solidarity every now and then in the Norwegian Sea (Norton, 1988, 191).

It is not even out of bounds that a force of some 4-6 Carrier Battle Groups (CVBGs) as the Norwegians seem to expect (Militærbalansen 1990-1991, 178), would be sent to Northern Waters. However, the arrival of even one Western CVBG in the Norwegian waters would bring new elements to the game and means the stepping up of the crisis to a new level. Firstly, it would substantially increase the Anti-Submarine Warfare (ASW) capacity in the area. The Soviets may regard that as a serious threat against their attack submarines meant to defend the SSBNs, especially if the additional capacity was deployed near to the Barents Sea.

Secondly, each CVBG would bring 80-90 additional combat aircraft to the area, the first load already doubling the amount that Norway has. That would increase the air-traffic in the airspace adding to the possibilities of incidents and crashes. On the other hand, it would compel the Norwegian government to consider anew the flying restrictions imposed on her allies. To the Soviets the additional air combat potential naturally would mean an increased threat.

Lines Drawn in the Water

The nature of the crisis and the management techniques used, depend on its background. If the crisis was not connected to other European issues, it could possibly be solved at a comparatively low level as far as the use of power is concerned. If the crisis were a part of an overall strained continental or global situation, Northern Waters might still become a theatre of deterrence as NORTON has pointed out (1988, 192). In such a case the settlement would only be found on the basis of US - Soviet negotiations.

A third possibility is that the crisis is a reflection of the unstable situation of the Soviet Union, with some kind of muscle-flexing by the military. In that case, the course of events might include attempts of a militarized, although not necessarily violent, *fait accompli*. As long as the national situation in the Soviet Union stays unstable, this third possibility has to be taken very seriously into account.

Norwegian aeroplanes have been buzzed by the Soviets and minor collisions have happened above the Barents Sea in peace-time, and in the early 1980s some exchange of shots broke out between NATO and WTO naval vessels during a naval exercise in the southern Baltic. It might be supposed that heightened naval and air activities would inevitably increase the possibilities of that type of incident.

For the Soviet Union it seems to be of vital importance, that her borders are inviolable, and the physical safety of her citizens is not threatened. However, during the crisis both of these principles may be challenged. It is even possible that some agents of Soviet government might provoke incidents by themselves in order to escalate the crisis, as may have happened in Baku in 1990 (Rettie, 1990).

Although it is primarily the responsibility of Norway to defend Svalbard, the Soviets could use the protection of their community as an excuse for sending their marines to the archipelago. That would mean the occupation of the islands, and would be regarded as highly provocative by the West, and might lead to unpredictable consequences. This type of an act could more be expected in the case of a struggle for power going on inside the Soviet leadership, when the military will show their might.

From the viewpoint of the United States military, the Soviet male citizens in Svalbard might, analogously with the Grenada crisis, even be regarded as a couple of Soviet battalions already occupying the archipelago. Although those Soviet reservists supposedly only have hunting weapons at their disposal, they have acquired a conscript training for a minimum of two years, which could justify suspicious accusations.

Should the Northern Waters become a theatre of deterrence, the possibility of a demonstrative use of a single nuclear explosive in the uninhabited Arctic cannot be excluded. The Soviets might also react by carrying out nuclear tests in Novaya Zemlya, as happened in the aftermath of the Berlin Wall crisis in 1961 (Visuri, 1989, 202).

Almost irrespective of the amount of Western naval and air power projected into the Northern Waters, the Soviet Union would have the upper hand in the area. Perhaps the only weapon systems with which the West can challenge the Soviets are the Air and Sea Launched Cruise Missiles (ALCMs, SLCMs). However, their use for coercive purposes can be regarded as limited because of the fact that they can be furnished with either conventional or nuclear warheads.

The possible deployment of US B-52s with ALCMs on board in Greenland or Iceland, or US tactical submarines or Iowa-class surface battle ships equipped with SLCMs in the waters of North Atlantic, would form a serious threat against the Soviet Union. From those areas the cruise missiles could be launched quite safely to approach Kola along the friendly, air defended and easily found Norwegian coast, which would diminish the Soviet reaction time to the minimum.

It is possible, that the non-nuclear warhead option might allure to the use of the cruise missiles as an instrument of coercion during a crisis. But the fact that, once launched, it is impossible to distinguish the kind of warhead, makes the cruise missiles in fact unserviceable for such purposes. Thus the movement of the weapon system to advanced positions during a crisis certainly would bring utmost risk.

The Lot of Third Parties

In this particular case there would seem to be an unusual number of third parties. With Svalbard, Poland would inevitably be involved because of its station in the islands. It and its staff would probably endeavour to be utilized by all the crisis actors. To those signatories of the Svalbard Agreement who are not actors or otherwise involved, the crisis means a violation of the possibility to make use of their rights.

Although Sweden and Finland do not share a single strip of the coastline of the Northern Waters, both of them would inevitably become entangled in the crisis as third parties. They are firstly signatories of the Svalbard Treaty; secondly they would be within the range of the increased air activities in the nearby airspace; and thirdly the possible use of nuclear weapons would expose their territories to fall-out.

The first reason does not bring a serious or practical impact, because Sweden and Finland do not actively use their rights on Svalbard. The second issue is far more problematic. Their northern airfields would certainly seem attractive to the additional air forces which would possibly have been deployed in Kola, Norway or the nearby waters. Both parties would be suspicious that these airports could be used by its adversaries even when there were no emergency situations in question.

Another concern of the Soviet Union is that of Swedish and Finnish air defence capability, especially against the cruise missiles. Although the most sensible flying paths for cruise missiles targeted on the Kola Peninsula, would go along the Norwegian coast and not through the defended Swedish and Finnish air spaces, high ranking Soviet officers have repeatedly stressed their concerns about the ability of both of those countries to track and destroy the missiles.

A crisis taking place in the Northern Waters, would also inevitably increase intelligence and espionage aimed at military activities and installations both in Sweden and Finland. These operations would most probably be carried out by various intelligence agencies but the use of special forces' units cannot be ruled out. To resist their activities both countries would have to enhance the guarding of their borders and increase the alertness of their police forces in Norrbotten and Lapland; irrespective of whether they like it or not or can they afford it.

The possibility of nuclear fall-out as a result of a nuclear test in the atmosphere, nuclear weapon accident, or the use of nuclear weapons, remains quite low, but cannot totally be ignored. The population is sparse in the north, but there are large numbers of semi-wild reindeers, the breeding of which is a vital source of livelihood among Finnish and Swedish Lapps. However, it is not possible to protect the flocks and their main nutriment, lichen, as was seen in Norrbotten in the aftermath of the Chernobyl disaster.

Additionally, a nuclear explosion in the air space also causes an Electro Magnetic Pulse (EMP) which, like an extremely powerful sudden stroke of lightning, interferes with sophisticated electrical devices. This side-effect of a nuclear explosion involves all that have electronics within

the reach of the EMP and thus all C3 networks in the Nordic Waters and littoral areas. If an EMP took place, the crisis would certainly take a far more serious course, with the danger that it inevitably rises up to the superpower level.

Dear listeners, having said all this, all I can do is to wish that my scenarios would only remain on theoretical level.

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Conversion, Economic Integration, and Development in the Russian Calotte

Olli-Pekka Jalonen

1. Introduction

The division of the Calotte region into two parts was one consequence of the Cold War. This division of the region into western and eastern parts does not have any historical precedents. Of course, it is possible to argue that the Orthodox Russian Empire and the Protestant Scandinavian kingdoms gradually extended their spheres of influence towards the Calotte region. However, clearly defined and controlled state borders emerged only gradually and as long as the unresolved territorial dispute between Norway and the Russian Federation regarding the Barents Sea exists, it is possible to argue that the process is still incomplete. The Cold War period represents an anomaly in an otherwise continuous coexistence and cooperation between groups of people residing in different parts of the Calotte region.

As a result of the Soviet period the Russians seem to find it difficult to regain awareness that they also have once participated in regional activities and that the Kola Peninsula and the Arkhangelsk

region can be considered as belonging to the North Calotte. This difficulty is among the most serious obstacles to the development of future cooperation in the region because it makes it difficult for the Russians to seek partners elsewhere than from Moscow.

In this article the intention is to evaluate the changing relationship between security and economics from the perspectives of conversion and economic integration. I go on from an assumption according to which the success or failure of the economic restructuring of the Russian part of the Calotte is a vital precondition for the development of the North Calotte as a coherent region. My intention is to consider what positive effects, if any, the conversion of the military infrastructure could have in respect of the economic restructuring, and is it at all feasible for the Russians to try to adopt alternate models of development to be carried out in the Calotte region.

The article is structured into four parts the first of which will deconstruct the idea of 'Russian Calotte'. Hopefully, I can point out that in fact there is not just one Russian Calotte but several each with their own perceptions regarding the goals of future development. Its second part tries to reveal the character of the concept of conversion, which is problematic especially in a Russian context. The third part sets the Russian Calotte into the larger background provided by systemic change and the interests expressed by out-of-area actors towards the Calotte in general. Finally, the article concludes with a number of remarks regarding the North Calotte as a region with a coherent identity and a functioning economy.

2. What is Russian calotte?

The term "North Calotte" does not have a long history. It was invented after the Second World War when the Nordic countries found themselves in a tight spot between two opposing military camps. In terms of security strategies each of the Nordic countries drew its own conclusions in respect of the requirements of the situation. Although the adopted strategies were quite different from each other there was an understanding that the destinies of the three countries were interrelated. This feeling of a 'common future' has been expressed in many ways among them the concept of North Calotte, designed to emphasise the same ideas of togetherness and shared history as the more general idea of Nordic identity is supposed to do. It is easy to agree that the idea of a common Nordic identity has strong foundations and that there are good reasons to make a similar assumption in respect of the northern parts of Fennoscandia, too.

Since the North Calotte is to a large extent a political concept arising from a Nordic context, its expansion to cover parts of Russian territory has its problems. Nevertheless, there is a strong incentive to do so because the end of the Cold War has opened a window through which it is possible for all parties to take a fresh look on the other side and to think again the conditions of coexistence and cooperation.

Superficially it may seem that to call the Russian parts of the Calotte region as Russian Calotte would be an unproblematic way to extend the geographical coverage of the Calotte eastwards. This, however, is not the case because if one takes a closer look at what can be called Russian Calotte, at least two problems come into view. On the one hand, there are few remaining cultural or political links between the eastern and western parts of the Calotte to justify the argument that there exists a coherent region which can be called as Greater Calotte. On the other hand, the Russian part of the region has several characteristics that make it dubious to use a label like "Russian Calotte." In fact, the Russian part is a puzzle of several ethnic groups, languages, cultures

and so on, and even if this is true in other parts of the region too, it can be argued that in the eastern parts of the Calotte the perceptions of the majority and minority groups regarding issues such as conversion, economic restructuring, and development are most likely further apart from each other than in other parts of the region.

The above argument can be supported by referring to the peculiar character of the societal structures in the Kola Peninsula and Arkhangelsk region where within a short period of time the Soviets built a string of urban communities. In a way these communities are islands of Modernity in a sea of wilderness bringing modern technology and production philosophy in the midst of old cultures and small indigenous people. In other words, the Soviets transplanted societal structures from another context into an environment where almost no signs of Modernity were detectable. The discovery of rich deposits of minerals from the Kola Peninsula led to a gold rush type of phenomenon in the late 1920s and early 1930s. Urban communities developed around mines and smelting plants, but the significant point is that the economies of these communities remained almost totally dependent on few major employers. Today this means that the closing of, for example, a mine could leave thousands of people unemployed and without any possibility of finding employment elsewhere in the local economy. The unavoidable conclusion is that the societal structures in the Kola region are largely artificial. There are exceptions, like the ports of Murmansk and Arkhangelsk, but in general future survival of the civilian population depends on new megaprojects like gas and oil production in the Barents Sea.

Thus far it has been established that what is Russian in the Calotte are the big urban communities with their growth oriented and nature consuming economies. Military activities represent another dimension of Russian presence in the region. Soviet presence was related to its global military aspirations but today's Russia has a lot more limited objectives in mind the emphasis being on homeland defence. Bases in the Kola region are still important in terms of Russian nuclear strategy even if the general significance of nuclear weapons themselves is in decline. This is because the START agreements, if implemented as intended, will put the emphasis on sea-based strategic nuclear systems and in this respect the Northern waters represent the only viable deployment area for Russian forces. Without further reductions, available nuclear weaponry after START II implementation will exceed the levels of late 1960s when the great powers, in exchange of the signing of the Nuclear Non- Proliferation Treaty, solemnly pledged to promote real nuclear disarmament. In reality, however, especially a weak Russia is tempted to hold on her nuclear deterrent rather than to promote further reductions. On the other hand, because of shortage of funds the Northern Fleet is not capable of maintaining its ships and submarines and, therefore, its operational capability is rapidly deteriorating.

Recent information suggests that the Russians have deployed some of the general purpose forces withdrawn from Central Europe to either existing or newly constructed bases in the Kola Peninsula and Carelia (Kantalahti, Alakurtti, and Kasimovo). Russia is obviously using the region's military infrastructure to ease the ongoing force relocation and more efficient use of existing military infrastructure is then one dimension of recent military developments in the North. Another dimension relates to the fact that the Kola region is quite close to the heartlands of Russia providing an outlet to the open ocean and, therefore, the central authorities have a strong interest in keeping the region firmly under its control. Demands that the CFE Treaty should be opened to enable Russia to strengthen its forces in the northwest can be interpreted as a sign of increasing

appreciation of the region's military significance. However, at present there is a wide gap between what the Russians think of the region's significance and what they can do protect their interests. Nevertheless, it seems safe to assume that if Russia manages to consolidate its military position one of its first priorities will be to rebuild its military capabilities in the North. This does not automatically imply that military confrontation is a permanent element of the Arctic. If amicable patterns of relations are further developed among the region's states then the military element will slide to the background.

Keeping the conversion dimension of this article in mind, it is necessary to include not only the Kola Peninsula but also the Arkhangelsk region, which is an important naval construction centre, into the geographical definition of the Russian Calotte. The inclusion of Arkhangelsk also indicates how geography as such cannot be considered as the most important determinant of a region. Economic activities in northwestern Russia cannot be revitalised if an artificial division between the Kola Peninsula and Arkhangelsk is maintained, and the same argument can be extended to cover the whole Calotte region.

Finally, it is possible to conclude that the term Russian Calotte refers to economic and political interests and to a wish to keep the northwestern regions as an integral part of the Russian Federation. These interests can be traced back to Moscow and they reflect a traditional conception of Russia as a great power. In some occasions they may be in conflict with local interests but the crucial point is that Russian Calotte is not ideally located to dictate the terms of cooperation to others, quite the contrary. Vital supplies are imported to the region and local products have only limited markets at home and have to be exported either elsewhere in Russia or somewhere else altogether. Strong dependence on outside contacts is one of the most striking features of the Russian Calotte.

In contrast to this perception it is possible to adopt a different perspective where the emphasis is on the indigenous peoples and local communities of the region. This perspective is not elaborated in this article since the author is not sufficiently qualified to do so. Nevertheless, I would like to acknowledge the existence of other kinds of interests and interest groups besides those representing the urban communities of the Kola and Arkhangelsk regions. Since conversion is not as directly related to the indigenous peoples as it is to urban communities, I feel this dimension of the Russian Calotte can be omitted.

3. Conversion and Russian Society

3.1. Conversion: Meaning of the Concept

Simply defined conversion means the reallocation of defence resources for civilian purposes. What this reallocation exactly means is another thing. There are several definitions of the concept ranging from transformation of a defence plant and its employees to civilian production to the total demilitarization of the international economic system (The United Nations Disarmament Yearbook 1990, 89; Adams 1991, 8). Different definitions indicate that the problem can be approached from several angles. In some cases conversion may mean the use of defence-industry facilities, personnel, and technologies for the production of civilian products and services, that is, industrial conversion. In other cases the challenges involved may have a far wider scale. *Here I*

proceed from the assumption that conversion should be perceived as a process of economic adjustment necessitated by declining defence expenditure.

In the former Soviet Union the challenges of conversion are enormous. For years the Soviet defence industry received the best materials, the most highly trained workers, and generous funding. Because of heavy investment the Soviet economy became "an economy of armament" (Deger and Sen 1990, 75) and "an economy oriented towards war" (Avduevsky 1991, 103). The building of the defence industries started in earnest right after the invasion of Hitler's armies in 1941 when many existing plants were either taken by the advancing Germans or were transferred behind the Urals by the Soviets. The Urals region maintained its central importance in the post-War period too, as many facilities belonging to the nuclear weapons production complex were located there from the late 1940s onwards.

One characteristic of Soviet armaments production was extensive duplication. Several plants were involved in the production of the same weapon system or two or more design bureaus were made responsible for designing different systems with almost identical capabilities. On the other hand, production chains were often dispersed so that vital components of, for example, a missile produced in Leningrad could come from a factory in Ukraine. Today, these chains have mostly disintegrated. Another characteristic was that the whole system was centrally controlled and operated under strict rules of secrecy where the employees enjoyed special privileges but were also carefully guarded by the security organs of the state. Soviet defence industries were important producers of consumer goods even before the Gorbachev reforms were launched (Bernstein and Smith 1992, 5). Certain plants had both defence and civilian production lines and the problem they are facing today is whether to maintain both lines of production, and if not, what to do with the thousands of workers formerly employed by weapons production.

For the purposes of this article the following three layer definition of conversion is suggested. To begin with, conversion means the shifting of defence plants and their employees from military research and production to civilian research and production. Secondly, conversion means the incorporation of decommissioned military personnel into the civilian societies and economies of the successor states. Thirdly, conversion means civilian use of parts of the military infrastructure. In other words, conversion in the FSU region is an economic, technical, and social challenge, and it is obvious that different elements of this challenge will get different emphasis in each of the successor states. Because of the vast scale of the Soviet military machine conversion presents a demanding challenge to the successors who have limited resources to be allocated for conversion purposes making the role of foreign assistance important. Russia is interested in maintaining the foundations of its military power position and, therefore, tries to protect the nucleus of its military production capability. Other newly independent states' chief concern is how to disassemble the old structures and make room for economic reform. Sadly, the results in this respect are not encouraging as none of the smaller successor states has been able to convert its inherited military-industrial capacity and use it to boost general economic revival.

3.2 The Myth of Converting Russian Society

Michail Gorbachev's speech at the United Nations in December 1988 can be considered as a turning point in Soviet armaments policy (Izyumov 1991, 61). Gorbachev announced that a program to demilitarize the economy would be launched and that there would be significant cuts

in defence expenditure. Academic studies indicate that since 1988 conversion in the Soviet Union and Russia has passed through several stages. Alexander Sergounin identifies three: The period of declarative conversion 1988-1990, the period of the anarchic conversion 1991-1992, and the period of real conversion from the end of 1992 onwards. Sergounin argues that what is distinctive for the current phase of conversion is the way how the role of regional actors, that is local authorities, regional conversion plans, and individual enterprises, is emphasised (1993, 2).

Izyumov quite correctly points out that the process of conversion launched in 1988 is not without precedents. Soviet defence expenditure and/or force levels were cut in the 1920s, in the late 1940s, and again in the Khrushchev period. In all these instances conversion and force reductions were ordered from above and carried out bureaucratically with few thoughts spared to the social consequences of the decisions. Khrushchev's cuts met stubborn opposition in the Armed Forces and in the military industries and were partly responsible for provoking hostility towards him in the ranks of these two important centres of power. Caution, however, is advisable in making comparisons between historical precedents and the most recent efforts to convert Russian military economy. In its present form the system is much more complex than it was in the late 1950s and early 1960s.

In spite of this, expectations were high when Gorbachev announced his and the Party's intention to reform the economy towards peace. Valentin Smyslov's, who was the Vice-Chairman of the USSR State Planning Commission, statement in the UN sponsored Moscow Conversion Conference in August 1990 exemplifies these expectations very well. According to Smyslov: (1991, 84)

“Conversion is the economic part of the disarmament process and offers a strong potential for financial *reinvigoration* and the social and economic *renewal* of society. ... To realize such a vast potential requires competent planning and reasonable measures to implement conversion.” (italics, O-P J)

Smyslov's choice of terms reveals a very fundamental objective of Soviet conversion policy which were only partly related to disarmament and foreign and security policy. The ultimate objective during the late Soviet period was the renewal of the economy and the society through Perestroika, Glasnost and Konversiya. In this equation conversion represented the sphere of economic reform where the most significant objectives were the overcoming of technological backwardness, more efficient utilization of resources, and integration into world economy. The Soviets drafted a detained State Conversion Programme and approved proposals intended to cut military expenditures by more than 50 per cent by 1995 (Smyslov 1991, 82-84; Izyumov 1991, 68). However, the spirit of these plans and intentions was completely in line with the ethos of the command economy. For example, Smyslov presents ambitious figures anticipating future trends in the mixture of civilian/military production in defence related production facilities, and describes how the state intends to take care of the employees who will lose their jobs during the process. (1991, 89-90) Like so many other late-Soviet planners and officials, Smyslov had both his feet firmly in the air.

The late 1980s conversion programme proceeded from the assumption that under centralized planning the implementation of a large-scale conversion programme did not pose a serious challenge. Careful planning, suitable legislation, and sufficient funding would be enough to

overcome possible obstacles to conversion. In reality, there were no well-considered plans for converting either sectors of the defence industry or individual enterprises. Defence orders were just simply cancelled and the enterprises soon found out that civilian orders, if there were any, were not supported by additional funding or raw materials. Existing networks among defence contractors dissolved leaving individual facilities without vital components etc making continued production an impossibility (see also Cronberg 1994, 213). The end of seclusion exposed how vulnerable the defence industries are when they are supposed to operate in consumer oriented markets. It is difficult to resist the conclusion that late-Soviet conversion was regarded as a panacea for the transformation of some of the most important and deeply rooted societal and economic structures in a fortnight. Conversion was regarded almost as a mythical key to the rebirth of Soviet society. The errors in this logic became obvious even before the final dissolution of the Soviet state.

Yeltsin's conversion policy gives the impression that the Russians have learned some of the lessons. Instead of central planning the emphasis seems to be on the development of regional and company-level programmes. Simultaneously conversion has become a matter of economic policy — no longer an aim in itself. As a result, individual Russian arms manufactures are increasing their efforts to penetrate the world arms market and at the same time they are trying to find foreign partners to participate in their research and development activities. Currently the legislation controlling Russian arms exports is not yet complete and laws and decrees sometimes contradict each other (Sergounin 1993, 5). Increasing exports or finding foreign partners is not easy in a situation where defence expenditures are declining and where Russia has lost most of its traditional armaments markets. Success in arms exports would require a complete reform of defence industries — something which does not seem to be happening. What may be taking place instead is that out of the combination of undefined legislation and export control system and increased company and local level freedom of initiative proliferation related problems may emerge. Not all outcomes of eroding central control are necessarily good.

To sum up, the idea of conversion has been closely linked to the idea of reinvigorating Russian society. During the late Soviet period conversion strategies were outlined according to the principles of centralized planning, but the results were less than expected. This was mostly due to the fact that the centre was no longer capable of controlling either the economy or the society in general. President Yeltsin's government has adopted a more flexible attitude towards conversion where regional and corporate initiative is given more freedom of action. Difficult problems remain but at least the framework of conversion is now more likely to provide the conditions for some success. Furthermore, conversion is no longer perceived as a panacea for economic and social restructuring.

One of the more important problems is that despite conversion is no longer perceived as a panacea for society's problems its overall objectives have not been defined. There is no agreement regarding the proper size of Russian defence industries and there are conflicting views about Russia's role as a weapons exporter. Improved coordination between national policy and regional and company level objectives is required in order to prevent Russian nuclear, chemical, and biological weapons from reaching international markets.

An important difference between Russian and Western definitions of conversion is that the Russians do not seem to make a distinction between industrial conversion and diversification, where defence production is maintained and production is simply expanded into nondefence production. This is due to the fact that many defence enterprises have always been involved with nondefence production and in the late 1980s the original intention was simply to increase the percentage of civilian production rather than completely converting the military industries.

Between 1990-1992 Russian armaments production actually decreased in many areas, but 1993 Defence Intelligence Agency's estimates indicate that Russian emphasis is now gradually shifting towards preserving production capabilities rather than allocating additional resources to actual conversion (*Arms Control Today*, July/August 1993, 31). On the other hand, by emphasising the importance of weapons exports the Russians seem to be adopting the idea that defence industry should finance its own conversion while at the same time it should also start earning money for the state.

3.3. The Conversion of Northwestern Russia's Military Industries and Infrastructure

The Kola- Arkhangelsk region is one of the most important naval shipbuilding areas in Russia. It is also the most important naval basing area for both surface and subsurface naval vessels. In addition, in the Kola Peninsula there is a network of military bases of which especially the airfields may have certain utility from a civilian point of view. In the following pages this local military complex is analysed asking what opportunities and challenges it presents from conversion's perspective. The analysis proceeds from the assertion that Russia is reeling under the dead weight of collapsed Soviet naval power which has left rusting and radiating wrecks in its wake making the reconstruction of a Russian naval force an extremely difficult task. However, since Russia is a naval power with long maritime traditions it is probable that the idea of a naval revival is alive among Russian seafarers and that Moscow continues to provide resources for the maintenance of a nuclear fleet in the North. Nevertheless, for a long time to come the Russian Northern Fleet will be faced with an extremely difficult survival struggle as hulls will be decommissioned at a faster rate than new construction is able to provide replacements (see also Österlund 1994).

In spite of the present difficult situation the Kola region still retains its military significance for two main reasons. To begin with, nuclear disarmament agreements will place the emphasis on sea-based nuclear forces and the Northern Fleet has the most modern Soviet-built Delta IV and Typhoon submarines in its inventory. Since new construction is very slow at best the Russian Navy will have to try to maintain existing submarines in operational condition if national security authorities want to maintain a nuclear strike capability. This task is becoming increasingly difficult to fulfil because of continuously deteriorating conditions. The Navy does not have enough money even for vitally important maintenance and repair work, the quality of naval conscripts is low, and, finally, the Navy does not seem to have a clear perception what its new role is. Against this background the Naval command is trying to figure out how to make sure that missile submarines keep on patrolling and that there are enough surface combatants to protect them. Lack of an enemy does not make this task any easier.

Secondly, along with the loss of Baltic and Black Sea harbours Russia controls only a handful of ports with unhindered access to open ocean Murmansk and Arkhangelsk among them. The loss of the Baltic ports as such should not be overemphasized because commercial traffic can be

rerouted to use Finnish and Baltic ports — it is just a matter of negotiation. What makes the Arctic harbour facilities important besides direct and unhindered access to open seas is the general economic potential of the region. Kola and Arkhangelsk harbours can be used as ports for exporting and importing goods with origins outside the region, but they can also serve as a base for new kinds of economic activities taking place in the region itself. I am referring here to offshore and onshore gas and oil production and to the possible development of the Northern sea route as a significant route of commercial traffic between Europe and Asia. From a military perspective increasing economic activity does not present a challenge except by putting additional stress on the Navy's and Frontier Guard's ability to monitor and control national territory. In principle the Russians are facing a simple choice — either continue emphasising the importance of the strategic game or put emphasis on economic interests. Closely related to this choice is another one regarding the role of foreign powers and the future of regional cooperation. Continued stressing of the military interests will make the development of cooperation quite difficult.

As a result of years of construction there is an extensive network of military facilities in the Kola Peninsula. Since Norwegian researchers have done a good job in analysing the Kola bases using satellite images (Ries and Skorve 1987; Skorve 1991) there is no need to present this base complex in detail here. The Military Balance in Northern Europe 1992-1993 lists 16 major airbases in the Peninsula which are mostly located close to the Murmansk-St. Petersburg main road and northwest from Murmansk towards Petchenga (28). Except for the Gremikha



submarine base most of the naval bases are located either in the Kola Fjord or in the nearby fjords northwest from the Kola Fjord (Military Balance in Northern Europe 1992-1993, 29). Ground Force units are

deployed along the coast and there are additional units down south, for example, near Alakurtti. Organisationally Russian forces are under three commands — the Leningrad Military District HQ, the Northern Fleet HQ, and the Arkhangel'sk Air Defence District HQ. Since the final collapse of the Soviet Union the forces in the Peninsula have been quantitatively strengthened but for several reasons their combat effectiveness has dropped. Lack of motivation in all ranks and financial problems leading to difficulties in the maintenance of equipment and training standards are among the primary reasons for this decline.

There is no significant military industry in the Kola Peninsula in addition to certain naval repair and maintenance facilities which could be converted to do civilian work. Despite its impressive scale the military infrastructure of the region has little value from civilian communities point of view. Some military airfields could be used for civilian air traffic and perhaps parts of the military communication system could be used for civilian purposes, but the problem is that Soviet built communications equipment is obsolete and does not provide a shortcut in improving communications between Kola and the outside world. A more economic and efficient way of improving communications is to buy Western telecommunications technology like, for example, the NMT 450 or 900 systems. Decommissioned military personnel could provide a source of relatively highly trained reserve of specialists but the problem is that nowadays it is increasingly difficult to get people to stay in the Kola region voluntarily. Conversion, therefore, does not seem to be an answer to the regions economic problems.

The Arkhangel'sk region with its huge Severodvinsk yard (No.402) was an important centre of naval construction in the Soviet period and with the loss of the Ukrainian shipyards its potential significance has now increased. There are two other considerably smaller repair yards in Arkhangel'sk which have done some commercial work in the past. Historically the Arctic and Pacific yards were established to support the new flotillas and especially the Arctic coast yards played a crucial role in the Soviet effort to construct the worlds largest submarine fleet in the 1950s and 1960s.

Severodvinsk is the only major shipyard above the Arctic Circle being established in 1938-1939 when approximately 120 000 prisoners were used as forced labour to construct an enclosed building dock for Stalin' *Sovietskii Soyuz*-class battleships. Later, new construction has added the floor space of the yard which has a work force of approximately 40 000. Since the mid-1950 Severodvinsk has constructed nuclear-powered SSGN and SSBN types including the Oscar's and the *Typhoon's* (*Polmar 1983, 400, 401-2*) which form the backbone of Russia's remaining submarine fleet. The yard is probably capable of building oil and gas rigs and related equipment and it is in grave need of new orders because naval construction has almost completely halted. A shipyard is relatively easy to convert because there is not a big difference between warship and civilian construction. Naval weapons systems and electronics come from other sources outside the region and the yard is responsible for hull construction and final fitting of the various systems.

Converting a large shipyard like Severodvinsk requires first and foremost a thick book of orders from civilian customers. An interesting aspect of the problem is what ideas the Russians have in terms of converting their Arctic yards into civilian production. Are there any indications that they have a plan, and if they do, what does this plan suggest they should do? Build perhaps 1,5 times more trawlers as Smyslov suggested in 1990 (1991, 84) and thus increase the pressure towards, for example, the already depleted fish stocks of the Barents Sea? Would this be sustainable development? My conclusion is that since neither the Russian fishing fleet nor the commercial fleet provide market for Severodvinsk's civilian production successful conversion of the yard will be impossible unless production can be redirected towards new megaprojects like the Stockmanovskoje gasfield. On the other hand, it is quite conceivable that the Navy will try to do its best to prevent the conversion of one of its remaining production facilities but at the moment it can do very little to support military production.

4. Economic Integration and Development

4.1. The Changing Relationship Between Security and Economy

Recent developments in many parts of the world indicate that the role of the sovereign state as the most important actor in the international system and as the primary source of identity and security for its citizens is no longer as evident as it was in the past. It seems that not even the modern state can resist the eroding flow of history forever. One indication of these developments is the way how economics is no longer dominated by national interests defined in state capitals. State authorities are no longer capable of directing 'national economies' like in the past because the influence of the so-called market forces and powerful enterprises has increased dramatically.

Market forces and individual companies are much more flexible than national authorities and policies, and the dissolution of the bipolar political system has further improved their possibilities to take advantage on changes in the European political system.

It can be argued that new divisions are emerging in world economic system as centres and peripheries are being redefined. Some of the old centres are weakening while new ones are emerging. In the 1990s Asia represents the fastest growing economic centre while Europe is struggling against economic decline using instruments such as the Union project to resist this trend. From another perspective, it is obvious that certain industries are losing their former significance within national economies and replacements have to be found in order to avoid sliding into the periphery. Success in this project is primarily depended on qualities such as the availability of highly trained workforce, good infrastructure, modern communications systems, and well established rules for business conduct. On many occasions old centres are well positioned to succeed in this transformation but especially certain border regions have also trump cards making the location of new production there advantageous for the entrepreneurs.

The possible enlargement of the European Union to Northern Europe is the most important challenge facing the Nordic countries in the near future. Along with enlargement it will be more and more difficult to try to maintain the idea that the Nordic countries can unilaterally decide with whom and on what conditions they want to cooperate. Economically these countries are dependent on European markets but on the other hand they also constitute a relatively coherent economic subregion which has certain interest from the Union's perspective, too. The Union's interest is not limited to Scandinavia alone, it is also interested in having broader contacts with the Baltic states and northwestern Russia. From the perspective of the Calotte or the Barents Euro-arctic region the adoption of a regional approach instead of national development strategies is important. Choosing between a cooperative and multilateral approach, on the one hand, and a national approach on the other hand is not an easy task especially for Russia where ideas such as "strong state", "modernization", and "being encircled" still dominate political thinking.

From the perspective of European integration the Nordic countries are in an interesting position because they have a chance to contribute towards the approach of the EU and Russia and thus promote European security. In this respect both state and lower level actors can play a useful role and the Calotte region provides perhaps the most promising stage for these activities. Cooperation within the Barents Euro-arctic framework has the potential of becoming the most important regional initiative intended to mitigate Russian fears of being excluded from the process of European integration. The scope of intended cooperation illustrates fittingly the changing agenda

of security in Europe which can be presented as interaction between the European security complex and the European security community. A security complex is composed of a group of states the security of which cannot be meaningfully detached from the whole. A security community refers to a community the members of which are convinced that problems and conflicts can best be solved using other means than force. For the purposes of this article the European Security community is defined as composing of Western European institutions and countries.

European security community is currently faced with the problem how to organise relations with the rest of the security complex. One alternative is that a strong and exclusive centre develops around the core provided by the EU-WEU- NATO and whose relations with the rest of the security complex are based on vertical relations. Another alternative, and to my mind a more probable one, is that the security community does not decide to turn inwards but instead goes for simultaneous enlargement and deepening of cooperation.

4.2. Is Russian Calotte Locked to a Growth Oriented Development Strategy?

It has almost become customary to refer to Oran Young's 1985 article "The Age of the Arctic" (1985) when someone has wanted to draw attention to the fact that the Arctic regions contain many kinds of resources and potential. From an economic perspective the Calotte is one of the most interesting regions of the Arctic because three important factors are present; raw-materials, labour force, and capital (from the national economies) making economic growth at least theoretically possible. In geographical terms the region is not too large and it is not too far from the market making transportation and logistics easier to handle than, for example, in the case of northern Siberia.

Murmansk, Arkhangelsk, and the northernmost Norwegian ports are navigable all year round, and the internal waterways of northwestern Russia provide a shortcut to the Baltic Sea. Both Murmansk and Arkhangelsk are connected to the Russian railway system and there are plans to improve 'horizontal' rail connections between Russia and the Nordic countries. The Northeast passage is an even more ambitious project as its use would cut the sailing distance between Hamburg and Yokohama with approximately 8000 kilometers (20 000 →12 000). Japan, by the way, happens to be world's largest consumer of natural gas providing an alternative market for both Norwegian and Russian gas if transportation can be arranged.

Soviet economic strategy for its northern regions proceeded from the assumption that Arctic potentials should be exploited no matter what the cost. Today's Russia is faced with the consequences as most of the Soviet launched activities have proved to be economically disastrous. Former Soviet practices such as ignoring the cost of transportation cannot be continued and the heavy burden of the overall inefficiencies of the Soviet economic structures is now compromising the whole future of the economic reform. Having been built for massive scale operations the old structures effectively block reforms because they are difficult to abolish without major social consequences. In the Russian Calotte this problem is especially acute since the whole economy has an artificial base in the sense that once a mine, for example, closes in the Kola Peninsula the foundation of nearby communities economy collapses.

Conversion provides no way out because local military industries do not represent an economic factor significant enough to boost economic restructuring. What the region would need is a

network of small and medium scale companies to provide flexible forms of production capable of redirecting itself once a major employer shuts its operations. The problem with small and medium size companies is that their existence is usually related to the operations of larger companies for whom the smaller companies act as subcontractors. Without new so-called megaprojects the future of Russian Calotte is bleak. New megaprojects are likely to emerge in raw-materials related areas such as mining and gas and oil production. Opening an offshore gasfield for production involves, for example, the construction of offshore platforms, storage facilities, transportation equipment and other related equipment necessary to support production in a extremely hostile environment. It would mean at least some work for local companies and people but it would also open up a number of problems related to social and environmental concerns.

Megaprojects would solve some of the existing problems and create new ones. Without them the Kola-Arkhangel'sk communities have poor chances of surviving. My feeling is that the centre in Moscow is not prepared to accept this but tries to ensure that Russian and foreign resources are directed to the region with the objective of creating profitable and growing forms of economic activities there. Projects such as "Greater Calotte" or "Barents Euro-arctic region" have many positive effects but, on the other hand, they also represent the way how integration and fragmentation processes are finding their way into Northern Europe. Probable expansion of the European Union is not against Russian interests and therefore the Russians will most likely try to promote regional cooperation if they believe that it enables them to profit from EU expansion.

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Contemporary Challenges to International Security in The Barents Sea Region

Robert G. Darst

Amidst the general euphoria following the collapse of the Berlin Wall, a few irascible pundits warned that the Cold War had not been such a bad thing, and that we would learn to miss the stability and predictability that the bipolar division of power had provided to a tumultuous continent that spawned two world wars and countless smaller ones.¹ While the more apocalyptic visions of these unrepentant Realists have not yet come to pass (as of mid- 1994, for example, the major Western states showed no signs of resuming their traditional practice of internecine power balancing), the subsequent deluge of bloodshed in the remnants of Yugoslavia and the southern periphery of the former USSR, along with the rise of xenophobic nationalism elsewhere throughout the region, are sufficient evidence that the end of the Cold War has come with a sobering price tag attached.

¹ The best example is Mearsheimer (1990).

What impact has the end of the Cold War had on the problems of international security in the Barents Sea region?² Can we look forward to the demilitarization of this sensitive part of the world, or have the dissolution of the Warsaw Pact and the collapse of the USSR brought only greater dangers in their wake? And to what extent can the states that inhabit the Barents Sea region — Norway, Sweden, Finland, and the Russian Federation — cooperate among themselves to promote greater security and stability along the rooftop of Europe?

Unfortunately, the answers to these questions are not as reassuring as one might hope. In contrast to Central Europe, where the dissolution of the Warsaw Pact fundamentally altered the military equation on the continent, the end of the Cold War has brought about relatively little change in the military environment in the Barents Sea region. As before, the Barents Sea remains the stronghold of the Russian Northern Fleet, and the Kola Peninsula is still heavily militarized; as before, U.S. and Russian submarines continue to play cat-and-mouse in the frigid waters of the Arctic Ocean. Indeed, the extent that there has been real change in the regional military balance, it has been in a negative direction: with nowhere else to go, many of the Russian military forces withdrawn from Eastern Europe and the Baltic states have been bunched up in northwestern Russia.

Moreover, the end of the Cold War and the concomitant breakup of the USSR have also created or exacerbated a number of additional problems, most or all of which can be subsumed under a sufficiently comprehensive definition of "security." In the interests of brevity, I will limit myself to a discussion of those issues which fall within a more restrictive definition of the term — that is, those issues that involve or stem from the use or the preparation to use armed force. From this perspective, three novel problems of international security are particularly noteworthy: border security, the environmental consequences of peacetime military operations, and the prospect of violent conflict within Russia or between Russia and the other states of the former USSR. These issues have not replaced the more traditional threat of armed conflict between East and West; rather, the new security problems of the post-Cold War era are best thought of as additions to an already troublesome security agenda, one burdened by the survival of past tensions as well as the emergence of new sources of conflict.

I. Post-Cold War Military Competition in the Barents Sea Region

Viewed from a narrowly regional perspective, the most striking fact about the military environment in the Barents Sea region — whether during the Cold War, or today — is the overwhelming preponderance of Russian military power. During the Cold War, the northwestern corner of Russia became one of the most heavily militarized regions in the Soviet Union, and it remains so today. First and foremost, the Kola Peninsula is home to Russia's most powerful naval force, the Northern Fleet. This impressive deployment of naval force is backed by large and heavily armed ground and air forces, based on the Kola Peninsula or in the areas immediately adjacent to it. This massive deployment of military force greatly exceeds the forces which any of Russia's immediate neighbors in the Barents Sea region could hope to put in the field.

² For the purpose of this paper, the "Barents Sea region" should be understood to include the Barents Sea itself as well as the northern territories of Norway, Sweden, Finland and the Russian Federation.

Yet to view this concentration of Russian military force from a strictly regional perspective would be misleading, for these deployments have been motivated primarily by the prospect of a much broader conflict with the United States, with or without its current NATO allies. This is not to say that the Russian forces concentrated in the region would not be used against the Nordic countries in the event of a major conflict between Russia and the United States; they almost certainly would, particularly in an effort to secure the vital coastline of northern Norway. Nevertheless, it is unlikely that such an outcome would be the result of a confrontation between Russia and its Nordic neighbors per se. Several geographical and strategic factors have conspired to bring this situation about.

First of all, Murmansk is the only port in Russia that is close to the Atlantic Ocean, free of ice all year round, and easily accessible to the open sea. By contrast, the waters further to the east along Russia's Arctic coast are clogged by ice for a good part of the year, and ships leaving Russian ports in the Baltic and Black Seas must thread their way through strategic chokepoints controlled by NATO countries before reaching the open sea. Thus, Russia has little choice, short of scrapping its Atlantic fleet altogether, but to base much of its naval forces on the Kola Peninsula. And, having based such a large contingent of its naval forces in one place, it obviously must have sufficient air and ground forces in place nearby to defend and support them. This situation is largely independent of the military policies pursued by Russia's immediate neighbors in the region; even if the Nordic countries were to disarm altogether, Russia would still feel pressure to keep large concentrations of naval, ground, and air forces on the Kola Peninsula.³ Indeed, this basing strategy has grown even more imperative in the wake of the breakup of the USSR, since several of the most important Soviet naval bases in the Black and Baltic Seas now lie outside of Russian territory.

Easy access to the Atlantic Ocean is not the only reason why Soviet and Russian military planners have chosen to base such a powerful fleet in the Barents Sea. In addition, the nearby Arctic Ocean offers an attractive staging ground for the operations of Russian nuclear-powered ballistic missile submarines (SSBNs).⁴ The thick ice pack that covers most of the ocean and the irregular underside of the ice pack create ideal conditions for SSBNs to hide from potential attackers, whether aircraft or nuclear-powered attack submarines (SSNs). Consequently, by the time of the breakup of the USSR, well over half of the Soviet Union's submarine-based nuclear weapons were assigned to the Northern Fleet, and this trend shows no sign of diminishing today.

Moreover, the Arctic Ocean is also largely self-contained, its major connection to the North Atlantic being the relatively narrow Norwegian Sea. Thus, in the event of hostilities, Russian naval, air, and ground forces would seek to wrest control over the Norwegian Sea in order to

³ Norway is, of course, a member of NATO, and it could be argued that disassociation from NATO would make Norway a less attractive target. However, such a step would not change Norway's vulnerable location on the map. In the event of Russian-American hostilities, it is entirely possible that northern Norway would nonetheless be contested by the two sides, if for no other reason than to deny any possible advantages to the other. In this context, it is worth recalling that analogous calculations caused Norway to become the first theater of armed conflict between Nazi Germany and the Allies in the opening months of the Second World War, despite the rigorous posture of neutrality adopted by Norway's political leadership.

⁴ The role of nuclear submarines in Arctic military competition is explored at great length in Miller (1990a, 1990b, 1991, 1992, 1993).

retain the Arctic as a protected bastion for Russian SSBNs. At the same time, the Russian operations designed to secure the Arctic Ocean would have the collateral effect of threatening the North Atlantic sea lines of communication (SLOCs) linking the United States to Western Europe, which lie just to the south of the Norwegian Sea. Since the main goal of the U.S. Navy in the event of a conflict would be to prevent Russia from doing precisely that — and, in addition, to destroy as many Russian SSBNs as possible before they receive the order to fire — it is quite likely that the Norwegian and Barents Seas would become a zone of tremendously violent conflict in the event of East-West hostilities.⁵

Again, this situation is largely independent of the military policies pursued by the Nordic countries.

How has the end of the Cold War affected the military environment in the Arctic? Certainly, to the extent that East-West political relations have improved, so too have the odds for lasting peace in the Arctic region — after all, for all of the attention paid to the dangers of accidental war in the nuclear age, most wars are the result of deliberate political decisions. This is an important gain that should not be overlooked. From the strictly military perspective of force posture, strategy, and capabilities, however, much less has changed.

To begin with, there has been no major reduction in the size of Russian forces on the Kola Peninsula or in the wider Leningrad Military District of which it is a part. On the contrary, the concentration of Russian forces in the Leningrad Military District has recently been swelled by troops and equipment withdrawn from Eastern Europe and the Baltic states. While the chief reason for this rapid concentration is logistical — the area surrounding St. Petersburg is one of the few areas with sufficient infrastructure to support a sudden influx of equipment and personnel — it is also true that the St. Petersburg region, once far to the rear of the central front in Europe, now constitutes a key sector of the front line of defense for the Russian Federation. That being the case, it is hardly surprising that Russian military leaders have already begun to chafe against the regional limits on offensive weaponry imposed by the Treaty on Conventional Armed Forces in Europe, or CFE, which was negotiated before the dissolution of the Warsaw Pact and the collapse of the USSR. The main fuel for these complaints is the deteriorating situation along Russia's southern border, where a number of armed conflicts are already underway; nevertheless, Russian military planners would clearly prefer to be freed from regional limits in the northwestern part of the country as well (Clarke, 1993).

At present, most of the forces withdrawn into the Leningrad Military District have been deployed to the south of the city of St. Petersburg, and not along the Finnish or Norwegian borders. Nevertheless, the existence of these additional forces poses an additional headache for Nordic military planners, who cannot ignore the possibility that Moscow's peaceable intentions might change — particularly in the event of a further deterioration in Russia's relations with Latvia and Estonia — or that the central government could lose control over the military forces in the peripheries.⁶

⁵ For further discussion (and criticism) of the U.S. Navy's plans for war in the Arctic, see Posen (1988) and Mearsheimer (1988).

⁶ See, for example, the concerns about these dangers expressed by Lt. General Gustav Haegglund, following his nomination to the post of Commander-in-Chief of the Finnish Armed Forces (*Hufvudstadsbladet*, 12 March 1994, p. 5).

Nor has the end of the Cold War led to a noticeable reduction in the competition between Russian and American submarines in the Arctic. The never-ending game of cat- and-mouse between Russian SSBNs and the American attack submarines assigned to destroy them has not only survived the Cold War, but appears to have become even more aggressive. Two collisions between U.S. and Russian submarines in the Arctic have been reported since the collapse of the USSR, the first in February 1992 and the second in March 1993. Fortunately, neither of these incidents resulted in casual ties or environmental damage (Bowermaster, 1993; *Izvestiya*, 23 March 1993, p 2). The deteriorating financial condition of the Russian Navy means that the number of Russian SSBNs on patrol at any given time is likely to continue to fall; unfortunately, however, this may actually increase the risks of further incidents, since U.S. submarines will now be chasing a more rapidly shrinking (and thus more easily harassed) population of targets.

What steps might be taken to reduce the lingering dangers of military confrontation in the Barents Sea region? On a purely regional basis, relatively little: the primary lines of potential military confrontation transcend the immediate region, and thus cannot be adequately addressed by regional actors acting in isolation. For as long as Russia continues to maintain a strategic nuclear arsenal, it will continue to base some of its strategic forces upon SSBNs operating in the Arctic Ocean, regardless of the policies pursued by the Nordic states. Consequently, the idea of a Nordic Nuclear-Free Zone, long touted by politicians and activists in the Nordic countries, is extremely unlikely to bear fruit unless it is framed so as to exclude submarine-launched nuclear weapons — a proviso that would seem to defeat the purpose of the proposal altogether (Miller, 1990a:92-94). Similarly, there is probably no formula for the regional limitation of naval forces that would be acceptable to all of the states in the region. Russia, which must contend with the possibility of waging war against the U.S. Navy, is not likely to agree to reduce the Northern Fleet to a size commensurate with the naval forces of the Nordic countries. And given the disproportionate strength of the Russian Navy, it is doubtful that Norway would be willing to accept any restrictions upon naval access that might limit its allies' ability to reinforce it in the event of hostilities (Holst, 1990; Skogan, 1992).

Thus, the traditional forms of military competition in the Barents Sea region have not only survived the Cold War, but also promise to be relatively immune to cooperative solutions based at the regional level. However, the end of the Cold War has also created or exacerbated a number of more novel security threats that transcend force postures and war-fighting strategies, and some of these will be amenable to management at the regional level. It is to these considerations that we now turn.

II New Threats to International Security in the Barents Sea Region

In addition to the persistent dangers of military confrontation inherited from the years of the Cold War, the Barents Sea region is also beset by a wide variety of additional international problems, many of them generated or aggravated by the collapse of central political authority in the former USSR. Three of these may be thought of as "security" problems in a relatively narrow sense of the word, since they involve the use or the preparation to use armed force: border security, the environmental consequences of peacetime military operations, and the threat of violent conflict within the former Soviet Union. These problems are by no means restricted to the Barents Sea region, but all of them are felt with particular immediacy in that part of the world.

Border Security

"Border security" refers to the maintenance of effective control over the movement of persons and goods across state borders.⁷ During the Cold War, the security of the borders between Western Europe and the socialist states was a relatively minor problem, since the socialist states were extremely efficient at preventing the unauthorized outflow of persons or goods from their own territories. Indeed, the remarkable zeal exercised by the border guards and customs officials in the socialist states was motivated at least as much by the fear of who or what might get out of their countries as it was by concern over who or what might get in. From the perspective of the democratic West, these controls were excessive and morally repugnant, but there can be little doubt that they made the task of policing Western Europe's borders with the socialist states considerably easier than it otherwise would have been.

With the collapse of state socialism in Eastern Europe and the former Soviet Union, this situation has changed dramatically. The rigorous controls once exercised by the socialist states over the movement of persons and goods within and across their borders have vanished, and neighboring Western countries now face the unpleasant task of attempting to stem the rising tide of illegal immigrants, contraband, and organized crime flowing in from the East. Russia and the Baltic states, for example, have become major transit points for the smuggling of drugs and illegal immigrants to Western Europe, and organized crime syndicates based in Russia are known to have extended their operations well beyond the borders of the former Soviet Union.⁸ There have also been a number of alarming reports of the theft and smuggling of radioactive materials from the former Soviet Union, including the theft of several nuclear fuel rods from a submarine base in Murmansk Oblast.⁹ Thus far, there is no evidence that this illegal trade has involved any nuclear weapons or weapons-grade material; this is no reason for complacency, however, since only a very small amount of this sort of trade could have extremely unpleasant consequences.¹⁰ Of course, this illegal traffic runs in both directions, and the governments of the newly independent states have increasingly complained that unscrupulous Western businesses are participating in the shipment of toxic and industrial waste into their territories.¹¹

⁷ I classify this as a "security" issue in the narrow sense because it ultimately involves the use of armed force, either to prevent the entrance of unwanted persons or goods into the territory of a given state (e.g., patrols and checkpoints along the border itself) or the use of internal police forces to deal with the consequences of unwanted persons or goods that have successfully eluded border controls. The unwanted activities in question can range from illegal immigration and economic crime (for example, the import of untaxed alcohol) to such highly threatening activities as drug smuggling, international crime, and terrorism.

⁸ For recent accounts of smuggling rings operating out of the former USSR, see *Hufvudstadsbladet*, 16 March 1994, p. 11; *Divena* (Riga), 10 February 1994, p. 4; *Estoniya* (Tallinn), 31 January 1994, p. 5; *Sankt-Peterburgskiy vedomosti*, 14 May 1993, p. 2; *Letuvos Ritas* (Vilnius), 16-23 April 1993, p. 2; and *Per Spiegel* 21 June 1993, pp 100-109.

⁹ *Aftenposten*, 3 December 1993, p. 3.

¹⁰ For recent reports on nuclear smuggling, see Belyaninov (1994); *The European* (London), 18-24 March 1994, pp. 1-2; and *Kommersant* (Moscow), 15 November 1993, p. 38. "See, for example, *Kievskiy vedomosti*, 1 February 1994, p. 2; *Zelenyy svit* (Kiev), No. 13 (December 1993, p. 3; and *Novaya yezhednevnyaya gazeta* (Moscow), 21-27 May 1993, pp. 1, 5

¹¹ For recent reports on nuclear smuggling, see Belyaninov (1994); *The European* (London), 18-24 March 1994, pp. 1-2; and *Kommersant* (Moscow), 15 November 1993, p. 38. "See, for example, *Kievskiy vedomosti*, 1 February 1994, p. 2; *Zelenyy svit* (Kiev), No. 13 (December 1993, p. 3; and *Novaya yezhednevnyaya gazeta* (Moscow), 21-27 May 1993, pp. 1, 5

There are essentially two options for combatting this undesirable transnational commerce. The first is for each country in the region to step up its own efforts to maintain the security of their borders, that is, to prevent unwanted persons and goods from getting in. All of the Western European countries, especially those nearest to the former socialist states, have recognized this necessity, and we may expect that Western European border controls will be tightened still further in the near future. Unfortunately, these defensive measures also have drawbacks: they are extremely expensive, they will never be more than partially effective, and they run counter to the goal of freer economic integration between Western and Eastern Europe, including closer economic cooperation between the states in the Barents region. It is thus highly unlikely that defensive measures alone will reduce the problem to a politically acceptable level.

The second option is to strengthen the internal security infrastructure within the former socialist states. This might seem paradoxical, since one of the main Western goals during the Cold War was to weaken the internal security controls within the socialist bloc. Nevertheless, the internal security infrastructure in most of the former socialist states is now so weak — at least insofar as the control of crime and the outward flow of persons and goods is concerned — that the security of their neighbors is threatened as well. Thus it is in the interests of the entire international community to assist in the reconstruction of these structures. The scope for external assistance is particularly great in the former Soviet Union, where all of the newly independent states are now struggling to create independent internal security structures and where thousands of kilometers of new international borders remain virtually uncontrolled.

Western involvement in the strengthening of the internal security structures of the former socialist states will not be easy or inexpensive. First, the very existence of Western concern raises the cost of Western action. All of the newly independent states face severe financial difficulties, and they have already demonstrated a tendency to shift their own expenditures away from those areas in which Western concern is greatest — thus raising the pressure for further increases in the level of Western aid. Border security, like environmental protection, is just such an issue. Secondly, even with high levels of external assistance, it will be difficult to sharply improve the efficiency of the domestic security agencies in the newly independent states. The state authorities in these states are riddled with corruption and ties to organized crime, and there is no reason to expect this situation to change in the near future. Third, as past U.S. policies in the "third world" repeatedly demonstrated, there is no way to ensure that assistance given for one purpose — such as control of the international drug trade — will not be put to some other, less desirable and politically embarrassing use, such as the suppression of internal political dissent. Indeed, given the obstacles to successful democratization in Russia and most of the other former socialist states, this type of misuse is virtually inevitable.

Despite these drawbacks, Western involvement in the strengthening of the domestic security structures of the former socialist states is likely to accelerate, since exclusive reliance on defensive measures would be prohibitively costly -- both in terms of its direct cost, and in terms of its toll on regional integration. Furthermore, East-West cooperation in border security could have an important collateral benefit, particularly where the Russian Federation is concerned. Now that preparation for a major conflict with NATO has lost its urgency, the Russian military is in desperate need of new missions. Border control, though rather less glamorous, could nevertheless provide a relatively constructive channel into which a small portion of the Russian military's energies could

be directed. Since many Western military organizations are now facing similar uncertainties, this would seem a natural area for future collaboration.

B. The Environmental Consequences of Military Operations

While the Barents Sea region might be a relatively peripheral area from the point of view of international smuggling and organized crime, it is, sadly, the outstanding example of an international "commons" contaminated by peacetime military operations. In contrast to the issue of East-West border security, this problem did not begin with the collapse of communism; on the contrary, the worst excesses in this regard were committed while the Cold War was at its height, although many of them been widely publicized only in the past five years.¹² Nonetheless, the collapse of the Soviet state and the current financial and organizational difficulties of the former Soviet military machine have aggravated both the scale of these problems and the obstacles to the solution of them.

Nuclear testing. The most long-standing military threat to the Arctic environment stems from Soviet nuclear testing on Novaya Zemlya, the elongated archipelago that separates the Barents and Kara Seas. Between 1955 and 1962, the Soviet Union conducted some ninety underwater and surface nuclear explosions at the Novaya Zemlya test range; after the negotiation of an international ban on surface and underwater nuclear explosions, most Soviet nuclear testing was moved to the Semipalatinsk range in Kazakhstan, but additional 42 underground tests were subsequently conducted at Novaya Zemlya as well.¹³ Ironically, the last test took place in October 1990, just as environmental ministers from Eastern and Western Europe were meeting in Helsinki to discuss new forms of East- West environmental cooperation.¹⁴ Since that time, the Russian government has refrained from further tests, on the condition that its fellow nuclear powers do likewise.

While there is broad agreement that the environmental impact of Soviet testing on Novaya Zemlya decreased sharply after 1962, there has been less consensus concerning the safety of the subsequent underground testing at the site. The official Soviet (and now Russian) position is that underground testing at Novaya Zemlya has had no appreciable effect upon the regional environment.¹⁵ This finding has been disputed by experts from the Nordic countries and by international environmental organizations such as Greenpeace.

¹² For an early expose of these problems, see Heininen (1990).

¹³ Rossiiskaya gazeta, 8 May 1992, p. 4, and 23 June 1992, p. 5

¹⁴ The then-head of the Soviet environment ministry, Dr. Nikolai Vorontsov, was understandably outraged by the blast, which became a major issue at the Helsinki workshop (*Moscow News* no. 44, 11-18 November 1990, p. 3). There is no evidence, however, that the timing of the test was intended to disrupt the conference; responding to these complaints, Viktor Mikhailov, at that time the Deputy Minister of Atomic Power and Engineering of the USSR, reported that the timing of the blast was determined solely by the occurrence of favorable weather conditions, and that he himself learned of it only two and a half hours in advance (*Krasnaya zvezda*, 10 November 1990, p. 2). It is probably safe to take Mikhailov's account at face value, since the tight compartmentalization of the Soviet government (and its Russian successor) means that its right hand typically does not know what its left hand is doing. This was made abundantly clear by the more recent flap over the Russian dumping of nuclear waste into the Sea of Japan in October 1993, which immediately followed Boris Yeltsin's long-awaited state visit to Tokyo — a coincidence that seems to have been entirely dictated by bureaucratic routines rather than by diplomatic considerations.

¹⁵ *Krasnaya zvezda*, 1 August 1992, p. 5; see also Novaya Zemlya: Ekologicheskaya bezopasnostf podzemnykh yadernykh ispytaniy ("Novaya Zemlya: Ecological Safety of Underground Nuclear Tests"), a report prepared by the Soviet side for a Soviet-Finnish expert meeting on 28 February 1991 (Moscow, 1991).

Whatever the case, a return to testing can by no means be ruled out. Not all of the world's nuclear powers have heeded Russia's call for a moratorium on testing — China being the most notable exception — and both the Russian and American governments are under considerable internal pressure from their respective militaries to resume limited testing, regardless of what the other major powers do. If the Russian government should decide to resume testing, it will have no choice but to do so at the Novaya Zemlya site, since the Semipalatinsk range (now a part of independent Kazakhstan, and the site of widespread radioactive contamination) is no longer available for its use.

Nuclear accidents. A second environmental danger, and one that has robustly survived the end of the Cold War, is the problem of accidents on board nuclear-powered vessels, especially nuclear submarines. These accidents can take a variety of forms, any of which can lead to the release of radioactivity into the environment or even to the loss of the craft altogether. All of these types of accidents have or could take place in the Arctic region.

First, accidents may occur as a result of mechanical malfunctions while the vessel is at sea. The most notorious accident of this type in recent years was the loss in April 1989 of the Soviet attack submarine *Komsomolets*, which sank in the Norwegian Sea after an uncontrollable (and as yet unexplained) fire broke out in its stern section (Russian Federation, 1993:43). The *Komsomolets* now lies in over a mile of water some 300 nautical miles off the Norwegian coast, its nuclear propulsion system and two nuclear-tipped torpedoes still on board. Russian scientists and engineers have expressed concern that the submarine's titanium hull may corrode at a very fast rate, potentially resulting in the release of large quantities of radionuclides into the surrounding marine environment, and they have vigorously sought Western financing for a variety of ambitious schemes to raise the submarine or to seal off its hull in situ.¹⁶ Pending further evidence of environmental contamination, however, Russia's neighbors have apparently decided to let sleeping dogs lie.¹⁷

Secondly, accidents may also occur while submarines and other nuclear-powered vessels are in port. The most dramatic incident of this type took place in August 1985 at the Soviet naval shipyard in Chazma Bay, near Vladivostok. According to the official Russian report on the incident, a nuclear submarine was undergoing normal refueling when safety violations led to an uncontrolled spontaneous fission reaction and the consequent thermal explosion of the reactor. The engine compartment was destroyed, and one fuel assembly with a freshly loaded core was blown out of the reactor. As a result of the accident, 290 persons were exposed to elevated levels of radiation; ten of them subsequently died, ten others suffered acute radiation sickness, and an

¹⁶ It is worth noting that, as a general rule, the most alarming predictions of future environmental contamination have been advanced by precisely those scientists and engineers who propose to spend Western money fixing the problem. (See, for example, the op-ed article penned by Igor Spassky, the chief designer at the "Rubin" bureau, in *The New York Times*, 3 June 1993, p. A 23). Most of these individuals are employees of the financially troubled military-industrial complex, and it is a reasonable assumption that their primary motive is economic survival, not genuine environmental concern. This does not, of course, mean that the *Komsomolets* poses no problem whatsoever, only that the claims of those with a financial interest in an aggressive solution of the problem should not be accepted without independent confirmation.

¹⁷ This was the conclusion of an international conference of scientists held at the Woods Hole Oceanographic Institute in June 1993 (*The New York Times*, 13 June 1993). It is also the position taken by Norwegian radiation safety officials (*Aftenposten*, 14 April 1993, p. 2).

additional 39 persons displayed symptoms of radiation poisoning. Approximately 5 million curies of radioactive contaminants were released into the waters of the bay both by the explosion and by the resulting fire. Fortunately, most of the radionuclides released during the accident were short-lived, and by 1992 the levels of most radioactive contaminants had declined to fairly low levels.¹⁸ However, another such incident cannot be ruled in the Arctic, where similar refueling and maintenance operations are conducted on a regular basis.

Finally, accidents may occur as a result of collisions at sea. As we have seen, the dangers of collision are particularly great in areas characterized by aggressive competition between opposing naval forces, as is the case in the Arctic Ocean and particularly in the waters around northern Norway. The presence of "enemy" vessels is by no means required, however, since submarines regularly collide with other types of marine vessels, including fishing boats and friendly warships. In March 1994, for example, two Russian nuclear submarines ran into each other during maneuvers, quite without any interference from the U.S. Navy. Fortunately, neither vessel was seriously damaged, and there were no reports of casualties or environmental contamination (ITAR-TASS, 24 March 1994).

Of course, embarrassing and dangerous incidents of this sort are by no means unique to the Russian Navy; every nation that operates a submarine fleet suffers its fair share. Nevertheless, given the current state of confusion, demoralization, and technical deterioration in the Russian armed forces, naval nuclear accidents are even more likely now than they were in the 1980s. This is particularly true of dockside incidents like the disaster at Chazma Bay. Unfortunately, while neighboring countries can take measures to protect themselves against deliberate attacks by the Russian Navy, there is very little that they can do to defend themselves against the pernicious but inadvertent environmental effects of nuclear operations gone awry. In other words, the greatest threat today comes not from wondrously advanced machines like the fictional Red October, but from all too real vessels such as the unfortunate Komsomolets. Since it is improbable that the Russian Federation will give up its nuclear fleet altogether, the interests of everyone concerned can only be secured through the enhancement of capabilities that the West previously sought to restrict: namely, the technological and operational prowess of the Russian nuclear submarine fleet. Needless to say, cooperation of this sort will not be welcome to most naval officers, so the impetus must come from the political leadership on both sides.

Nuclear waste disposal. A third and extremely serious environmental hazard associated with military operations in the Arctic is the problem of radioactive waste disposal, especially disposal of the waste generated by Soviet/Russian nuclear-powered submarines and icebreakers. Today, the Arctic region is burdened both by the legacy of past Soviet dumping practices and by the urgent need to safely dispose of the huge amounts of radioactive waste that are currently accumulating in the ports and shipyards of the Russian Federation.

One of the most alarming revelations to emerge in the final days of the USSR was the disclosure of the Soviet practice of dumping radioactive wastes and discarded naval nuclear reactors into the Barents and Kara Seas, particularly in the waters around Novaya Zemlya. Allegations to this effect

¹⁸ The major exception is cobalt-60, which has a half-life of 5.26 years. In 1992, approximately 5 curies of cobalt-60 remained in the bottom sediments of Chazma Bay (Russian Federation, 1993:41-43). For an independent assessment of the Chazma Bay incident, see Handler (1991).

surfaced with increasing frequency in 1989-1990, but the full story began to emerge only in September 1991, when Andrei Zolotkov, a USSR People's Deputy from Murmansk, publicly revealed that the Murmansk Shipping Line (which operated the USSR's nuclear icebreaker fleet) had dumped large amounts of solid and liquid nuclear waste into the Barents and Kara Seas from 1964 to 1986 (Zolotkov, 1991). Zolotkov's expose was followed by even more shocking revelations about similar operations carried out by the Soviet Northern Fleet. All of these charges were subsequently confirmed by the Russian government, which released a full report on the problem in April 1993 (Russian Federation, 1993).

The Russian government report (also known as the "Yablokov report," after its chief author, presidential environmental adviser Aleksei Yablokov) found that between 1959 and 1991 the Northern Fleet and the Murmansk Shipping Line dumped some 2.5 million curies of liquid and solid radioactive waste into the Barents and Kara Seas. Ironically, much of this waste was dumped in the late 1980s, precisely at a time when Mikhail Gorbachev was loudly proclaiming the Soviet government's new-found respect for environmental security in the Arctic region.¹⁹ Most alarming of all was the revelation that the USSR dumped 16 discarded nuclear reactors into the waters around Novaya Zemlya between 1965 and 1988. Six of them still contained spent nuclear fuel.²⁰

Unfortunately, the problem of radioactive waste disposal in the Barents Sea region did not end along with the Cold War. As of 1993, Russia possessed some 235 nuclear-powered vessels and submarines, 60 percent of the world's total (Russian Federation, 1993:46). These vessels continually produce spent fuel, contaminated coolant water, and other radioactive waste that must be disposed of in one way or another. Consequently, the Russian Navy continued the Soviet practice of dumping low-level radioactive wastes into the Arctic and Pacific Oceans, the most dramatic incident being the dumping of approximately 900 cubic meters of low-level liquid radioactive waste (LRW) into the Sea of Japan in October 1993. The Russian Government subsequently suspended its offshore dumping in response to loud international protests, but this did not solve the underlying problem — a growing quantity of waste that vastly exceeds Russia's current storage and processing capabilities.

At first glance, it might seem that the post-Cold War reduction in the size of the Russian nuclear submarine fleet would simplify the waste disposal problem. In fact, the reverse is true: downsizing poses an even greater environmental hazard. As each submarine is decommissioned, its reactor compartment must be defueled and removed, and then arrangements must be made for the disposal of the spent fuel assemblies, any other radioactive debris, and the discarded reactor compartments themselves. This is a time-consuming process, and the number of recently decommissioned vessels vastly exceeds the capacity of those facilities (such as the naval shipyards in the Arctic port of Severodvinsk) that are capable of carrying out this kind of work. As a result,

¹⁹ See, for example, Gorbachev's famous speech in Murmansk in October 1987, at which he proclaimed environmental protection to be one of the USSR's main goals in the Arctic region (Ministerstvo inostrannykh del SSSR, *Za mir i bezopasnost' narodov: Dokumenty vneshnei politiki SSSR, 1987 god* [Moscow: Mezhdunarodnye otnosheniye, 1990], vol. 2, pp. 79-87). As it turned out, the following year, 1988, was a peak year for the disposal of both liquid and solid radioactive wastes into the Barents and Kara Seas (Russian Federation, 1993:21-24).

²⁰ These reactors had been removed from decommissioned nuclear-powered submarines and the nuclear icebreaker *Lenin*. The last dumping of a reactor still containing spent fuel took place in 1981 (Russian Federation, 1993:24-27).

scores of decommissioned submarines are now tied up beside Russian docks, many of them still awaiting the defueling of their reactor compartments.²¹

Thus, regardless of whether Russia continues to maintain a large fleet of nuclear-powered vessels in the Arctic, it cannot avoid the problem of disposing of sizable quantities of nuclear waste. Unfortunately, Russia's existing waste storage facilities, including those at its main reprocessing center near Chelyabinsk, are already filled to overflowing; without extensive modernization, they cannot possibly accommodate the additional amounts of radioactive waste anticipated in the near future. The Russian government has worked out a comprehensive program for the construction of long-term land-based burial facilities, but this work has proceeded very slowly (Russian Federation, 1993:46-50). In the meantime, the only alternative to off-shore dumping is to continue to store the growing quantities of spent nuclear fuel and other forms of radioactive waste in outdoor cooling ponds, aging tankers, and other makeshift containers. None of these temporary sites are particularly safe, and many of them are located in close proximity to large population centers such as Murmansk and Arkhangelsk. Thus, without an immediate infusion of Western assistance for the construction of new land-based storage facilities, Russia will almost certainly be compelled to resume offshore dumping in the near future.

The threat of a resumption of offshore dumping the only reason why the other states in the region should be concerned about the deteriorating state of Russia's land-based waste storage facilities. Many of the temporary storage sites are located right along the shoreline, and any major leak would inevitably be felt in other countries. Moreover, the unsafe handling of radioactive wastes can also lead to the long-range airborne deposition of radioactive contaminants, as was demonstrated by the explosions at radioactive waste storage facilities at Kyshtym in 1957 and at Tomsk in 1993. Thus, even from the point of view of Russia's neighbors, it is not at all clear that the risks attached to the controlled release of low-level LRW at sea exceed the dangers of the continued accumulation of waste on shore. It is therefore in the interests of all of the states in the Barents Sea region to act quickly to improve Russia's ability to process and store the radioactive waste now accumulating along its Arctic coastline.

Although the military sensitivity of many of the sites in question means that much of this cooperation must take place at the state-to-state level, there is a real need for cooperation at the subnational level as well. The long-term disposal of the Northern Fleets' radioactive waste will require the acquiescence of the Russian regional authorities, since a permanent storage facility for this material will probably have to be built in either the Murmansk or Arkhangelsk Oblasts, or on the nearby islands of Novaya Zemlya. However, the authorities and citizens in Murmansk and Arkhangelsk are not likely to be particularly enthusiastic about the prospect of a radioactive waste burial facility in their own backyard, whatever the purported benefits to the country as a whole.²² It would therefore be prudent to ensure that regional representatives and social activists are included in any international discussion of the problem, and that sufficient incentives are offered to the regions to minimize the chances of prolonged local obstruction of the proposed projects. If properly coordinated with capital-to-capital diplomacy, Barents Sea regional cooperation could provide a suitable forum for this kind of endeavor.

²¹ *Rossiiskaya gazeta*, 30 April 1993, p. 15; Russian Federation (1993:46-51); Russian TV, 8 April 1994.

²² In other words, this issue provides the perfect conditions for the emergence of a "NIMBY" movement — "Not In My Back Yard."

C. Armed Conflict Within the Former Soviet Union

The most serious security danger in the post-Cold War era is the threat of armed conflict within the former socialist bloc, whether within states (i.e., civil war), between separate states, or a combination of the two. Throughout the region, and particularly in the remnants of the USSR and Yugoslavia, economic distress, ethnic mixing, and the ideological vacuum left behind by communism have created a seed bed for the more virulent and violent strains of nationalism. In the Caucasus, Central Asia, Moldova, and the former Yugoslavia, political conflict has already given way to outright warfare—in most cases, in the form of a hybrid mixture of civil and interstate war—and similar developments elsewhere appear likely. Each of these incipient conflicts has the potential to spread and to draw in Russia and the Western countries, whether as peacekeepers or as direct combatants (and, as NATO's recent experience in Bosnia has demonstrated, the line between the two can be difficult to draw). Moreover, the possibility that Western countries and Russia might intervene on opposite sides raises the further prospect of a resumption of the dangerous pattern of great power competition that has repeatedly brought Europe to grief in the past.

At first glance, these problems might not appear to be very relevant to a discussion of international security in the Barents Sea region. After all, the Barents Sea region has thus far been a relatively quiet corner of post-Soviet politics. Although there are a fairly large number of non-Russian ethnic groups living on the Russian side of the border, none of them has seriously sought to break away from the Russian Federation—the Republic of Karelia's declaration of sovereignty was clearly aimed at securing greater regional political and economic autonomy, rather than genuine statehood—and political developments in the region have thus far proceeded quite peacefully.

Unfortunately, this appearance of harmony is deceptive. In fact, there are at least two potential sources of great instability in Northern Europe: the risk of civil war within the Russian Federation, and the danger of Russian military intervention in the Baltic states. Should either of these dangers come to pass, it would almost certainly put an end to closer international cooperation in the Barents Sea region; at worst, the result could be heightened military confrontation or even outright warfare.

Civil war in Russia. In the wake of the bloody confrontation between Russian President Boris Yeltsin and the Russian Parliament in October 1993, there is little reason for complacency about the danger of violent civil war in the Russian Federation. The factors that so recently gave rise to open warfare in the streets of Moscow—the struggle between competing political leaders and institutions, and the poorly defined rules of the political game—still exist, and there continues to be considerable tension over the proper division of power between Moscow and the constituent regions and republics of the Russian Federation. Should the current political chaos in Russia erupt into a full-blown contest between competing military organizations, each of them armed with all of the modern weaponry in the arsenals of the Russian Armed Forces, the result would be devastation on a scale not seen in Europe since the end of the Second World War. If such a contest were to spread beyond the immediate vicinity of Moscow, it could lead to violent battles for control over a number of important objectives in northwestern Russia, including the military and naval bases in the Murmansk and Arkhangelsk Oblasts (complete with their large stores of nuclear weapons) and the city of St. Petersburg.

The broader international implications of such a conflict are almost too terrible to contemplate. If civil war should spread to northern Russia, the Nordic countries could face waves upon waves of millions of refugees. Moreover, the environmental consequences of such a conflict could not be confined within Russia, particularly if the fighting led to the destruction of nearby nuclear power plants or to the sinking of nuclear-powered warships — not to mention the use of nuclear weapons. There is also no guarantee that the fighting itself would not spill over into neighboring countries. Finland, with its long land border with Russia, would be particularly vulnerable to unwanted incursions.

How might cooperation in Northern Europe contribute to the prevention or mitigation of such a conflict? To begin with, the Nordic states can continue to participate with other Western countries in the provision of bilateral and multilateral economic assistance, in the hopes that the dangers of internecine strife will decline as the economic situation in Russia improves. Ultimately, however, Western aid is likely to have only a marginal effect upon political developments in Russia. Consequently, the Western states should also take steps now to mitigate the destructiveness of civil war in Russia in the event that it should break out. One obvious step would be to enhance the security of Russian nuclear weapons through the selective sharing of information and technology. Analogous steps should be taken to improve the security as well as the safety of Russia's nuclear power plants and other nuclear facilities. This latter type of assistance is well-suited to the technological strengths of the Nordic countries and could be implemented through direct plant-to-plant contacts as well as through more traditional contacts at the intergovernmental level.

Russia and the Baltic states. A second possible source of conflict in Northern Europe is the ongoing dispute over the treatment of the ethnic Russian minorities in Latvia and Estonia, where Russian speakers make up nearly one-half of the population.²³ The governments of these states argue that most of the Russians living within their borders are "colonists" imposed upon them in the wake of the military annexations of 1940, and have adopted a variety of legal mechanisms that *de jure* or *de facto* deny most Russian speakers equal rights of political participation.²⁴ On the other side of the border, the government of the Russian Federation is under considerable pressure to defend the rights of ethnic Russians in the Baltic states, both to avoid further immigration and to satisfy the sympathy that most Russians understandably feel for their fellows in the "near abroad." In addition, conservative Russian politicians can be expected to fan the flames of ethnic conflict in the Baltic states by denouncing even the most subtle efforts by the Baltic governments to force the assimilation of Russian settlers and by encouraging the Russian speakers to rebel against the Baltic governments. Should this conflict take a turn for the worse — perhaps as a result

²³ In 1989, Russian speakers constituted just under 40 percent of the population in Estonia and just under 50 percent in Latvia (The Baltic States: A Reference Book [Tallinn, 1991], pp. 15-16, 91-92). In Lithuania, where the percentage of non-ethnic Lithuanians is much smaller, all residents were granted citizenship immediately after independence.

²⁴ Discrimination against the Russian minorities in Estonia and Latvia is not solely the result of primitive racial prejudice. The governments of these states also fear a repeat of the experience of interwar Czechoslovakia, where many Sudeten Germans refused to participate in the building of a new nation-state and instead allied themselves with revanchist elements in neighboring Germany. After the Second World War, the German problem in Czechoslovakia was finally resolved — with Soviet backing — through the forcible expulsion of the German-speaking population. While many politicians in Estonia and Latvia (and, for that matter, in Lithuania) would doubtlessly like to emulate this solution if they could, the current distribution of military power in Eastern Europe is not conducive to it. Therefore, the Estonian and Latvian governments have opted for a strategy of denying full political participation to the Russians in the short run while forcing them to choose between assimilation and emigration in the long run.

of violent clashes between ethnic Russian protesters and government police or military units — it is entirely conceivable that the Russian Federation might impose a military solution to the problem. Such an outcome will be even more likely if Boris Yeltsin is succeeded by a more aggressive Russian nationalist leader like Aleksandr Rutskoi or Vladimir Zhirinovskii.

Despite Swedish Prime Minister Carl Bildt's recent assertion that his country would not remain neutral in the event of Russian intervention in the Baltic States, it is highly unlikely that Western military forces would be introduced in the event of a Russian invasion of Latvia or Estonia. Nevertheless, a violent conflict in the Baltic region would unquestionably provoke a serious political crisis. Relations between Russia and its Nordic neighbors would be damaged for many years to come, the region's economy would be disrupted, and, depending upon the scale of the Russian incursion, the Nordic countries could be deluged by refugees. Even the most limited Russian intervention would seriously disrupt international cooperation in the Barents Sea region, since this would be one of the few means open to the Nordic countries to express their displeasure.

Unfortunately, if left to their own devices, politicians in both Russia and the Baltic states can be counted upon to exacerbate the conflict between their respective countries. It is therefore essential that the international community act now to promote reconciliation between the Baltic states and the Russian speakers living within their territories. Happily, the first steps in this direction have already been taken under the auspices of the CSCE and the Council of Baltic Sea States. However, multilateral efforts alone are unlikely to produce the desired effects. Although international organizations may provide important avenues for face-saving compromises once a crisis has arisen, they remain largely reactive, and can exert little direct pressure upon the contending parties.

Consequently, the successful prevention of a violent crisis in the Baltic states will ultimately depend upon sustained intervention by Western countries in the domestic political affairs of Latvia and Estonia. It is imperative that Western states, and especially the Nordic countries, use their influence to ensure that the Baltic states adopt and maintain conciliatory policies towards the Russians living within their borders. It is certainly true that the Baltic states were occupied against their will for fifty years, and that the Russian minorities would be much smaller today if, like Finland, they had maintained their independence after the Second World War. Nevertheless, large numbers of Russian speakers are now present, and they must be treated gently if violence is to be avoided. If politicians in the Baltic states are not willing to recognize this unfortunate fact of contemporary life, then the West must pressure them to do so. The Nordic countries are particularly well placed for this task. Finland, for example, is now Estonia's largest trading partner, surpassing even Russia, and this is but one of the many ties that bind the two kindred nations.

Thus, as in the cases of border security and environmental protection, ensuring stability in Northern Europe requires that Western countries become directly involved in the process of the political and economic reorganization of the states of the former socialist bloc. There is a fundamental difference between this case and the other two, however: whereas the first two cases involve Western assistance in the strengthening of capabilities that the former socialist states already wish to have, Western intervention in the nationality policies of the Baltic states runs counter to the wishes of a wide swath of the political spectrum in those states. It may be difficult for Nordic and other Western politicians to inject such a bullying tone into their relations with the

Baltic states, but the alternatives are worse — both for the West and, ultimately, for the Baltic states themselves.

III. Conclusion

In at least one important respect, the end of the Cold War has brought about a fundamental change in the basic problem of international security, both in the Barents Sea region and in Europe as a whole. Prior to the collapse of the Soviet empire, the primary problem which bedeviled military planners on both sides of the Iron Curtain was the prospect of a major armed clash between NATO and the Warsaw Pact. From the Western perspective, this focus made a great deal of sense: given the firm control which the totalitarian Soviet state exercised over most activities within its jurisdiction, it was logical to concentrate on the danger of interbloc conflict rather than the potential consequences of the loss of political control within the USSR itself. In fact, the Western countries worked tirelessly through such fora as the CSCE to promote a relaxation of the control exerted by the states of the Soviet bloc.

In recent years, however, the relative salience of these concerns has been reversed. The likelihood of the deliberate use of military force by Russia (or any of the other states of the former Soviet bloc) against the West appears remote, at least for the time being. This change is due not only to a shift in intentions, but also to the greatly reduced military capabilities available to the fragmented states of the former socialist bloc. Yet the diminished threat of a major East-West conflict has been accompanied by the emergence of new security dangers, themselves the result of the loss of the political control once exerted by Moscow. These new threats are less dramatic than the prospect of a deliberate attack against Western Europe, but they are no less threatening to the security and well-being of everyone concerned. Moreover, in order to minimize these dangers, the Western countries must now attempt to strengthen the internal capabilities of the former socialist states — an equally significant departure from the policies pursued during the Cold War.

This acceleration of Western involvement in the internal affairs of the former socialist countries is not without cost or risk. To begin with, the sums of money needed to solve the problems bequeathed by a half-century of state socialism vastly exceed the resources of even the most concerned Western countries — themselves burdened by economic, environmental, and social problems of their own. Moreover, Western governments and international organizations will be accused of meddling in the internal affairs of sovereign states, especially by those whose political interests are not furthered by the meddling. This will be particularly true in the area of ethnic conflict, where it will be extremely difficult to actually accomplish anything while still maintaining a respectable veneer of objectivity. If, for example, Western states pressure the Baltic states to adopt more accommodating policies towards their Russian minorities, many Estonians and Latvians will feel betrayed by the West and will complain accordingly. Yet the price of easy policies now could easily be greater pain in the long run, as has been amply demonstrated by the tragic unfolding of events in the former Yugoslavia.

Thus, the end of the Cold War has not made the Barents Sea region notably more secure. Europe's northernmost inhabitants have seen little of the reduction in face-to-face interbloc military confrontation that accompanied the dissolution of the Warsaw Pact in Central Europe, yet they must now cope with all of the new problems left behind by the collapse of state socialism in the East. Some, but not all, of these problems can be addressed by regional cooperation. The survival

of military confrontation in the Barents Sea region is due largely to considerations that transcend the region itself, and thus cannot be fundamentally affected by cooperative solutions based at the regional level. On the other hand, the problems of border security, environmental protection, and instability in the former USSR can be addressed, at least in part, through closer regional cooperation. But the costs will be great, and the participants may be forgiven if, from time to time, they catch themselves reminiscing fondly about the carefree days of the Cold War.

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Some Measures of Confidence-Building in the European North*

Jan Prawitz

During the many years of the Cold War, the security situation in Europe and generally in the world was more dangerous than today. At the same time, it was more predictable. But while predictability of international relations facilitates foreign policy planning, such predictability does not necessarily mean better security. The world used to be bipolar, dominated by two superpowers which were active adversaries, stalemated and mutually deterring each other by means of enormous arsenals of nuclear weapons.

There was always a risk that one or another crisis could trigger a nuclear war, intentionally or by accident. This was a risk not only for the superpowers but for the whole world, in particular its northern hemisphere. The well-known concept of “nuclear winter”, discovered only in 1983, implies just that¹.

¹ Compare Study on the Climatic and Other Effects of Nuclear War (UN Document A/ 43/351; Sales No. E.89.IX.1)

Today, this is all history. It is obvious that the overall security in Europe has indeed improved. The entire civilization seems not to be threatened any longer. But this important improvement is not yet irreversible. The international scene is subject to continuous and dynamic change, especially as regards the central global issues and the political situation in Europe. That is, however, only partly true as regards security because military technology changes only slowly, and because the replacement of the arms race with lower levels of armament and arms control goes on slowly as well. Therefore, defending results already achieved must be a priority goal.

A stabilizing factor is that major parts of the political map of Europe as it emerged after the dissolution of the Soviet Union would, particularly in the North, probably prevail.

The specific issue of security in Northern Europe and the Barents region is heavily dependent on the security pattern generally and in Europe. Security in the North could not exist in isolation but would rather emerge both from European security and from the wider world security. Security in Europe's Northern region could thus be promoted in two ways, i.e.

- by contributing to and legitimately influencing European security at large, and
- by instituting local measures specific to the Northern regions.

The New Political Map of the European North

During the Cold War, the European North was an area of gradual political transition from the western NATO in Norway over the neutrals Sweden and Finland to Soviet Union in the East. Today, this adversary situation is gone, replaced by a general pattern of cooperation. This is particularly true for the institutionalized Barents region cooperation which involves the northern provinces of Norway, Sweden, Finland, and the northern districts of European Russia. The security of the European North has thus two dimensions; one linked south to Europe, the other linked north towards its Arctic neighbors and the Arctic Sea.

After the end of the Cold War, the NATO alliance remains intact while seeking new missions for a new situation. In 1990, the two Germanies were unified into one state, thus also expanding the NATO territory. In 1997, three Central European states were invited to negotiate membership of NATO, thus further enlarging the NATO area, probably in early March 1999². The three Baltic states which also aspire for NATO membership were not invited at this time, while Finland and Sweden have not expressed an interest for formal membership of NATO.

Russia has for a long time expressed a very negative attitude to the planned enlargement of NATO. But in 1997, Russia and NATO signed a "Founding Act on Mutual Relations, Cooperation and Security" regulating a number of security matters of common concern³.

² Madrid Declaration on Euro-Atlantic Security and Cooperation, 8 July 1997. On 16 December 1997, a NATO Ministerial meeting agreed on "Protocol(s) to the North Atlantic Treaty on the Accession of the Czech Republic, [Hungary, Poland]" that would admit the three states as NATO members after ratification of the protocols.

³ Founding Act on Mutual Relations, Cooperation and Security between NATO and the Russian Federation, signed in Paris on 27 May 1997. For text, see e.g. *Arms Control Today*, Vol. 27 No. 3, May 1997, pp 21-24.

A range of military activity cooperation in terms of training and joint manoeuvres, preparations for peacekeeping and for meeting the new “soft” threats emerging after the Cold War, has been organized within the framework of NATO’s “Partnership for Peace” (PfP) programme as outlined within a Euro Atlantic Partnership Council, a body in which all participating states, including most European states, have a seat. It should be noted that current PfP cooperation regarding civil defence and emergency measures equals a civil membership of NATO for all European states including the Russian Federation and the Nordic states. They have all the same soft “enemies” in common. The established cluster of bilateral and subregional treaties regarding cooperation on the soft threats plays the same role as Article 5 of the North Atlantic Treaty (4 April 1949) in the military field. In addition, no central command is necessary as fighting those threats does not require units of millions of men.

In 1995, Finland and Sweden became members of the European Union, while Norway chose not to join. The same three Central European states now joining NATO, the Baltic republics and some more have announced their desire to negotiate membership of the European Union.

General Arms Control Background

A rather comprehensive regime of confidence- and security-building and arms control already applies globally and regionally in Europe and thus also in its northern areas. This is true both regarding weapons of mass destruction and regarding conventional military forces.

Weapons of Mass Destruction

All states in the world but six are parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT)⁴ and the six are non-European. Among the states in the North, only the Russian Federation is a nuclear-weapon state, but NATO member states such as Norway would have access to alliance nuclear defense.

Related to the NPT are various security guarantees extended to the many non-nuclear-weapon states agreeing to renounce their option to acquire nuclear weapons. In 1968, the UN Security Council adopted a resolution outlining rules for assisting non-nuclear-weapon states parties to the NPT subject to attack or threat of attack by nuclear weapons⁵. Later, all nuclear-weapon powers extended unilateral “negative”⁶ assurances that non-nuclear-weapon states will not be subject to attack or threat of attack with nuclear weapons, however, subject to various conditions⁷. In April

⁴ UN Documents A/RES/2373 (XXII) and S/RES/255. The Treaty on the Non-Proliferation of Nuclear Weapons (UN Treaty Series, Vol. 729, No. 10485) was opened for signature on 1 July 1968 and entered into force on 5 March 1970.

⁵ UN Document Res S 255 (1968).

⁶ “Negative” guarantees imply that the guarantor abstains from nuclear aggression as different from “positive” guarantees implying that the guarantor actively supports a victim of aggression.

⁷ The content of these unilaterally declared guarantees are summarized in *Compilation of Basic Documents relating to the Question of Effective International Arrangements to Assure Non-Nuclear-Weapon States against the Use of Nuclear Weapons* (UN document CD/SA/WP.15, 16 March 1993) and in *Developments with regard to effective arrangements to assure non-nuclear-weapon states against the use or threat of use of nuclear weapons* (Document NPT/CONF.1995/PC.III/6, 12 July 1994). Compare also *The United Nations DISARMAMENT YEARBOOK VOL. 14:1989* pp 179 - 180. Neither the “Basic Provisions of the Military Doctrine of the Russian Federation” adopted on 2 November 1993 (Decree No. 1833), nor the “National Security Concept of the Russian Federation” adopted on 17 December 1997 (Decree No. 1300) include the USSR no-first-use declaration of 12 June 1982, however.

1995, the UN Security Council adopted a modernized resolution taking note of both existing negative nuclear assurances and the positive assurances where the five nuclear-weapon states undertake to provide “immediate assistance, in accordance with the UN Charter, to any non-nuclear-weapon state party to the NPT that is a victim of an act of, or an object of a threat of, aggression in which nuclear weapons are used” (Op. 7)⁸.

Since 1987, deep cuts in the nuclear arsenals have been agreed. This process of general nuclear arms control has been especially dramatic in Europe where many of the withdrawn nuclear weapons used to be deployed. In fact, this disarmament process has more or less emptied Europe of nuclear weapons. But some remain in the area. A large portion of Russian strategic nuclear weapons are based in the northwest corner of the state⁹. Western nuclear armed strategic submarines may occasionally cruise in northern waters.

Agreed reduction measures include the Intermediate-range Nuclear Forces (INF)-treaty (1987), the START (1990 and the START II (1993) agreements between the USA and the Soviet Union/Russia¹⁰. All land based missiles with ranges between 500 and 5500 kilometers, many of which were deployed in the European theatre (Eurostrategic weapons), are now eliminated and a verification regime is in operation. Implementation of the START and START II treaties were scheduled to be finalized by the year 2003, later postponed to 2007, leaving about 3500 strategic nuclear weapons each in the possession of Russia and the USA¹¹. The three smaller nuclear-weapon powers, China, France, and the UK, are not participating in these disarmament projects.

Most important is the withdrawal of sub-strategic nuclear weapons from theatres of deployment and from ships, unilaterally declared in the fall of 1991 by the USA and by the USSR later confirmed by the Russian Federation¹². Many of those weapons are now being dismantled or are in line waiting for dismantlement, others will be kept in centrally located storages. Later France and the UK implemented similar unilateral measures. These most important measures are based on mutual agreement but got the form of unilateral declarations. They are thus not legally binding nor do they have a permanent duration in force¹³. Fundamentally important for the security in Europe as these

⁸ UN Document Res S 984 (1995), unanimously adopted on 11 April 1995, Op. 7. The basic declarations were made on 5 and 6 April 1995 by the Russian Federation (UN Document S/1995/261), the UK (S/1995/262), the USA (S/1995/263), France (S/1995/264), and China (S/1995/265). The value of this guarantee is limited as the nuclear-weapon states are also permanent members of the Security Council with a right of veto.

⁹ For the geography of nuclear deployment, see W. M. Arkin, R. S. Norris, J. Handler, *Taking Stock: Worldwide Nuclear Deployments 1998*, NRDC Nuclear Program, March 1998.

¹⁰ The Treaty between the USA and the USSR on the Elimination of their Intermediate- Range and Shorter-Range Missiles (INF Treaty) signed 8 December 1987 and entered into force 1 June 1988. Treaty between the USA and the USSR on the Reduction and Limitation of Strategic Offensive Arms (START) signed 31 July 1991 and entered into force 5 December 1994. Treaty between the USA and the Russian Federation on Further Reduction and Limitation of Strategic Offensive Arms (START II) signed 3 January 1993 and not yet in force.

¹¹ Recently, a START II negotiation was scheduled envisaging a combined START II plus START III reduction towards 2000 - 2500 strategic nuclear weapons on each side by December 31st, 2007. Joint Statement on Parameters of Future Reductions in Nuclear Forces. US-Russian Summit meeting in Helsinki March 21st, 1997; for full text see e. g. *Arms Control Today*, Vol. 27 No. 3, March 1997, p 19. See also Protocol to the Treaty between United States of America and the Russian Federation on Further Reduction and Limitation of Strategic Offensive Arms of January 3, 1993; for text see *Arms Control Today*, Vol. 27 No. 6, September 1997, p 19.

¹² US President George Bush made his declaration on September 27th, 1991, and USSR President Mikhail Gorbachev a week later, on October 5th. After the dissolution of the Soviet Union, Russian President Boris Yeltsin confirmed Mr Gorbachev's commitment on January 29th, 1992. For the text of the Bush, Gorbachev, and Yeltsin-statements, see e. g. *SIPRI Yearbook 1992*, Oxford University Press, 1992, pp 85-92.

¹³ At the time, the urgency in the situation dictated the form of agreement. With the dissolution of the Soviet Union

declarations are, their non-legal form makes them more vulnerable to spontaneous changes of mind than a legally binding treaty would do. Remaining sub-strategic weapons are less than 200 US nuclear gravity bombs, some mothballed French tactical weapons, some 3000 tactical weapons in Russia in operational shape but not deployed, and none cruising on ships in European waters.

The nuclear weapon activities in the European North included for long time test explosions of nuclear devices at the Soviet northern test site located at the Novaya Zemlya islands and surrounding waters, including the most powerful nuclear explosion ever in 1961¹⁴. With the agreement on the Partial Test Ban in 1963¹⁵, there have since then been no such explosions in the atmosphere or the water in the North. The agreement in 1996 on a comprehensive test ban prohibited all such explosions for its parties for all-time¹⁶. The former Soviet northern test area is now part of the problem of radioactivity clean-up in the Arctic environment.

All states relevant to the European North are today parties to the Sea- Bed Treaty of 1970¹⁷ 17 prohibiting the emplacement of weapons of mass destruction on the sea-bed.

Unlike nuclear weapons, biological and chemical weapons have been addressed in a more general way in arms control agreements, i.e. in the 1974 Biological Weapons Convention (BWC)¹⁸ 18 and the the 1993 Chemical Weapons Convention (CWC)¹⁹ 19. The entry into force process of the CWC is still going on. For military purposes, biological and chemical weapons have left the European scene.

Conventional Forces

All states present in the European North are parties to or bound by the many agreements adopted within the Organization on Security and Cooperation in Europe (OSCE, formerly CSCE²⁰), primarily agreements on confidence-and security-building measures (CSBMs), including an elaborate catalogue of measures of notification, exchange of observers at military activities, verification and inspection having the objective to provide improved transparency and predictability and some restrictions in military matters.²¹ Among the reforms under consideration

imminent, there was a dangerous possibility that 14 Soviet republics seeking their independence could also become de facto nuclear- weapon states by taking over the control of such tactical nuclear weapons that happened to be stationed on their soil.

¹⁴ A nuclear test with the largest explosion yield ever - 58 Megatons -was fired at the Soviet northern test site at Novaya Zemlya (lat. N 73°, long. E 55°) on 30 October 1961 at 8.33 am GMT.

¹⁵ The Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space, and Under Water of 5 August 1963 entered into force on 10 October the same year. Today, it has 125 parties and an additional 11 signatories.

¹⁶ The Comprehensive Nuclear Test-Ban Treaty was opened for signature on 24 September 1996 but has not yet entered into force. Today, it has been signed by 152 states including all recognized nuclear weapon states.

¹⁷ Treaty on the Prohibition on the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Sea-Bed and the Ocean Floor and in the Subsoil Thereof (The Sea-Bed Treaty; UN Document A/RES/2660 (XXV), Annex) was opened for signature on 11 February 1971 and entered into force on 18 May 1972. As of 1 January 1998, the treaty had 93 parties including all nuclear-weapon states but France.

¹⁸ The "Convention on the Prohibition of the Development, Production, and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction" entered into force on 26 March 1975. Today, it has 141 parties and an additional 24 signatories.

¹⁹ The "Convention on the Prohibition of the Development, Production, Stockpiling, and Use of Chemical Weapons and on their Destruction" was opened for signature on 13 January 1993 and entered into force on 29 April 1997. Today, the convention has 121 parties. However, 169 states - all but 24 - have signed.

²⁰ Up to the OSCE Summit meeting in Budapest 5-6 December 1994, the OSCE was named the Conference on Security and Cooperation in Europe (CSCE).

²¹ Compare Z. Lachowski, Confidence- and security-building measures in Europe in SIPRI Yearbook 1998, Oxford University Press, 1998, pp 531-540.

are provisions permitting and encouraging regional CSBMs. A proposal to that effect was introduced into the process by the Netherlands in March 1998²².

All European states which used to belong to the Warsaw Pact except the three Baltic republics and all member states of NATO are parties to The Treaty on Conventional Armed Forces in Europe (CFE)²³. Non-aligned states in Europe are not parties to the CFE. In the Barents region, therefore, the provisions of the CFE Treaty apply in part of the area only.

CFE prescribes upper ceilings for several categories of military equipment such as battle tanks, armoured combat vehicles, artillery pieces, combat aircraft, and attack helicopters (treaty limited equipment, 'HE) with the original objective of establishing a military balance between the Warsaw Pact and NATO. The objective of the CFE Treaty was to provide for military balance between the aggregate conventional military forces of NATO and the Warsaw Pact. However, because of the end of the Cold

War and the dissolution of the Warsaw Pact and the Soviet Union, the treaty had become obsolete already when entering into force in November 1992. Therefore, it has been subject to a number of correction negotiations and is, since January 1997, subject to revision in order to accommodate the new political and military realities that resulted in a major military imbalance between Russia and NATO permitting NATO force levels to outnumber those of Russia by a factor of three. In Russian analysis, the current CFE imbalance is sometimes defined as the difference in permitted force levels between on one hand all NATO states, present and future, and on the other hand the parties to the 1992 Tashkent Treaty on Collective Security²⁴.

A revision of the CFE Treaty would reduce and perhaps remove the present imbalance. At the current CFE revision negotiations, the parties have adopted a set of principles for a new CFE system of national, territorial, and zonal ceilings for "treaty limited equipment" rather than the bloc-to-bloc approach of 1990²⁵.

²² OCSE Document FSC.DEL/53/98, 11 March 1998.

²³ The Treaty on Conventional Forces in Europe (CFE) was finalized at the CSCE Summit meeting in Paris on 19 November 1990 and entered into force on 9 November 1992. Today, the CFE regime also includes the Joint Declaration of Azerbaijan, Armenia, Belarus, Georgia, Kazakhstan, Moldova, the Russian Federation, and Ukraine (Tashkent Document), the Final Document of the Extraordinary Conference of the States Parties to the CFE Treaty (Oslo Document) as well as the Concluding Act of the Negotiation on Personnel Strength on Conventional Armed Forces in Europe (CFE- 1A), all three adopted in 1992; and the Final Document of the First Conference to Review the Operation of the Treaty on Conventional Armed Forces in Europe and the Concluding Act of the Negotiation on Personnel Strength of 31 May 1996.

²⁴ The Treaty on Collective Security originally signed in Tashkent on 15 May 1992 by six states members of the Commonwealth of Independent States (CIS) later expanded to nine parties: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Russian Federation, Tajikistan, and Uzbekistan. The remaining CIS states Moldova, Turkmenistan, and Ukraine have not adhered to the treaty.

²⁵ Decision Adopted by the State Parties to the CFE Treaty Concerning Certain Basic Elements for Treaty Adaption (CFE Document JCG.DEC/8/97, 23 July 1997). A recent account for the CFE adaption talks has been published by J. D. Mc Causland, NATO and Russian Approaches to 'Adapting' the CFE Treaty, *Arms Control Today*, Vol. 27 NO. 5, August 1997, pp 12 – 18; and by Z. Lachowski, Conventional arms control in SIPRI Yearbook 1998, Oxford University Press, 1998, pp 501 – 530.

Law of the Sea Measures

Arms control negotiations after World War II have in one way or another addressed almost all branches of military activity with the important exception of naval activities which have attracted little attention compared to their general role.

But it is a mostly overlooked fact that the international law of the sea includes many provisions of a confidence- and security-building nature based on century long sailor traditions.

The very elaborate and detailed United Nations Convention on the Law of the Sea (UNCLOS)²⁶ was agreed in 1982 and entered into force in 1994 and functions as the “constitution” of the sea areas covering more than 70% of the surface of the earth. Today, 130 states are parties to UNCLOS, among them the northern states of Finland, Iceland, Norway, the Russian Federation, Sweden, and the United Kingdom. Canada and Denmark have signed the convention while the USA has not. However, many of its sovereignty and security related provisions are today considered customary law binding for all states, whether parties to the convention or not.

UNCLOS entitles all states to utilize the “freedom of the high seas”, mostly applicable also in the exclusive economic zones, including the freedom of navigation and the freedom of overflight²⁷.

UNCLOS reflects an historical change of attitude towards the “freedom of the high sea” concept. In the past, seas and oceans were considered to belong to no one, implying that everyone could behave as he liked at sea. Today, the same seas and oceans are considered to belong collectively to all, implying that everyone must behave at sea in a way not unnecessarily infringing upon the freedom of others.

Any flagstate has the right of innocent passage for their ships in the territorial sea of other states²⁸, subject to permitted regulations of the²⁹. What is innocent is defined in some detail³⁰. Warships distinguishing themselves as such and their nationalities by external marks **enjoy immunity**³¹. One measure that used to add to naval transparency was the policy requiring prior notification, through diplomatic channels, of innocent passages by foreign warships. These policies worked reasonably well for a long time but were occasionally criticized as having a dubious foundation in international law. After the Cold War, those policies were abandoned.

²⁶ United Nations Convention on the Law of the Sea (UN Sales No. E.83.V.5) signed on 10 December 1982 and entered into force on 14 November 1994.

²⁷ UNCLOS, Art. 87 states that freedom of the high seas comprises freedom of navigation; freedom of overflight; freedom to lay submarine cables and pipelines; freedom to construct artificial islands and other installations permitted under international law; freedom of fishing; and freedom of scientific research. These freedoms would sometimes be subject to regulation by other UNCLOS rules. They shall for instance be exercised with due regard for the interests of other states.

²⁸ UNCLOS Sec. 3.

²⁹ UNCLOS Art. 21-22.

³⁰ UNCLOS Art. 19:a specifies that “passage is innocent as long as it is not prejudicial to the peace, good order or security of the coastal state”. Art. 19:b specifies a series of activities which would make the passage non-innocent. Art. 20 specifies that “in the territorial sea, submarines and other underwater vehicles are required to navigate on the surface and to show their flag”.

³¹ UNCLOS Art. 32.

Flagstates also have the right of transit passage in international straits³² and are subject to almost no military restraints in economic zones and on high seas. Transit passage is a more liberal regime than innocent passage and implies almost no restrictions on the part of the flagstate.

A Sub-Regional Regime

Many treaties of an arms control nature relating to various parts of Europe have been instituted since the 17th century³³. Today, one is still in force in the North and has a security significance, i.e. the demilitarization regime of the Norwegian Arctic Archipelago of Spitzbergen.

According to the Spitzbergen Treaty of 1920³⁴, the up-to-then no-man's-land Spitzbergen in the Arctic was recognized as a land under Norwegian sovereignty, although citizens of the state's parties would have equal rights, subject to Norwegian regulations, to presence, fishing, hunting, mining, trading and other economic activities. The treaty applies to all islands situated between longitudes East 10° to 35°, and between latitudes North 74° to 81°. This delimitation also covers the Bear Island south of the archipelago proper. The treaty's Article 9 prohibits the establishment of naval bases and fortifications in the area of application, "which may never be used for warlike purposes". Modern interpretation of this old-fashioned language implies that the Spitzbergen area should be a demilitarized zone and a nuclear-weapon-free zone, applying in the treaty territory and its territorial waters. The size of the demilitarized area is 62700 km². It has a small mostly non-permanent population of some 2000 inhabitants.

Obviously, the question whether the treaty area's exclusive economic zone, as defined by UNCLOS, is exclusively Norwegian or if it is also subject to the provisions of the Spitzbergen treaty is currently subject to interpretative dispute between treaty parties.

Assessment

The basis for a discussion of military confidence-building and arms control in the European North must be based on the implementation of the general and regional agreements already in force. The question is whether complementing existing measures or filling uncovered gaps would be of interest to the regional actors.

As regards weapons of mass destruction, it could be safely concluded that biological and chemical weapons have left the European theatre.

But nuclear weapons very much remain in the European North. Firstly, one state in the region, Russia, is a nuclear-weapon power. On the strategic level, therefore, nuclear target areas are located within the region, particularly in the Kola Peninsula, which in case of war would pose a danger to neighboring countries from secondary nuclear explosion effects. However, that would in the current political climate be a remote possibility but remains as a long-range contingency as long as these strategic forces exist.

³² UNCLOS Art. 38-44. An international strait is a strait through the territorial waters of a coastal state and used for international navigation between one part of the high seas or an exclusive economic zone and another part of the high seas or an exclusive economic zone (Art. 37).

³³ Compare II. Coutau-Begarie, *Le Desarmement Naval* [Naval Disarmament, In French], Economica, Paris, 1995; and C. Ahlström, *Demilitarized and Neutralized Zones in a European Perspective*, pp 41-56, in L. Hannikainen, F. Horn (Ed.), *Autonomy and Demilitarization in International Law: The Aland Islands in a Changing Europe*, Kluwer, 1997.

³⁴ Treaty Concerning the Archipelago of Spitzbergen (League of Nations Treaty Series, Vol. 2) was agreed in 1920 and entered into force in 1925. Today, the treaty has some 40 parties.

Secondly, there is a medium range risk that the present non-deployment of tactical nuclear systems in the area may be reversed. If the end outcome of the current CFE adaptation negotiations would be unacceptably unbalanced in the Russian view, Russia may be induced to restore an “old day” balance by adopting the former NATO doctrine of compensating conventional inferiority with nuclear force, i.e. by a reintroduction of theatre nuclear weapons for deployment in its armed forces. Such reintroduction may include both army and navy deployments as well as air force applications and would not be prevented by the earlier unilateral declarations by the USA and the Soviet Union/Russia in 1991 which are not legally binding.

It should be observed that sub-strategic nuclear weapons in the region would pose a greater security challenge for the many small and medium states in the area than would strategic forces being a concern primarily for the USA and Russia.

It would seem that the arsenal of confidence- and security-building measures laid down in the OSCE documents would by and large be sufficient for their initially defined purpose of providing transparency, predictability, and restrictions. This was understood at the end of the Cold War, in 1990, when a CSCE summit meeting in Paris passed an historical milestone by agreeing to the “Charter of Paris for a New Europe”.

Because a revision of the CFE Treaty is just going on, there would be an opportunity to influence the final outcome for those participating in order to meet national and collective security interests in the European North. But two states in the region, Finland and Sweden, are not parties to the CFE and, therefore, cannot formally take part in the revision negotiations. This is of course a problem in the first place for them but some- what also for the others and an obvious reason for regional consultation and joint effort.

A further observation is that all the OSCE and CFE provisions do generally not address weapons of mass destruction or naval military forces and activities.

General application of new arms control measures in the Barents and Arctic Seas would presume consent among all states having the right to enter and use these sea areas, i.e. in principle all states in the world. Effective implementation could perhaps be achieved by agreement among states being regularly present in the area, or for nuclear weapons related measures, the nuclear-weapon states.

It should be noted that the Dutch proposal to OSCE mentioned above includes a list of possible regional measures on maritime CSBMs³⁵. Such regional measures could apply to the whole European North region or to a smaller sub-regional area within that region. An interesting analysis of the principles of possible subregional approaches to CSBM application, with specific reference to the Baltic Sea area has been published by Wedin and Jacobsson³⁶.

³⁵ OCSE Document FSC.DEL/53/98, 11 March 1998, pt. 137.5.

³⁶ L. Wedin, Marie Jacobsson, Marina säkerhets- och förlroendeskäpande åtgärder i Östersjön [Maritime CSBMs related to the Baltic, in Swedish], TiS No. 4/1988, pp 266- 281.

A Geographic Note

The security in Europe, the European North, and the Barents region can be discussed against different backgrounds of geographic concept. The “hardware concept”, i.e. ranges of weapons, location of military bases, etc., applies when considering the military dimension of security. The “legal concept” refers to the land and sea areas to which legal and political commitments apply. The “political concept” refers to groups of states and alliances. All dimensions may apply together.

All nuclear weapon related arms control agreements apply globally, as do those related to chemical and biological ones.

The political OSCE territory encompasses the territory of all the participating states, i.e. all European states including all states derived from the former Soviet Union, plus Canada and the USA, ranging from “Vancouver to Vladivostok”³⁷.

Confidence- and security-building measures as agreed in the Helsinki, Stockholm, and Vienna Documents applies to the “whole of Europe”, once meaning the area between the Urals and the Atlantic but today, in more precise terms, to the land territories of all the participating states, except USA, Canada, and Russia east of the Urals, but including the Central Asian and Caucasian former Soviet republics. Sea areas are generally not involved except in specified cases of functional links to military land activities.

The CFE Treaty applies to “Europe” as defined in its Article II:1(B) which includes in Northern Europe the island groups of the Danish Faroe Islands, the Norwegian Svalbard (Spitzbergen) with the Bear Island, and the Russian areas of Franz Josef Land and Novaya Zemlya; but not Greenland, a Danish dependency, considered to be part of North America³⁸.

According to UNCLOS coastal states exercise full and exclusive jurisdiction in its internal waters only, i.e. inside a coastline perimeter, the so called base line.

A coastal state further exercises full jurisdiction in its territorial sea that may be extended up to twelve nautical miles from the base line³⁹, except that any flagstate has a right to innocent passage for its ships, including warships, in the territorial waters. A coastal state has jurisdiction over the exploitation of natural resources in its exclusive economic zone extending up to 200 nautical miles from the base line, but has no jurisdiction in the high seas, i.e. beyond territorial waters and economic zones. However, in areas where across-the-sea distances do not exceed 400 nautical miles, the establishment of exclusive economic zones have been done by delimiting the zonal water area by agreement among opposite coastal states - primarily along median lines - leaving no room for any high seas. In the Norwegian and Barents Seas, only two areas were left with a genuine high sea regime enclosed by such economic zones.

A remaining territorial dispute in the Barents Sea is the issue of delimitation between the Norwegian and the Russian Exclusive Economic Zones southeast of the Spitzbergen area, despite negotiations for many years. The specific issue is whether the geographic median line or a straight

³⁷ Or rather from Little Diomedede Island eastwards to Big Diomedede Island.

³⁸ The isolated island of Jan Mayen of Norway (lat North 71°, long West 8° 20') in the North Atlantic should be part of Europe but is not included in the CFE area of application, apparently due to trivial omission. The isolated island of Ostrov Viktorya (lat North 80° 10', long East 36° 45') situated between the archipelagos of Spitzbergen (Norway) and Franz Josef Land (Russia) is not mentioned in the treaty either.

³⁹ UNCLOS Art. 3-16.

sector line to the North Pole (longitude East 32° 4' 35") should be the principle of delimitation. As a temporary solution, the disputed area has for some years been recognized as a jointly administered "grey zone". A final solution to this territorial dispute would no doubt contribute immensely to confidence-building in the Barents Sea.

In 1996, an Arctic Council was inaugurated by the eight states with territory north of the polar circle⁴⁰. The council is a high-level consensus organization *"founded on the principles of circumpolar cooperation, coordination and interaction to address the issues of sustainable development, including environmental protection, of common concern to Arctic states and northerners"*.

Possible New Measures

The survey above would indicate that the primary security issues to address for negotiating further confidence-building and arms control in the European North would be sub-strategic nuclear weapons, CFE-ceilings and naval measures. Nuclear issues and CFE-related matters could be addressed by group action within existing negotiating fora, while naval issues could be addressed separately, made area specific and designed for regional implementation.

To make such efforts possible, it could be desirable to form a joint group of states in the European North for regional arms control, formal or informal, and to initiate a regular and formal consultation tradition. As there are currently sufficient opportunities for representatives of all the states in the region to meet, the prime task would be to formulate a mandate for such consultations.

Sub-Strategic Nuclear Issues

The factual situation today in the European North with regard to theatre nuclear weapons is rather satisfactory. The problem is a medium range risk for redeployment of tactical nuclear systems in the North European theatre that could not be prevented in the absence of a legally binding commitment. An estimated number of 1300 sub-strategic nuclear weapons (out of 2800) are currently located in the Russian Northern Military District⁴¹.

Negotiating legally binding commitments related to theatre nuclear forces, would be a comprehensive measure that would solve that problem altogether. A treaty on the elimination of such weapons based on the 1991 US-USSR unilateral declarations could be a possibility⁴² that might

⁴⁰ The Arctic Council was inaugurated on September 19, 1996, in Ottawa, Canada. The eight member-states of the Council are Canada, Denmark/Greenland, Finland, Iceland, Norway, Russia, Sweden and the United States of America. In addition, three international organizations representing Indigenous Peoples hold Permanent Participants status within the Council. The Inuit Circumpolar Conference, the Saami Council and the Russian Association of Indigenous Peoples of the North have made significant contributions to the work of the Arctic Council. The Declaration on the Establishment of the Arctic Council provides for additional Permanent Participants. It is expected that the Aleut International Association be admitted to the Council as a fourth Permanent Participant. An Indigenous Peoples Secretariat in Denmark coordinates the work of the Permanent Participants. Observer status is open to non-Arctic states, intergovernmental and interparliamentary organizations and non-governmental organizations.

⁴¹ W. M. Arkin, R. S. Norris, J. Handler, Taking Stock: Worldwide Nuclear Deployments 1998, NRDC Nuclear Program, March 1998, p 34 (Table 12).

⁴² On February 5th, 1996, Sweden's Minister of Foreign Affairs, Ms Lena Hjelm-Wallen, proposed such a codification stating: "Let me also focus on an issue that is fundamentally important for the security of smaller states, like Sweden. It is an issue of even more immediate relevance to these states than reductions in strategic arsenals. I refer to the unilateral, mutually agreed, declarations in the fall of 1991 by Presidents Bush and Gorbachev that all non-strategic nuclear weapons would be withdrawn from theaters of deployment and naval ships. Most of these weapons are dismantled today and the remainder have been put in central storage. At that time, the imminent dissolution of the Soviet Union made these withdrawals extremely urgent. There was no time for negotiations on elaborate treaty texts, specific time frames or verification measures. Today, there is time. I propose that these very important measures, now

be initiated in connection with START III deliberations or within the frame of the NATO - Russia Founding Act⁴³ signed in Paris in May 1997.

There is also the possibility that a group of northern states refers the issue to the Conference on Disarmament in Geneva for negotiation of a separate multilateral treaty on reductions or elimination of sub-strategic nuclear weapons.

It should also be noted that states taking part in the negotiations on the CFE adaptation could propose nuclear measures to accompany a revised treaty. They could for instance advance a proposal that the re-vised CFE Treaty would include a preambular paragraph taking note of the 1991 mutual unilateral declarations. Or stronger, they could propose an additional protocol, linked to the revised CFE Treaty, on a general and permanent elimination of sub-strategic nuclear weapons from at least part of the treaty's area of application. Or such a protocol could prescribe zero ceilings for nuclear weapons in particular areas⁴⁴.

The CFE Adaptation

There is a first class problem to specify what force levels would be adequate and legitimate for states and areas in the European North and to reach agreement within the area on the conclusions. Such an agreement would have to recognize that Russia's interests in the European North have a geopolitical dimension, while the other states in the area have interests of a regional nature. For Russia, its part of the European North is a flank area, while for all the others there is a main area of concern.

However, assuming agreement among the states in the region, the next problem would be to find a wider acceptance for the solution within the whole group of CFE states. Such acceptance may also be linked to a possible adherence to the CFE Treaty by states presently not parties, i.e. Finland and Sweden.

As traditionally non-aligned states, Finland and Sweden have built up defense concepts rather different from the alliance adapted forces in most of the rest of Europe. Therefore, participation of these states in the CFE project would require considerable adaptation by them or a special status

based on unilateral declarations, be codified into international law, i.e. a treaty making them legally and permanently binding and, thus, less vulnerable to fluctuating international or domestic developments."

The government of Norway has made a similar proposition (Statement by the Minister of Foreign Affairs Bjorn Tore Godal on 23 March 1996). On 2 August 1997, Mr Godal stated that "we should continue to stress the need for further reductions in tactical nuclear weapons, and for their destruction. We know that thousands of tactical nuclear weapons have been withdrawn and put into storage. These weapons could be destroyed and not merely stored. It is important to ensure that this part of the disarmament process is also continued, as proposed in earlier unilateral declarations made by the USA and the Russian Federation". He also proposed the "ending (of the) deployment of non-strategic nuclear weapons".

At the Russian - US Summit meeting in Helsinki on 21 March 1997, Presidents Yeltsin and Clinton agreed that in the context of the envisaged START III negotiations, "their experts will explore, as separate issues, possible measures relating to nuclear long- range sea-launched cruise missiles and tactical systems, to include appropriate confidence-building and transparency measures" (Joint Statement on Parameters On Future Reductions In Nuclear Forces; for full text see e. g. Arms Control Today, March 1997, p 19).

⁴³ Compare footnote No. on page.

⁴⁴ The mandate for negotiation of the CFE Treaty prescribed that "nuclear weapons will not be a subject of the negotiations" (Concluding Document of the 1986-1989 Vienna Meeting of Representatives of the Participating States of the Conference on Security and Co-operation in Europe, Annex III). Agreement on nuclear zero ceilings would thus require an understanding that this nuclear restriction does not apply at the CFE adaptation negotiations.

within the Treaty. One possibility would be to arrange a regional sub-regime of the CFE prescribing territorial ceilings for the various parts of the region.

Naval Measures

Due to the arms control structure in sea areas, where there are very few references to naval measures outside UNCLOS, there it might be preferable to initiate a discussion of naval measures intended to be applied in relevant parts of the Norwegian, Barents, and the Arctic Seas. It should be noted that confidence-building measures for application in the maritime domain would be different from such measures intended for land application. Adversary military forces on land are mostly separated geographically from each other in peace time. Naval forces of different states may on the other hand mix all over the sea, on the surface, in the water, on the sea-bed, and sometimes under the ice. Indeed, they are frequently doing so. This in itself provides for considerable transparency.

Secondly, there would be two approaches to confidence-building at sea as different to land applications. One is measures directly related to nuclear and conventional arms. The other is making naval forces and capabilities actively contribute to effective ocean management for the peaceful uses of the seas.⁴⁵

Confidence-building at sea could be achieved by providing for transparency and predictability of the sizes and activities of naval forces. The objectives should be both to provide “seaboard security”⁴⁶ to coastal states and to guarantee safe access to the seas and oceans for their ships and aircraft. It should be noted that modern industrialized states would generally not be vulnerable to “gunboat diplomacy” in the classical sense; only if the naval forces used for such power projection include nuclear weapons or a substantial number of marines.

The point of departure for negotiating naval CSBMs should be the general law of the sea rather than the Stockholm and Vienna Documents of OSCE. The latter were primarily tailored to army activities, designed for land application, and negotiated mostly by firm land-lubber delegates. Naval CSBMs should preferably be designed especially for the marine environment and based on the century long law of the sea tradition, i.e. “sailor made”⁴⁷.

It should also be noted that presence of naval forces may be confidence-building in areas where no state responsibility for keeping law and order exists, especially in the icy or otherwise difficult northern waters. Limitation of current force levels would thus not be an immediate interest.

If a special treaty on the elimination of sub-strategic nuclear weapons will be agreed, there would be no need for special nuclear CSBMs to be applied in the area. If not, however, such measures might be desirable.

⁴⁵ Compare the 1985 United Nations expert report Study on the Naval Arms Race (UN Document A/40/535; UN Sales No. E.89.IX.3), paras 322 and 324.

⁴⁶ The concept of “seaboard security” for coastal states was introduced in the 1985 United Nations expert report Study on The Naval Arms Race (UN Document A/40/ 535; Sales No. E.86.IX.3), para 264.

⁴⁷ An example in point is the agreement in 1990 between Argentina and the United Kingdom on CSBMs in the South Atlantic (UN Document A/45/136).

- One possible such measure, proposed long ago⁴⁸ and complementary to the current law of the sea, would provide that passage through the territorial waters of foreign states with nuclear weapons onboard could never be considered innocent, implying the need for prior notification and coastal state consent as a condition for the passage⁴⁹. The objective would be to grant coastal states improved seaboard security.
- Another measure, also complementary to UNCLOS, could be to constitute a special legal category of warships having nuclear weapons onboard which should distinguish themselves by flying an agreed special flag or bearing another agreed external mark. Such ships could then be subject to both precautionary restrictions and navigational privileges serving security and safety purposes. In addition they could be given additional immunity protection to strengthen the non-proliferation régime.⁵⁰
- A third measure could be to reactivate the proposals originally put forward by Iceland, on measures reducing radioactivity contamination and other risks connected with seaborne nuclear reactors⁵¹.

Two general purpose measures addressing naval forces in the Norwegian, Barents, and Arctic Seas could be suggested that would contribute to more confidence, transparency, predictability, and seaboard security in the region. One relates to information exchange that can amount to a joint sea area control of the ships cruising in the area; the other is a unified prevention of incidents regime for men-of-war in the area.

A “control zone” could be instituted along Europe’s northern coast and including the Arctic islands where the littoral states can establish a reasonable overview of the movement of ships on the surface. Presence of ships on the surface could easily be established, while their identification might not be obvious. But it should be possible to institute, among the participating states, an information cooperation that would provide such identification and a sea control similar to what has been built up for air traffic control. This measure could be a collective modern version of the former prior notification practices. Out-of-area states could be invited to cooperate within the

⁴⁸ UN Documents A/CONF.13/C.1/L.21 (1958) and A/CONF.62/C.2/L.1 (1974).

⁴⁹ Such a rule would imply an addition to the “innocence list” in UNCLOS Article 19:b. Compare J. Prawitz, *Application of CBMs to a Nuclear Naval Environment, Disarmament (UN)*, Vol XIII No 4, 1990. p.105-112, and J. Prawitz, *Naval Confidence-Building Measures, Disarmament Topical Papers 4*. (United Nations, Sales No E.90.IX.10) 1990. pp. 117 – 123.

⁵⁰ Such a rule would amount to an additional specification to UNCLOS Article 29 defining the special ship category of warships and to its Articles 30-32 prescribing privileges and restrictions for warships.

⁵¹ The issue of safety guidelines for seaborne reactors was raised by the Minister of Foreign Affairs of Iceland, Mr Jon Baldvin Hannibalsson, in the UN General Assembly on 4 October 1989 (UN Document A/44/PV. 19) and again on 24 September 1990 (UN Document A/45/PV.4). The same issue was the subject of a joint Nordic initiative in the IAEA General Conference in September 1990; see IAEA Documents GC (XXXIV)/COM. 5/84 and GC (XXXIV)/949. The issue was later referred to the International Maritime Organization in London. The issue is related to UNCLOS Art. 23, on nuclear-powered ships and ships carrying nuclear or other inherently dangerous or noxious substances.

regime. It should be noted, however, that a special problem would be identification of submarines passing submerged into and out of the zone.

The other possible measure could be to unify the many bilateral agreements between various NATO member states and the Soviet Union/Russia on the Prevention of Incidents at Sea involving warships⁵². Such agreements were concluded with the USA in 1972; with the United

Kingdom in 1986; with France, Canada, and Italy in 1989; with the Netherlands, Norway, and Spain in 1990; with Greece in 1991; with Japan in 1993; and with South Korea in 1994. Further, such agreements with Portugal and Turkey are now being negotiated.⁵³ They are fairly similar but not identical and harmonization into one single treaty to avoid confusion at sea could be a possible confidence-building measure.

Again such an agreement should apply to the naval forces of the participating states, while non-treaty states could be invited to observe the same rules when cruising in the control zone.

Notes

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⁵² Compare S. M. Lynn-jones, *Applying and Extending the USA-USSR Incidents at Sea Agreement*; and J. Prawitz, *A Multilateral Regime for Prevention of Incidents at Sea*; both papers in R. Fieldhouse (Ed.), *Security at Sea: Naval Forces and Arms Control*, SIPRI, Oxford University Press, 1990.

⁵³ In addition, the Soviet Union/Russia concluded agreements on the Prevention of Dangerous Military Activities (PDMA Agreements) with the USA in 1989; with Canada and Greece in 1991; and with China in 1994.

Perspectives on a Euro-Arctic Military Dimension

Arto Nokkala

Policies form a totality. Ideas like the Northern Dimension of the European Union cannot be successfully isolated as exclusively non-military issues, even if they are represented as such in declared policies. Military issues have effects which need examination. Understanding them may help to highlight political preconditions and constraints.

Both studies and policies begin from a problem, at its basic level a puzzle. Here it can be presented:

Presuming that the Cold War is over, why does the military and military security still seem to be relatively important in policies concerning the European North, even if there are no acute conflicts in the region?

Like generally in Europe, the military dimension in the European North is being restructured. The importance of the military as an institution in policies and the military sector of security are in a state of flux besides some continuities. In this article I define and evaluate a post-Cold War Euro-Arctic military dimension. Instead of definitive answers to the problem above, I present some central characteristics of the dimension in a wide security.

Three Perspectives

The Euro-Arctic military dimension can be approached from three perspectives which are not mutually exclusive. The first of them is the most traditional, that of military strategy, a possible representative of continuity. It concerns military security of state, essentially informed by an interplay between military technology and geographical conditions. But strategy is also basic rules of the military and they have effects on policies of several actors. This perspective leads to examine construction of military threats in the subregion.

The second perspective concerns policies of security. More than the first one, it also defines a subregional political context. In this perspective, focus is first set on the military as an actor in wide security policies. The second glimpse will be of institutional processes of the European Union and NATO, and their compatibility in the European North with effects on the new framing of the military dimension.

The third perspective is societal, here especially concerning civil-military relations as a channel for foreign, security and military policies. In relation to the military, societal factors are also sub-regionally specific.

Strategy

If a political purpose for any imaginable violent confrontation is less easy to construct than earlier, military-strategic calculations weigh less in state policies, and military capabilities of neighbors are tolerated better. This is what has happened in the European North. The importance of strategic issues has been considerably reduced in spite of a Cold War legacy in the subregion. It is largely in connection with the importance of the Kola peninsula as a base-area of Russian strategic submarines, (for more details see Nokkala 1997)

Military establishments have an active, albeit sometimes hidden, role in policy-making, which applies also on the subregional level. The military resides in a particular institutional field where it defines at least a part of the framework for security and defense policies by claiming expertise on large-scale violence (March & Olsen 1989, 16-18; Williams 1997; also Huntington 1980). The core of that expertise draws from military strategy, which in addition is largely a common “language” between military organisations of different countries.

In the military, strategic thinking is an integral part of organizational culture. It consists of the character of the activities (“business”) of the organization and its beliefs, values and basic assumptions. (Ott 1989, 59- 67 and 74-84.) The “business” of the military is one of violence and war. Strategic thinking includes basic assumptions about their major forms and potential military threats, as well as views on the interrelation between technology and geography as conceived by actors in a conflict. Central in these considerations are understandings of a distinction between defense and offence. Essential for the military is the question: what kind of war or violence is within our reach? Unlike states, the military concentrates on thinking in terms of relative force capabilities and adversarial relationships. (Buzan & Herring 1998; Quester 1977- Visuri 1997.)

Strategic thinking relevant in the European North involves many factors which clearly are not apt to contribute to major changes in military strategy. Firstly, Europe is in the midst of a

qualitative military change, sometimes called a “revolution in military affairs” (RMA) (Metz 1996). A number of capability-reducing effects of the post-Cold War disarmament are being replaced by technological, conceptual and organizational factors, which yield advantages to the most developed countries. Such qualitative developments underscore information dominance, mobility and concentration of effective firepower at great distances. A military party can push operations over to the soil of the adversary at an early stage of the armed conflict.

Together with qualitative arms developments, political and military understandings over the offence-defense distinction may considerably differ from each other. It will be more difficult for strategic planners to evaluate whether their potential adversary harbors only defensive intentions.

In the northern European context, the RMA is not understood only as a concept of peace operations for contained post-Cold War conflicts. Dominantly, it is a vision of interstate war utmostly between technologically advanced parties. At present, it gives a strategic advantage to the United States and NATO. As far as their militaries still consider Russia as their potential adversary in the collective defense and Russia has a mirror image, the RMA reinforces strategic continuities in the European North. Obviously, NATO’s defense is seen by the Russian military as turning out to be more offensive. In the European North, such an understanding backs up visions of continuing strategic importance of the Kola area and adds to Russian visions of vulnerability because of the bad condition of the military.

Controversies surround the military reform programme in Russia. Also the importance attached to the remaining nuclear status of the country makes it difficult for the Russian armed forces to retreat from ideas of maintaining a relative military efficiency vis-a-vis NATO. In the context of NATO’s enlargement in northern Europe, strategic thinking may reinforce metaphors of barriers between Russia and other countries instead of abolishing them.

Norway seems to take the Russian military up in the north seriously, since it has not reduced its emphasis in northern areas. The basic pattern of the United States’s and NATO’s military structures and activities in the European North do not show major changes either if Partnership for Peace (PfP) activities and changes in NATO’s command and control structure are left out of consideration.

Like Norway, Sweden also considers that the threat to its southern areas has been reduced. Finland, on the other hand, has given more emphasis to the Baltic region than before. The Nordic countries have somewhat started to reduce military spending, though Finland relatively less than Norway and Sweden. Sweden and Finland lean on a scenario of a “strategic strike” as the most challenging external threat and the main basis of military planning. That scenario fits especially into the RMA ideas.

The nuclear strategic dimension up in the north is formed much according to general developments of nuclear disarmament. Its basic pattern still includes maintaining of deterrence between the United States and Russia, even if on a reduced level of readiness, and links the military to wide Arctic dimensions. The conventional military-strategic situation gets much input from the qualitative arms development which has increased Russian vulnerability. The military of NATO, Finland and Sweden obviously feel relaxed because of the changed situation in the European North, but so far their strategic core conceptions about the subregion have hardly been shaken.

The European North is still characterized by its air and maritime strategic nature. In the RMA and together with doctrinal and structural changes of the Russian navy, the subregional airspace is becoming increasingly important. Large-scale land or marine operations are not necessarily easier to include into scenarios after the Cold War than during it. Invasion scenarios in general are less prominent than before. But among the military they can still be rather credible, when soldiers imagine how improved air or air-mechanised forces could be concentrated on strategically vulnerable nodes of command, control and communications and military bases in the subregion.

Since the Kola infrastructure most obviously is the main strategic focal point in the European North, northernmost parts of Sweden and Finland still form an interface and a passageway. With the RMA their air-space becomes more lucrative to both parties in a NATO - Russian confrontation scenario at an early stage of armed conflict. On the other hand, strategic calculations may now envisage that Finland and Sweden either join NATO swiftly or at least obtain air support from the alliance in such an eventuality. According to standard strategy, it would present a worse case than before for the Russian military in the Kola area. So the integrity of this interface area would largely depend on Russian evaluations of its capabilities to defend Kola bases without resorting to pre-emptive strikes. But calculations of all parties may well include that the presence of offensive land and maritime forces is low and contrary developments are more easy to detect than before.

In the present situation, basic strategic structures and missions of armed forces and their interplay in the subregion do not seem to include dramatic moves. The military constellation is rather steady. But the major quantitative reduction of the Russian northwestern military at the end of the 1990s does not seem to assure Nordic militaries of the solely defensive and non-threatening nature of Russian forces. RMA visions together with Russia's nuclear status still support constructing interstate war threats, which satisfy at least organizational planning.

Militaries and Widening of Security

A central "school" of wideners of security recognizes that security is particular politics. A referent object, often the state, may face issues presented as threats concerning its survival and calling for "emergency" measures. The issue is "securitized": it is politicized far and in a specific way. Political actors tend to think in terms of aggregate security. They use "lenses" to different sectors of security, military and non-military. (Buzan, Wæver & de Wilde 1998, 167-171 and 189-191).

Securitisation may be institutionalised so that "special measures" need not to be something dramatic. Such a situation is said to prevail in military security, where establishments have been built to deal with those threats. But the military is not only an actor of military security, (ibid., 27-29, 35-42, 49, 55-57, 77-79, 100-103, 123-124 and 145-150). In its interaction with other actors the military may face a multitude of threats and make differences between them, as well as consider contingent responses. The military can at least try to politicize, but also securities non-military issues.

In the European North an increasing number of military functions are not security issues at all. This would suggest that especially securitization involving military issues is becoming more rare. They are only politicized.

But on the other hand, securitization done or influenced by the military may go unnoticed concerning a subregion, where military presence is still relatively strong. For what purposes armed forces are maintained any more there, if not for military or other security? This problem turns attention to the role which the military plays in political, social, ecological and economic security in the European North.

Militaries may understand their role as supporters of keeping the area inhabited in front of centralizing pressures, even in the case that conversion would otherwise become economically possible. In the absence of external threats, armed forces may claim that in any case they can stimulate local and regional economies and improve people's welfare, and must therefore be maintained in the subregion, even if states would like to cut their spending. Additionally, militaries may refer to their role in socialization of young men, or usefulness in issues like search and rescue, transport or provision of medical services in areas of vast distances and harsh Arctic conditions.

Environmental problems caused by the military create tensions or even conflicts. But they have also stimulated international cooperation and created links with military and non-military security.

Continuing military presence contributes to the civic security of several groups, not only military communities. But at the same time, it forms part of civic insecurity in northern parts of Nordic countries. Because of the location and characteristics of social threats in Russia, civic security in the west is still rather closely linked with military security of states.

It can be claimed that the military has a stronger non-military role in subregional security in the European North than in other parts of northern Europe. Military organizations are familiar with issues which have a clear connection not only with threats to the sovereignty of states, but often to societal security. This can be kept in mind when thinking about why the military is sustained up in the European North after the Cold War. Military establishments keep up much of the wider security there.

Through several channels the situation may give to both the military and the states more freedom of action in policies. In Russia, it is also possible that decentralizing tendencies, like problems of distributing resources to the military, reinforce a regional political role of the Northern Fleet or frontier guard units.

In a sense, developments in the European North may also militarise non-military security issues. If securitization is increased and it maintains a prominent position for military security as well, it becomes a specific policy problem. Military security can still constrain what can be attained by non-military, or "soft", securities and also in regional cooperation like the Barents process. Armed forces may also securities issues and introduce measures which fit into the survival of the organization itself, but do not fall into the category of military security.

A security community in a deutschian sense (Deutsch et al. 1957, 65- 67 and 156-157) can hardly be world-wide, which makes relations between the actors included and those outside its territorial expression a delicate issue. Adjustment of the community to its environment may bring about territorial barriers when borders are needed to delineate the entity, create cohesion and protect the community from external "chaos".

In the European North, the external border of the security community is not much on the move like in the Baltic Sea Region. It goes rather clearly along the Russian western border. This situation

tends to keep military and non-military security apart. At least, it gives disincentives for states to unite them.

Even if the security community is built from below the state-level, its most relevant expression for the military dimension is above in northern Europe. Military and non-military security link largely with each other by the two institutional expressions of enhancing the Euro-Atlantic security community, those of the EU and NATO enlargement. The European North is somewhat out of the main territorial focus of these enlargements, which face their most important regional tensions in the Baltic Rim. But the fate and character of the Northern Dimension of the European Union will be greatly shaped by policies concerning the European North.

This challenge relates to the relatively stable military constellation and the strong position of military security in the subregion. Tensions between the EU policies and NATO enlargement involve the Euro-Arctic military dimension. It is an open question, whether policies of the European Union can suppress problematic effects of NATO enlargement in the context of the European North. It seems that reducing the importance of military security and supporting cooperative subregional non-military security are not easy to achieve.

Contrary to rhetoric's about a non-military nature of the Northern Dimension and compatibility of the EU and NATO enlargements, tensions focus especially on policies of the two EU member states in the European North, Finland and Sweden. Their present policies of military non-alignment specifically shape the Euro-Arctic military dimension. Responding to European military integration pressures they may call stronger attention to international military crisis management readiness and new forms of military cooperation in the region instead of traditional deterrence and defense. At the same time, they can focus on economic and social stabilization policies concerning the Russian North. Such "low" policies may be especially productive in connection with developing the whole northernmost subregion.

Finland and Sweden may still choose NATO membership. Obviously, it would stimulate Russian military policies to underline the vulnerability and strategic importance of the Kola peninsula and the Russian military there. This problem might emerge even as long as Russia is not unreservedly on the same side with the United States and NATO, or the alliance changed to a more encompassing collective security organization. Until then, Finland's and Sweden's NATO membership might complicate unified efforts of the European Union in wide security in the European North. Certainly, military organizations are trained to quickly adapt their plans to such a situation, but proponents of non-military securities might face new constraints.

The subregional military framework on cooperative non-military security issues is still rather weak in the European North. It is also much embedded in the all-European context. Most of the PfP-activities, for instance, take place in other subregions. This tends to sustain the importance of traditional military security. The non-military security dimension of the military largely follows state-borders.

Increased cooperation of frontier guard organizations may be a forerunner in developing the subregional military cooperation. They have specific common interests also in non-military security like concerning prevention of organized crime. They also want to keep images as facilitators of social safety in peripheral border-areas. Additionally, cooperation opportunities encouraged by the Organization for Security and Cooperation in Europe (OSCE) and activities of sea and air rescue,

Arctic sea transport, and exchange of know-how about environmental problems of the military are topics to discuss. Also Russian participation in common Nordic “in the spirit of PFP” exercises is promising.

Civil-Military Relations

The third perspective focuses specifically on society and subregional and local civil-military relations. They are a channel in conveying and influencing military policies. This perspective may be increasingly useful in Europe at large when interstate military threat description is less valid than before.

In Europe, a lot of emphasis has been set on “defense restructuring” and conversion in ex-socialist societies. Mostly, the idea is parallel with a reduced importance of military security compared with non-military securities. A notion presented by Charles Moskos about “warless” - even if not non-violent - society (Moskos 1990; Moskos & Burk 1994) has better prospects in Europe than in most other parts of the world.

Like during the Cold War, still today armed forces in the northernmost parts of Europe can be grouped in two. The Russian military establishment is largely an heir of the Soviet forces in its education and appearance, even if it is slowly reformed and its relations with the society are deeply changing.

The militaries of the Nordic countries are organizations of established democracies with institutionalized civil-military relations. These “civic armies” have a close contact surface with the society. It is supported by a high recruit intake based on general conscription, especially in the case of Finland. There, as well as in Sweden, the contact is reinforced by the territorial defense system. It has an integrative role in several issue-areas of total national defense on provincial and local levels.

In Russia, armed forces are developing a new societal dimension as the last remnants of the idea of Soviet-type mass armed forces are rapidly waning. On the other hand, professionalized and legitimate but sufficiently centrally controlled armed forces cannot be formed in a short term.

In Nordic countries, especially in Finland, the problem relates more to continuities. Civil-military relations are reproduced in a situation of high socio-political cohesion. It is difficult to introduce major changes if they would touch core conceptions of national defense. Relatively large territories and threats, which are still greatly fixed on Russia, sustain many traditional arguments. Especially, they slow down developing the military more on a professional basis.

In the European North, relations between the local military and civil society may tighten. Reasons in the Kola peninsula though are very different from those in northern parts of Finland, Norway and Sweden.

In Russia, a loosening central control, an increasing internationalization of regions and a commonality of social, economic and ecological threats, faced both by the military and the local civil society, may essentially influence the new position of armed forces. The situation contributes to specific dependencies on the provincial level. Already, efforts of the military people to earn something extra outside of their employment stimulate such interaction.

In the Nordic countries, civil-military relations continue to be most important in local communities. They obviously fiercely resist the closing of garrisons and other rationalization efforts, if such are introduced, when states try to purchase new technology for armed forces and professionalize them without increasing public spending.

Concluding Remarks

In conclusion, changes are going on within militaries in the European North, as well as concerning the position of military security in wide security in the subregion and northern states. Military security is still largely divided between states, evidently much more divided than non-military securities. So it regulates what can be achieved in wider security by local and regional actors. It also influences their construction of non-military threats.

The military dimension in the European North is not distinctively subregional, even if specifics of such a dimension are slowly unfolding. But it is continuously strongly in the hands of states, even if it has an increasing importance for non-military securities of local actors.

The forming dimension is truly Euro-Arctic, especially because of strategic continuities. But much of the military strategy in the European North is sustained because subregional military cooperation over the former line of division is still rather undeveloped. Obstacles of such cooperation can be found both in Russia and Nordic countries. In spite of controversies about EU and NATO enlargements, however, a new cooperation obviously has several opportunities.

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Natural News, Scholarly Discourses and the Arctic: From New Cold War to “Business Is Usual”

Heather N. Nicol

Introduction

In his historical study of the history of geopolitics, Agnew (2003) suggested that three major eras can be defined. Each of these have seen major shifts in geopolitical perspective, world views, and strategic thinking. ‘Naturalized’ geopolitics, for example, marked the early 20th century, when scientific processes demanded geopolitical action to mediate their impacts. It followed from an age of ‘civilizational’ geopolitics in which world domination was justified by intellectual arguments for empire. By the mid-twentieth century and the Cold War years, the world was organized by geopolitical perspectives which stressed the ideology of binary opposites. Today, it seems, the combined narratives of ‘ideological’ and ‘civilizational work through the only lately retired discourses of War on Terror’, but there is also a distinctive ‘naturalized’ geopolitical discourse which informs dealings with the Arctic world through the lens of climate change. True, the science of climate change is more reliable and certainly less racist than the social Darwinism discourse of the early 20th century, or the crude ‘Manifest Destiny’ imperatives of 19th century Anglo-Saxonism, but the point remains the same: We are increasingly framing our understanding of Arctic issues and climate change in general through the lens of a highly ‘naturalized’ geopolitics. Just like

in previous eras, there are pitfalls to this type of determinism. This article traces the current state of naturalized geopolitics in the North American 'North' and points out some of its more obvious weaknesses, particularly in the way in which it naturalizes, and thus justifies, what has potential to become an unfettered resource extraction approach to Arctic development challenges.

The 'Urgent' News: Naturalizations and its Application to the Arctic Region

It goes without saying that the major way of framing the Arctic in the current media has been through the lens of climate change and a scramble for resources. The Arctic has been described as 'under siege' for its resources – the equivalent of a treasure chest waiting to be plundered. Such images reflect a rather general consensus that the Canadian Arctic is becoming a push-button issue for newsmakers, if the North is recast in ways which play to a burgeoning Canadian sense of national pride and a lust for natural resources (see CBC News 2009). Such narratives build upon the mythical North—the way in which Victorians, for example, saw these icy climes as a testing ground for manhood and national virility (see Dittmer, 2011). The process of Arctic maritime boundary-making has been, since about 2003, told as a story of nationhood, as a challenge to the strength of the Canadian state in an international arena and a challenge to a heroic Canadian engagement with the North. In the media, the subtleties of maritime boundary making, international law and border disputes has been debated from all angles, and the muscular response of the government duly noted. But, as at least one columnist has noted, “the government has responded with little more than rhetoric to threats to Canadian sovereignty in its frozen backyard. Canada must move quickly and make immediate, strategic investments in its Arctic” (Washington Post, August 6, 2010. Moreover, as the Hill Times reported in 2006, the connection between Arctic boundary-making and resource extraction was probably more cogent than any appeal to nationalist sentiments. Defence Minister Gordon O'Connor stated, in 2006, for example, that:

the basic problem in these disputes is a matter of resources—who owns which resources. For instance, let's take the Beaufort Sea. We may declare that a boundary goes to the Beaufort Sea in one position and the Americans in another. If a country wanted to drill for oil in the Beaufort Sea, and there's a lot of oil and gas there, they, at the moment, if they're in this disputed area, wouldn't know who to approach, whether it's the United States or Canada to get drilling rights. So these sort of things have to get resolved. (Vongdouangchanh, 2006)

In this sense, economic development was an important part of the rationale for strategic defence and it was captured in a narrative that conflated climate, resources, borders and power. Academics too, jumped into the fray. The Arctic was mapped and positioned in terms of the boundary lines, national interests and international security. A host of scholars discussed how the scenario of melting ice might reframe Canada's, and other nations, national interests and lead to challenges for places and spaces previously undisputed (Borgerson 2008; Huebert 2010). But Canadians were not alone in perceiving the Arctic in this way. The Russians, for example, had staged a flag-planting on the Arctic Ocean's floor, with the intent of exciting Russians and investing them in a sense of national pride in the northern dimension of the Russian state. The Russian media reported the event in a way which really spoke to the symbolic, rather than legal significance of the event: “A Tass reporter on board the mission support ship said crew members cheered as Chilingarov climbed out of the submersible and was handed a pair of slippers...” This may sound grandiloquent

but for me this is like placing a flag on the moon, this is really a massive scientific achievement," Sergei Balyasnikov, spokesman for Russia's Arctic and Antarctic Institute, told Reuters" (CNN August 2007).

Americans too, had developed a perspective on the Arctic, and they, too tended to adopt the 'Arctic siege' mentality. At the same time, the U.S. continued on its trajectory of 'science and oil', meaning that its interests in Arctic regions and its Arctic agenda was driven by promoting American science as if it were a foreign policy, as well as by big oil interests in offshore Alaska, and the Canadian Arctic (Borgerson 2008). Still, the Washington Post, responding to the planting of a Russian flag on the Arctic Ocean seabed, in 2007, emphasized similarities between Canada and the U.S., and noted that "Canada and the United States scoffed at the legal significance of the dive by a Russian mini-sub to set the flag on the seabed Thursday. "This isn't the 15th century. You can't go around the world and just plant flags" to claim territory, Canada's minister of foreign affairs, Peter MacKay, told reporters" (Washington Post, August 6, 2010).

This reportage notwithstanding, Canadian and American interests in the Arctic were not everywhere uniform, while Russian interests were not necessarily oppositional. Indeed, quite the reverse. Although fact that the incident was portrayed in terms reminiscent of the Cold War, this was more a matter of convenience than reflective of international conflict (Nicol and Heininen 2011). U.S. and Russian relations within the international arena have always been seen in terms of the 'grand game', as a set of geopolitical strategies which pitted east against west. And to be fair to the media, some of the articles in which the unfolding events were reported began to deconstruct the political rhetoric and to expose it for what it was: a gloss of a complex chain of events, circumstances and influences in which the Arctic was becoming integrated into the global economy, and its cultural and political context. After all, the international North had been constructed by co-operative agreements concerning fauna, flora, pollution and environmental protection throughout the 1980s and 1990s (Heininen and Nicol 2008).

None of these agreements, and their supporting academic and policy-makers discourses, however, really offset the fact that the region of the circumpolar North was increasingly portrayed by the media to be a series of 'national Norths' by the end of the first decade of the 21st century. A geopolitical discourse which reified strong state and its national interests was on the rise, particularly after the events of September 11, 2001. The latter was a process which began in earnest, in the 21st century, and arguably culminated in the summer of 2007. The media reports generated by the flag-planting incident, which followed over the next few years, attempted to explain the national context of the Arctic region in raw, geopolitical terms. But, as Dittmer (2011) reminds, the Arctic is a place where the leading narratives of globalization and neoliberalism intersect with a burgeoning neo-realism. The Arctic has increasingly been described as an economic resource frontier, framed through Arctic states' interests, all intent upon establishing a geo-economic context for resource extraction primarily because melting ice had effectively unleashed new potential. Since 2007, this type of assessment has been increasingly common in all forms of media. In this way, media discourses created a new and popularized account of the North as an 'icy treasure trove' where nations waited in the wings to stake claims to the Arctic Ocean, in what had potential to be a protracted and conflicted process—a new 'Cold War' as the media called it.

Still, not all of these discourses were really new. Many had been recycled from colonial and Cold War histories, and were generally consistent with the way in which governments, especially the Canadian Government, had reacted to Arctic challenges in the past. Although the Canadian Government at times seemed to infer that a robust military presence was needed in the Arctic to protect Canada's interests from being stolen away by competing states, Lassaere, Roy and Garon suggest instead, that "strong rhetoric about a reportedly threatened sovereignty and the need to defend it through an increased military presence," ostensibly because it could "thus provide politicians with an increased popularity among the military and the electorate, especially in Canada and in Russia. Leaked cables from the American Embassy in Ottawa seem to attest to this idea that the Canadian government does not believe there is a threat to Canada's sovereignty in the North, and that rhetoric is developed merely for electoral reasons"(Lasserre, Roy and Garon 2012, 55). Made doubly imperative by the escalating pace of melting ice, and the perceived quickening status change in natural Arctic environments, the urgent message relayed by the media message mimicked their assessment of natural processes themselves: the melting medium determined the message.

Naturalizing the News

Current geopolitical discourse in the Arctic thus both reflect and promote a naturalized understanding of international relations—that is to say it suggests that there are natural forces "demanding" specific and inevitable political and economic actions and outcomes which are based upon uncontested imperatives. Even at the most basic level, however, there is a false tautology inherent the belief that climate change represents an example of what can only be called a 'new' environmental

determinism, as policy-makers are fond of arguing. Indeed, Byers has suggested that: "The huge irony is that we are only talking about this because humanity has burned so much oil and gas that the ice is melting...It could be a vicious cycle: Climate change is opening up the Arctic to oil and gas drilling, which almost certainly will cause more climate change" (Washington Post, August 6, 2010).

It is instructive to look more closely at how the discourse of Arctic climate change has influenced geopolitical competition and international relations in terms of the way in which national interests framed by global warming discourses clearly construct an "Arctic under siege" and an Arctic treasure trove. Indeed, it hardly bears repeating that today's push button issues in the geopolitics of the Arctic region are mainly derived from specific constructions of threat and risk, especially from the perceived threat posed to environmental and national security by the continuation of Arctic warming and melting ice. The latter are seen in terms of 'business', and its potential to open up competing claims to the Arctic Ocean, as Arctic waters melt and expose new shipping lanes and resource-rich territory. Because of this understanding, the fact of climate change has been transformed into a set of strategic scenarios which have already begun to reshape Arctic states' interest in northern territories and policies, and the approach they take to Northern security. As Young (2012) suggests, sustainability as a goal has been replaced by the idea of management and containment of Arctic resources with obvious policy-making results.

While initially Arctic climate change prompted international co-operation and the construction of frameworks for refinement of common cause, more recently it evokes more nationalistic

sentiments, including the desire to define and capture energy and strategic mineral resources. This new geo-economic concern about climate change affects how states perceive Arctic issues in international relations. There is now a heightened interest in the sovereignty over Arctic waterways, not in terms of whales, fisheries and maritime mammals, but in terms of their potential for transit, shipping and resource accessibility. There are also disputed understandings of territoriality brewing between various subsets of nations: Canada and the United States, Russia and the international community, Canada and the EU. There are also disputes between Canada and the United States, Russia and the international community, Canada and Denmark and Canada and Russia with respect to potential maritime claims or existing ones.

Widening the Arctic Neighbourhood

These interests have widened the international North in terms of reportage, media coverage and even governmental debate. It has also ‘widened;’ the definition of the Arctic region itself. It is important to understand, that as the current ‘Arctic story’ developed, the general pattern of international relations demanded that more, non-Arctic states enter ‘the fray’. As emphasis changed from land to water, the medium for understanding international relations became literally more fluid, and as such, less precisely defined. International politics is, after all, about hegemony, and thus as the Arctic rose in its international political significance, so did the interests of non-Arctic powers in the region. While the early 21st century was about Arctic states, in the second decade of the 21st century the circle of those invested in the Arctic broadened to include what had earlier seemed a quite unlikely band: China, India, Italy, Japan, Singapore and South Korea. By 2012, China’s interest in the region was clear. The National Post added urgency to its potential involvement in Arctic geopolitics by making China’s aspirations ‘news’.

Even though it has no Arctic territories, China wants a place at that table. Zhang Junsai, the Chinese ambassador to Canada, told a Montreal audience on Wednesday that his country should be allowed to be there. “Of course, China wishes to be an observer,” he said.

The Arctic region may contain as much as one-quarter of the Earth's untapped oil and gas – reserves which will become more accessible as temperatures rise and polar ice caps melt.

Meanwhile, China covets additional energy and resources to power its fast-growing economy and is already investing heavily in Canada's oil sands. That theme of energy exports is expected to play a central role in Harper's upcoming trip (CBC News 2012).

In 2013, China along with several other Asian countries, was admitted to the Arctic Council as an observer state. But if this widening of the circle is a response not to the potential for gaining territory and geopolitical status as much as it is a geo-economic trend, it also was pitched by the media as a ‘naturalized’ event. The New York Times, for example, explained the move to include Asian states as follows, centralizing the role of shipping and business:

The council’s final declaration, though, recognized “the central role of business in the development of the Arctic...The Northern Sea Route, once largely a wish, has become increasingly viable during longer stretches of the summer, allowing ships traveling from Asia to Europe to traverse the Arctic in far less time than they would

on the traditional route through the Indian Ocean, the Suez Canal and the Mediterranean. (Meyers 2013)

This treatment of the media concerning the issue of ‘widening’ reflects the fact that the currency of Arctic issues gained traction, so that the Arctic has now become an international arena for geopolitical and geo-economic concerns in unprecedented ways (Heininen and Nicol 2008). The institutions and organizations which originally constructed the circumpolar North may not have desired such an outcome, but in many ways the institutionalization of polar issues and the international context of maritime boundary-making has made it so. In this process, the ‘spin’ created by the press and politicians alike, has drawn upon certain sets of images and understanding, so that each Arctic nation, and non-Arctic nation, accesses those which reinforce their own geopolitical and geo-economic interests. The result is a complex mosaic of issues, institutions, interests and politics which mirror, more generally, the broader geopolitical landscape of the 21st century, but which also see states promote themselves as major players within the region, and one which sees states define state-oriented issues as the key issues of the North. This includes the promotion of economic and business interests, military security and territorial control. Canadian and American responses highlight this process.

Canada: True North Strong and Free

If the international context for understanding the Arctic had widened, as a result of international interest, this interest was reframed by the Canadian press. As we have already seen, since the early 21st century, the Canadian Arctic is represented by most popularized Canadian geopolitical accounts as a frozen testing ground for the Canadian state, especially its ability to marshal significant geo-economic applications focused on making resources available and accessible. In this sense, today, as in the past, it is seen as a resource frontier. Indeed, reporting on the increasing boundary-making activity in the Canadian Arctic, one CBC report noted that: Canadians have always tended to regard the northernmost reaches of their land as an integral, if isolated, part of the country. The vast and frozen Arctic archipelago even gets its own reference in the country's national anthem: "The true north, strong and free." (CBC News, August 10, 2010).

Most Canadians, however, do not live in the geographical North, nor have they visited it. The relationship is thus an abstract one, and as such is ripe for geopolitical manipulation. This manipulation has come, at least in recent years, in the representation of the North as a field for military intervention in order to protect Canadian sovereignty, or as an empty and frozen frontier ripe for resource exploitation. It is because the circumpolar North was for most places beyond the edges of population ecumene and far from economic centres, that the concept of “frontier” in the North was cultivated, and its role of ‘frontier’ is generally constructed from the lens of ‘exploration’. But its frontier status is more than this, as it references both the ‘gold rush’ saga and modern accounts of untapped riches. This reinforces the idea that the North is a physical challenge to be overcome, or that the North as a geopolitical context in that it is a ‘naturally geostrategic’ place. Each of these lenses, however:

assess the region from the perspective of its potential importance in a broader world. Moreover, the broader world did intrude: during the Cold War, the North became a strategic frontier for North American security concerns, as the Distant Early Warning or D.E.W.

Line was constructed - to warn U.S. and Canadian military of potential nuclear weapons attacks from the Soviet Union. The construction of the D.E.W. Line during the Cold War placed the circumpolar North, principally the Canadian Arctic, in the position of the first line of defence between the superpowers. Since then, of course, this border has diminished in importance as a front against the other Cold War superpower, namely the USSR. Today, although no D.E.W. Line now exists, there are layers of military security —coverage in the North American Arctic, organized by treaty and agreement, as well as national security concerns. David Wilkins, [former] U.S. Ambassador to Canada, observes, for example, that the United States' —military security in the North today includes —Canadian Forces Canada Command [which] is responsible for domestic security but is also responsible to work together with U.S. Northern Command for the combined defence of the North American continent. Additionally, NORAD (North American Aerospace Defence Command), a fifty-plus-year binational treaty has adopted, in addition to its aero-space defence role, a new maritime warning responsibility to continue to build Continental Defence (Nicol and Heininen, 2008).

Indeed, the new legacy is very 'post-Cold War' even though it is reminiscent of Cold War rhetoric. For example, in 2010, the Canadian Government revved up its concern with military security in the Arctic. It also made a number of promises regarding military surveillance of the North. These were focused upon expanding human and technological surveillance and apprehension capacities and enhancing search and rescue capabilities, and shifted patrol responsibilities from the Canadian Coast Guard to the Canadian Navy. In May of 2012, however, the Canadian Government announced that its fleet of armed vessels for Arctic patrol would be delayed by at least three years: "The Defence Department had been expecting to take delivery of Canada's first of between six and eight Arctic Offshore Patrol Ships in 2015. But documents tabled in the House of Commons on Tuesday show the timeline has been pushed back to 2018. In addition, the \$3.1-billion project is now expected to cost \$40 million more than anticipated" (Berthiaume, 2012).

In one way, this security motif is very '2010'. Since then, increased militarization of the Arctic has not been forthcoming despite its rhetorical importance. Moreover, although increased transits raise potential for increased human tragedies and environmental destruction, the 'sovereignty threat' imposed by such transits has yet to materialize, just like the promised ships, planes and ports. China has been accepted as an observer state in the Arctic Council, suggesting that tales of 'conflicted' Asian challenge are overblown. Instead, the Canadian government has reopened the region for resource development— specifically, but not exclusively, for oil extraction. This involved reframing geopolitically 'strategic' issues as geo-economic ones. In 2008, for example, the Canadian government's 'McCrank Report' recommended significant changes to comanagement processes in the Mackenzie Valley area, to streamline environmental assessment. It promoted development strategies in tandem with the Canadian Northern Economic Development Agency's renewed focus on promoting business and development opportunities in the North.

So if the geostrategic importance of the Arctic is taking a backseat, geo-economic issues certainly, since 2010, are not. By 2012, resource development had become a second important 'prong' of the climate change discourse, which, until now, had focused steadily upon the opening of transportation routes and challenges to Canada's singular control over the Northwest Passage and

the North as a potential icy treasure trove. The Canadian Government has created structural capacity for Northern development initiatives, and most recently, the press has reported that oil exploration and extraction are looming on the horizon, encouraged by Ottawa and its northern development mandate:

Ottawa has placed 905,000 hectares of the northern offshore up for bids, clearing the way for energy companies to snap up exploration rights for an area half the size of Lake Ontario. The scale of the offer indicates eagerness in the oil patch to drill for new finds in Canada's northern waters less than two years after such plans were put on hold following the BP spill in the Gulf of Mexico and a major Arctic drilling safety review.

The Arctic exploration auction resumes as the Harper government is promoting greater development of the country's resources. It has taken steps to speed regulatory approvals for major energy projects such as the proposed Northern Gateway pipeline, promising to limit the ability of environmental groups and other opponents to block or delay new developments. The prospect of further drilling fits squarely with that mandate, said Jason MacDonald, spokesman for John Duncan, Minister of Aboriginal Affairs and Northern Development Canada, which oversees the northern land auction" (Vanderklippe 2012).

Indeed, in conjunction with its focus on releasing hectares for oil exploration, the Conservative Government has also recently implemented some massive changes to environmental regulation requirements for megaprojects such as oil extraction and pipelines. This makes 2012 the era of resource development and investment, all other considerations taking a back seat.

All of this suggests that, for Canadians, the geopolitical significance of the Arctic has been shifting over the past two to three years, from a discourse centred on sovereignty and surveillance, to a discourse centred on development. This is not to say that security is no longer of importance, but that a security-developmental nexus has emerged with respect to the Arctic region. The co-constitutive nature of security and economic development is very much predicated upon specific understanding of, and predictions for, future climate change, maritime boundary and resource demand and access scenarios. Geopolitical concerns are thus filtered through economic development scenarios, and vice-versa, so that economic development, climate change and 'security' are fused in a normative discourse about urgency, threat and potential riches. In other words, Canada's security-development nexus, the narrative which conflates national security AND economic development, is now well-developed in the Arctic, in the sense that Stern and Öjendal (2010, 10) define a security-nexus as representing "the intermingling of strategies of security and development". It is not a new discourse, to be sure, but it has been given new life by new geo-economic assessments of northern mineral and hydrocarbon resources.

We can, therefore, expect this development-security nexus to be reflected in popularized geopolitical assessments of the North on an ongoing basis, and 2012, and to be combined increasingly, with narratives of threat and urgency. This is certainly the case in Canada, where Plan Nord, Northern Strategies and military and development discourses mingle.

The North Today

By 2012, the main contours of the story which is highlighted above create a context for framing the Arctic; one which resonates with Canadians. It positions Canada as an Arctic resource broker, up against powerful external countries who wish to negotiate their way into the Arctic. In Canadian popular geopolitics, therefore, it seems, the security-development nexus revolves around the demonstration of government and state competency in the face of international interest and within the international arena. It is a continuum which stretches from militarized to developmental interests and measures. Such a narrow focus on state-centred objectives can hardly be surprising if development is generally agreed to be a “state-centric and elite-driven process” (Öjendal, 2010, 11-12), and security is defined as ‘national’, ‘traditional’, and ‘state-centred’. There are, of course, other ways to understand the relationship between development and security, but these challenge the way in which climate change has been positioned as an economic ‘driver’ in the North.

This uncritical acceptance of what development means and its position vis-à-vis climate change discourses in the North has itself meant that there is little real discussion, outside of indigenous circles, as to what economic development entails, and in whose interests it is undertaken. For example, in April, 2009, an international group of Inuit from all circumpolar nations adapted the “Circumpolar Inuit Declaration on Resource Development Principles in Inuit Nunaat”. This document identified the relevance of Inuit experience to the development process and stresses the importance of Inuit involvement in, and benefit from, resource development processes. Yet, in his comments to the May 2012 Plan Nord Quebec Government Forum, Pita Atami, former president of Makivik Corporation observed that: “The Government of Canada’s Northern Vision sees the great economic potential of the vast northern or Arctic natural resources as key to Canada overall economic future. The “North of 60” definition of the north on which the government of Canada uses which is confined to Canada’s 3 territories does not reflect the reality of the North and of the Arctic” (Atami, 2012).

For Canadians, then, the push-button Arctic issues revolve around security and development, through demonstrable state competency—either in military ways, or in ways which speak to the strength of the state to allocate and control resource extraction. This is, of course, a realist perspective, or rather reflects the way in which the state identifies Arctic issues through realist filters which promote specific policy initiatives (or lack thereof). It would be fair to say that this is certainly not the first time the role and competency of state has come to be the marker for Canadian interests in the Arctic, but it is a significant departure from events during the 1980s and 1990s.

The ‘American’ Arctic

The American perspective on the Arctic is seen as considerably different from Canada’s in that Americans challenge some of the core boundary delimitations and indeed the Canadian status of the Northwest Passage (NWP). Indeed, while Canadians fretted about their “Arctic Sovereignty” during the Cold War, Nixon’s presidential Directives for the North made it clear that the U.S. was concerned about their ‘national security’ in the region. The National Security Council’s memorandum of December 22, 1971, for example, presents an extremely short, but to the point statement concerning America’s interests in the region. They were both developmental and security-oriented: The President has decided that the United States will support the sound and

rational development of the Arctic, guided by the principle of minimizing any adverse effects to the environment; will promote mutually beneficial international cooperation in the Arctic; and will at the same time provide for the protection of essential security interests in the Arctic, including preservation of the principle of freedom of the seas and superjacent airspace (U.S. 1971).

The 1971 statement is really not so different in terms of the way in which the Arctic has become a new and iconoclastic epicentre for a new security-development nexus, except of course, that the climate change imperative is lacking. In 1971, the Cold War and oil development in Prudhoe Bay were the drivers for the crafting of a bifurcate 'security-development' motif. Today, security and development interests remain the most important prongs of a U.S. interest in the North, reiterated in the 2009 Presidential Directive offered by the outgoing Bush Administration:

Thus for the U.S., despite disagreement concerning the status of the Northwest Passage, or the lack of ratification of the UNCLOS Treaty, the Arctic is also defined by a security-development nexus in which state and national interest defines geographical context. It remains a resource and defence frontier waiting to be incorporated into the national economy in ways which support the existing large scale military-industrial complex (U.S. 2009). This is rather interesting in light of recent U.S. rejection of the 'Arctic 5' process and its renewed emphasis upon the Arctic Council and the inclusion of indigenous peoples.

By 2008, Borgerson's (2008) piece on "Arctic meltdown," highly inaccurate as it was, created the context for justifying a sense of imminent threat in the American North while for Canadians the military rhetoric of the national government remains somewhat of a smokescreen for a less robust security and sovereign agenda. In the U.S. the indigenous rights and common co-operation discourse remains as a cover for the harder edges of national-security documents such as the most recent Presidential Directive. Moreover, the U.S. balks at signing the UNCLOS Treaty which authorizes the international approach to regional boundary-making, while arguing for a regional process of representation under the auspices of international law.

The Common Agenda of the North American Arctic States

What both the Canadian and U.S. approaches have in common is the way in which climate change has become an imperative for an embedding of security within the developmental debate, and vice-versa. This may, indeed, be a broader way of understanding the Arctic for most Arctic and perhaps even non-Arctic nations. It is an approach which demands state interests be identified and served, and which reasserts the right of states to access resources under dynamic conditions of instability. Indeed, instability demands the state.

The role of the state is not, of course, specified by natural laws, although the use of naturalizations to argue for the presence of the state has resurged as the *prima facie* argument for current geopolitical machinations in the North. Melting ice demands specific technological responses, it may be true, but these responses are selected as appropriate with reference to political choices and political economies. It is always appropriate to ask in whose interests these responses are undertaken. The problem is that in the Arctic today, the justification for state-centred responses are self-referencing to the level of the state with little consideration of the other interests or stakeholders. In a world in which economies are increasingly regionalized, in which globally

embedded and empowered local economies have become the order of the day, why do we continue to cast the Arctic as an icy treasure trove whose bounty is, for all and sundry. Those with the most invested in the region, the inhabitants themselves, have been increasingly marginalized by this naturalized discourse which leaves little room for contestation by virtue of its reliance on broad and invisible forces which strengthen state imperatives and corporate agendas.

While this is not an earth-shattering conclusion, it is one well worth considering if simply because the geopolitical underpinnings and justifications for action always have been, over time, embedded in rather fraught assumptions about what 'normal' is. Geopolitics is a social construction based upon our understandings and perspectives of regions and processes, and given the fact that so few North Americans have visited, or even studied to North, current popular and even formal geopolitical strategies cannot be justified by anything but by how they reflect non- Arctic social processes, beliefs and relations. It is well to be mindful of this when we create opinions about the way in which northern development should proceed, and the way in which those peoples who live there should be given greater control over their own economic and geopolitical fate.

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Towards Nordic peace: a small state approach

Margrét Cela

Introduction

By looking at the Arctic, and the circumpolar North, it becomes obvious that the region has something special to offer when it comes to science. That goes for both natural sciences and social sciences and the Arctic has for the past decades served as a 'laboratory' for all kinds of researches. The Arctic has also become highly globalized and a number of different actors, state and non-state, coming from both the Arctic region itself and other parts of the world have already shown great interest in the developments and happenings in the Arctic. The tremendous interest shown by large states and other actors raises concerns about the ability of smaller actors, such as the small Arctic states, to have their voices heard in the regional cooperation and decision-making procedures. By making a clear distinction between the smaller and larger Arctic states this paper aims at answering the following two questions:

Why does the size of the circumpolar states matter in the context of security?

How can the small Arctic states increase their influence in the region, and have their voice heard?

To further illuminate the situation, the challenges and opportunities the small Arctic states, hereafter spoken of as the Nordics have been faced with regarding security cooperation and defense will be briefly discussed.

Out of the eight Arctic states the following five are commonly defined as small – The Kingdom of Denmark (which includes Greenland and the Faroe Islands), Finland, Iceland, Norway and Sweden. Canada fits well as a middle power while Russia and the United States of America are large states or even superpowers. The Nordics have a quite different position in the Arctic. In some ways the difference is due to geographical factors, Norway and the Kingdom of Denmark are Arctic Coastal states, which place them in the group of the so-called Arctic Five, along with Canada, Russia and the USA, whereas Iceland, Finland and Sweden are not. Nonetheless, Iceland has ambitions to gain recognition as a coastal state according to its priorities approved by the Parliament, Althingi, in 2011 (A Parliamentary Resolution on Iceland's Arctic Policy 2011). However, the different positions of the Nordic countries cannot solely be explained by geographical location. Their institutional affiliations are also a part of the explanation and the countries have chosen different institutes to associate themselves with. Iceland, Norway and Denmark are members of NATO (North Atlantic Treaty Organization, member states) but Finland and Sweden are not. Denmark, Finland and Sweden are members of the European Union, but Iceland and Norway are not (European Union, member states). However, Iceland did submit an application to become a full member of the EU in 2009 (Ministry of Foreign Affairs 2010a) whereas Greenland formally resigned from the Union in 1985 ("The European Union and Greenland"). The paper is divided into two parts and each part sets out to answer one of the questions.

Small states and security

The main reason as for why size matters in the context of security is that small and large states don't face all the same challenges and opportunities, especially in terms of cooperation and influence. This chapter aims at explaining the difference, focusing on the Arctic and using the Nordics as examples.

Being European, the Nordics have inevitably been affected by the profound changes that have been taking place in the continent over the past decades. These changes are both institutional, traceable to the European integration and the NATO enlargement, and because of the different global threats the world faces after the Cold War (Rickli 2008). The impact of these changes is different for small and large states, partly because small states lack resources when it comes to influencing the international community. Hence, it is even more important for small states to join institutions when it comes to security matters. Institutions serve the small states well as they constrain the larger powers and promote peaceful ways of resolving disputes (Wivel 2005). That doesn't change the fact that institutions can be weak or strong, and the smaller regional institutions – such as the ones in the Arctic – have been criticized for being weak as they lack the military strength of NATO, the economic capacity of the EU or the standard setting role of the OSCE (Ólafsson 2009). The size factor becomes important again when we look closer at what happens inside the institutions. While large and/or powerful states do their best to influence the policy-making, to make sure that their interests will be served, the small states have no other choice than to accept the influence of their larger partners. But, there is also a downside to this institutional security arrangement or guaranty that is worth mentioning here. If the large states feel too tied

down, or that their interests are better guarded outside the institution, there is a chance they might pack their bags and leave. To make this even clearer; small states increase the risk of losing power and influence by emphasizing the formal powers of the institutions (Wivel 2005). In fact, the five coastal states have already had two formal meetings¹ outside of the regional institutional framework, where the other three Arctic states were not invited (Iceland protests a meeting of 5 Arctic Council member states in Canada 2010).

Another important difference between small and large states is their abilities to influence the international system. While big or powerful states are capable of influencing the system while maintaining their autonomy, small and weaker states are not capable of doing that. The smaller states are faced with the choice of either maximizing their influence through cooperation or maximizing their autonomy by taking up a defensive policy. By choosing the former possibility, there is a chance they might end up in the position of having to fight or support a war with their larger partner or alliance, even if it doesn't serve their own interests. On the other hand, by going for the second one they underline their sovereignty, but risk being left alone in time of need (Rickli 2008). All in all, small states face the problem of not being able to secure themselves without assistance from larger partners, but in order to influence the policy-making of their larger partners they have to sacrifice a part of their autonomy (Wivel 2005).

The Nordics have all taken a strong approach towards the institutionalization of security matters, yet emphasizing a liberal way by not focusing only on international organizations, but also on trade and investments (Archer 2005). Heininen (2011) has published a comparative study of the policies of the Arctic states, including their institutional participation. According to his findings the Nordics are all members of the UN, EAPC, IMO and EEA² (apart from Greenland and the Faroe Islands). Denmark, Finland and Sweden are members of the EU, Iceland is in the accession procedure since 2009 and Greenland resigned in 1985. Furthermore, Denmark, Iceland and Norway are members of NATO and Iceland and Norway are members of EFTA. If we look at the more regional institutions they are all members of the AC, IASC, BEAC, CBSS, NC(M), and ND³ but only Denmark and Norway (as coastal states) signed the Ilulissat Declaration (Heininen 2011).

Nordic security and defense cooperation – historical challenges and opportunities

The Nordic states have a long and well established tradition of close cooperation in many different fields, security and defense, however, don't fall under that tradition. That can be best be understood by looking at their history. The topic has been discussed over the years and the question of whether the Nordics should establish common defense postures has been raised. In the 1930s such discussions led to the conclusion that the Nordics had quite different needs and fears. For an example Denmark was concerned over Nazi Germany while Finland feared the invasion of the

¹ Ilulissat, Greenland 2008 and Chelsea, Quebec, Canada 2010

² UN: United Nations, EU: European Union, NATO: North Atlantic Treaty Organization, EAPC: The Euro-Atlantic Partnership Council, IMO: International Maritime Organization, EEA: The Europe- an Economic Area, EFTA: The European Free Trade Association.

³ AC: Arctic Council, IASC: International Arctic Science Committee, BEAC: Barents Euro-Arctic Council, CBSS: Council of Baltic Sea States, NC(M): Nordic Council (of Ministers), ND: EU's Northern Dimension.

Soviet Union. This example demonstrates the different kinds of neighbors and problems the Nordics have had to deal with, and how that has influenced the security policies of the states. Denmark felt it had no option other than to sign a non-aggression pact with the Nazi Germany in 1939 and Norway led the way by signing the North Atlantic Treaty in 1948 instead of going forward with the so-called Nordic Defense Union. Interestingly, the Nordic defense union was never spoken of in terms of all the Nordic states, only the Scandinavian states, and the negotiations broke down when Norway and Denmark decided to sign the North Atlantic Treaty, in spite of Sweden not wanting to join (Archer 2010). Former Minister of Foreign Affairs in Iceland, Halldór Ásgrímsson, argued in a speech he gave on the Nordic countries and the Cold War, that the different experience the Nordic states had during the Second World War, determined their Cold War policies, not the least regarding sovereignty matters (Asgrímsson 1998). In spite of the different experiences of the Nordics during the Cold War, they also had some important things in common. One of those things was that they all had to accept the policy consequences of being a part of the East – West divide, whether they liked it or not (Archer 2005). Further, the Nordic region was characterized as a low-tension area, where the states considered the position and interests of their neighboring states before making decisions on security matters. This internal Cold War dynamic of the Nordics is often referred to as the ‘Nordic Balance’ (Archer 2010).

Towards the end of the Cold War the Nordic states found themselves in a very different security scenario. They were no longer torn between East and West, as they had been since 1948, and the security agenda had broadened out to include security for the environment and societies. As the security scenario changed, and the fear of bipolar conflict in Europe vanished, the Nordic states, took their time to readjust, despite new threats entering the scene (Archer 2005). In fact the Nordic states maintained a traditional security policy longer than most other European States (Rieker 2004). The neutral states of Sweden and Finland joined Denmark in the European Union which Iceland and Norway became linked to through the European Economic Area (EEA). For Sweden to be able to join the EU it was necessary to change the neutrality formulation of the country from “non- alignment in peacetime aiming at neutrality in wartime” to “non-alignment in peacetime”. Finland on the other hand was a different story as the political elite saw EU membership as a way to confirm Finland’s Western identity, but not as a threat to the country’s sovereignty. For the first time Finland could seek security guaranties from the West, although still emphasizing good relations with Russia (Rieker 2004). With this the nature of NATO changed and before long both Sweden and Finland had their forces serving with NATO. On the other hand Denmark’s participation in the European Security and Defense Policy (ESDP) has been limited to civilian tasks, while Sweden and Finland have fully contributed and Iceland and Norway have made their own contributions. After having excluded security and defense issues from their agenda, with the exception of UN peacekeeping, the Nordic ministers found themselves free to open up the topic again after the Cold War, which they did (Archer 2010).

The increase of security related cooperation between the Nordics after the Cold War becomes evident by looking at their common projects tracing back to 1964, when four of the Nordic states (Denmark, Finland, Norway and Sweden) established a Nordic cooperation group for military UN matters (NORDSAMFN). This was a forum for meetings at military and political level. In 1993 another Nordic initiative was taken when the Nordics established a Nordic Battalion in the Former Yugoslav Republic of Macedonia, this was a UN led operation and proved to be very successful. Under NATO, Partnership for Peace, the Nordics joined Poland and established the NATO led

Implementation Force (IFOR) later known as the Stabilization (Force SFOR) which operated in Bosnia-Herzegovina. In 1997, when the Nordic cooperation had expanded to participating in missions led by others than the UN, the Nordic states decided to reorganize their cooperation and established the Nordic Coordinated Arrangements for Military Peace Support (NORDCAPS).

NORDCAPS aimed at strengthening the existing cooperation of the Nordic cooperation group for military United Nations (UN) matters (NORDSAMFEN), and was meant to expand to cover operations led and/or mandated by others than the UN (Archer 2010; NORDCAPS history). Nordic support structures (NORDSUP) was another initiative taken by Finland, Norway and Sweden where the Nordic military cooperation (land, sea and air) was outlined. While NORDSUP deals with the support structures the ministers felt the need for a more sufficient system of arming their forces. The result was to establish an institutional framework for such cooperation, built on an agreement signed by the Nordic defense ministers of Denmark, Finland, Norway and Sweden in 1994, on Nordic armaments cooperation (NORDAC). In 2008 the Nordic defense ministers signed a Memorandum of Understanding (MoU) for enhanced cooperation in the field of defense, which has been known as NORDSUP MoU, and was meant to compliment NORDCAPS and NORDAC. A year later, in November 2009, yet another step was taken as the NORDCAPS, NORDAC and NORDSUP were all moved under the structure of the Nordic Defense Co-Operation (NORDEFECO) (Archer 2010). Furthermore, the Nordics established a special Nordic battle group within the ESDP⁴ (Boyer 2007). Last, but not least it is worth mentioning that in 2008 the Nordic Ministers for Foreign Affairs agreed to assign to Thorvald Stoltenberg, the former Norwegian Minister of Foreign Affairs, to write proposals on such cooperation. He handed in his report in 2009 (Stoltenberg 2009), but what will be made of his suggestions remains to be seen.

All in all, due to geopolitical and historical differences between the Nordic states cooperation in the fields of security and defense have proven to be a challenge. Nonetheless, the Nordics have had a change of attitudes regarding cooperation in the field of security and defense and taken steps to enhance this cooperation by establishing several bodies or frameworks for this cooperation. Unlike during the Cold War, their different institutional affiliation is not an obstacle to such cooperation.

Small states, security and influence

In this chapter a distinction will be made between hard (traditional) and soft security to explore where small states are most likely to be able to have influence. Making this distinction between those two categories means that the subject is being simplified a great deal as hard and soft security can both easily have a number of sub-categories. However, this division is believed to be useful to display the different challenges facing the small states.

The traditional or military definition of security became the most common during the Cold War, when the focus was on military threats to states, coming from the outside. This is when the Arctic became militarized (Heininen 2010). Modern states are built on the idea of sovereignty, exclusive right of self-government over its legal territory and population. Since force is such an effective way to secure the territory, states use their militaries for that purpose. Although, it is far from being the only purpose of militaries. Because of this, the states are still the most important security actors

⁴ ESDP: European Security and Defense Policy.

and the governing elites of the states are recognized as the political and legal claimants of the legitimate right to use force, both inside and outside of their territory (Buzan et al. 1998). In comparing the military expenditures of the Arctic states a huge difference becomes obvious. USA is on top of the list, and spends far more than any other state in the world on the military; Russia is in the fifth place and Canada in the fifteenth. Norway holds the 30th, Sweden the 32nd, Denmark the 38th and Finland the 47th. Iceland is in number 148, out of 154 totals (Stockholm International Peace Research Institute 2010). This shows that all the circumpolar states, except for Iceland that has no military on its own, spend relatively much on military. If we look at the amounts the states are using the difference becomes even more obvious. The USA spends (all in US dollars) 698,105,000,000, Russia: 52,586,000,000, Canada: 21,800,000,000, Norway: 6,200,000,000, Sweden: 5,500,000,000, Denmark: 4,330,000,000, Finland: 4,051,320,000 and Iceland: 9,900,000 (Stockholm International Peace Research Institute 2010). Compared with Heininen's comparative study on the Arctic policies, it becomes clear that the circumpolar states that spend most on military are the same states that have the strongest emphasis on sovereignty, namely, the coastal states (Heininen 2011).

Moving on to the Arctic, the Nordic states have expressed their concerns about the risks those arise from increased access to natural resources and new shipping lanes. They fear that increased traffic in the area may cause too big of a risk for any one of the Nordic states to handle on its own. The Nordics do not have the capacity to solve the increasing number of practical issues individually, and have expressed willingness to explore how they can benefit from increasing their cooperation. However, they have made it clear that increased cooperation between them should not be competing but complimentary to their previous commitments to the EU, NATO and OSCE (Nordic Ministers for Foreign Affairs, Declaration 2009). Both NATO and the EU have been advocating more cooperation and equipment harmonization (Saxi 2011) which is an opportunity the Nordics could make use of, without heading towards any competition with the large institutions.

After the Cold War the tension between the two superpowers decreased and there was room to consider other and broader aspects of security. The post-Cold War security spectrum included various softer security aspects which also grew in importance (Heininen 2010). Soft security, according to Cottey (2007), is non-military threats such as threats to the environment, mass population movements and crime. By referring to a security threat as soft, is not to indicate that it is any less serious than a hard security threat. The Arctic region has been very affected by climate change. Over the past decades the Arctic sea ice has been decreasing, both in thickness and extend (Arctic Marine Shipping Assessment 2009 Report). Cottey has listed the consequences of global warming, and his list becomes very relevant in the Arctic context. Rising sea levels; altered weather patterns; spread of diseases into areas previously free from them; eco-system disruption and loss of species diversity; disruption of agriculture; mass migration and increased likelihood of environmental and resource conflicts (Cottey 2007) are all examples of threats the circumpolar states must be prepared to deal with, and may be too big for them to deal with individually.

In their Arctic policies the Nordic states show that they are all aware of the environmental threats in the region by referring to them under the term "environmental security". They also include other softer aspects of security, but without presenting them with the security label (Cela 2010). The three Nordic non-coastal states, Finland, Iceland and Sweden emphasize comprehensive security

and they all stress environmental protection and international cooperation. Although, they do have different focus points in that respect for an example Norway's emphasis on Russia and the Barents region, and Finland's very strong EU focus (A Parliamentary Resolution on Iceland's Arctic Policy 2011; Finland's Strategy for the Arctic Region 2010; Denmark, Greenland and the Faroe Islands: Kingdom of Denmark Strategy for the Arctic 2011-2020 2011; The Norwegian Governments High North Strategy 2006; Svergies strategy för den arktiska regionen 2011). The Nordics have been active in doing environmental research in the Arctic and a special program under the Nordic Council of Ministers is evidence of that ("Nordic Arctic Research Programme"). Furthermore, as societies, the Nordics are often spoken of in relation to the so-called Nordic Model. Among the characteristics of the model are relatively high living standards measured in GDP per capita, they are all parliamentary democracies with strong centralized interest groups and labor parties. The model is also known for a strong welfare system, the distinctive position of women in politics and regional cooperation agreements between the Nordic states (Ingebritsen 1998). Hence, the Nordics have very important common concerns, and characteristics that might make increased cooperation more feasible.

Conclusions

In this paper it has been argued that small states have fewer opportunities than the larger ones to influence the international system on their own, and thus become more dependent on the institutionalization of security and defense. Therefore they must accept a certain power imbalance within the institutions, or else risk that the larger states find their interests best guarded outside of the institution. This is a very real concern in the circumpolar context as the Arctic five have already had two exclusive meetings outside the institutions, where Denmark and Norway participated but Finland, Iceland and Sweden were not invited. When looking into the possibilities of enhanced Nordic cooperation on Arctic affairs it has to be taken into account that the Nordic states have quite different positions in the Arctic. Norway and the Kingdom of Denmark are coastal states and have somewhat broader interests to guard, resulting in them being more concerned with their sovereignty than Finland, Iceland and Sweden are. Because of these different emphases the Nordics place on sovereignty military cooperation can be rather problematic. Another influencing factor in that respect is that even combined their militaries are not that big. Yet another influential factor is that even though they have come a long way, after the Cold War, regarding cooperation in security and defense, their history is still the same. Furthermore, they have still chosen different cooperation to guaranty their security, and their larger alliances have their priority. Nonetheless, as both NATO and EU are encouraging increased harmonization, the door is open for enhanced cooperation that does not at all have to compete with their previous commitments. They are still more likely to find common ground in the softer security matters, where they can enhance their cooperation, specialize within and contribute more – without disturbing each other's sovereignty, ambitions and exercises. Furthermore, the scientific cooperation of the Nordics is an important contribution to policy-making in the region, as it helps decision-makers to build their decisions on real facts and figures. The importance of this should not be underestimated because managing the softer security issues and keeping them under control might be one of the best preconditions for keeping the outbreak of harder security threats from happening.

Taking the state centric view, as done in this paper, is only one way to look at the big picture, and thus only provides a small piece of the puzzle.

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Empowerment as a part of the peace and stability in the European North: a case of Lapland

Jari Koivumaa

Introduction

In this article, my argument is that the post-Cold War structural changes in the International System – or even the post- state system in Europe – have enabled new kinds activities in the European North. For example, under the Cold War system, contacts with people across borders were always a potential security threat. Under the state system, self-sufficiency was a tool for minimising the security risks concerning food and energy availability. In the Superpower and state system, the technology (or indeed technological innovations) was mostly directed towards the military capabilities of states. However, this situation has been turned upside-down by post Cold War globalisation and other structural changes in the system. To sustain an efficient economy and the development of new innovations, contacts with people living in other states are necessary, also at the level of civil society. Instead of national self-sufficiency, the word ‘economy’ is defined by an increasing amount of import and export between the states, companies and customers. In the post-Cold War system, the aspiration for national self-sufficiency determines the security threats, not simply the security, and the global finance system ties the interests and targets of different actors strongly together. Technology is now used more for capitalist markets and civil society than the

military aims of states, and information technology even facilitates contacts between the people in different states. The combination of these factors creates a challenge for the state-centric security paradigm.

The Disempowered North

During World War II and the Cold War, the term “national security” was coined to describe the area of public policy concerned with the preservation of state independence and autonomy. In the state-centric age, national security was even synonymous with security. Michael Sheehan writes, “Security was seen as being related to the need for states to maintain their political independence and freedom of national decision making” (Sheehan 2005, 6). The theoretic base for the age was the hegemony of political realism. For Sheehan (ibid.,11) the “[r]ealist shares the political perspective that the central purpose of the state is to protect the citizens against internal or external danger”. The need to confirm and ensure state survival is seen as over-riding all other policy considerations. Realism sees the world as anarchical and as dominated by a struggle for state power. The security system is constructed by the military capabilities and is directed against the capabilities of other states in the system. The world view of realism is based on a rigid distinction between inside and outside. Outside, the environment beyond the state’s boundaries is marked by a variety of dangers. Inside the state, the government provides the necessary degree of security, and is the sole legitimate wielder of the force. The power structure inside the state is hierarchical: the state is the political power centre, and this power depends on the political, physical, educational and military skills and capabilities of the political leaders. (See Sheehan 2005, Walker 1993; Waltz 1979.)

In the state anarchy, states are the final guarantee of security and the legitimate users of power. This position was evident in the age of the Cold War. The most dominant security discourse was military competition between superpowers. In the realist discourse, only superpowers have the real sovereignty. A state’s survival was dependent on its skills in developing military capabilities and making alliances. The main duty of a state’s foreign policies was to organise their alliance relations with the superpowers. In Finland, this was the case during President Urho Kekkonen’s time in office. The international structure of the Cold War disempowered non- superpower states. In particular, the anarchy of the state-centric system disempowered the people and cultures that did not have the state of their own. The Sámi Cultures in the European North were good examples of this. In the state-centric system, the destiny of a culture without a state was often to be merged into the national culture of another state.

In the anarchy of the state-centric system, the most frightening security risks were the enemies with military capabilities on the other side of the border. In the European North, the Iron Curtain barred contact between people in the Soviet Union and the Nordic countries. One reason for this was that the Soviet Union was worried that people crossing the border would never come back. The Cold War was a problem on the Western and Northern borders of Finland also. Sweden and Norway understood that Finland had a special military contract with the Soviet Union (the Agreement of Friendship, Co-operation, and Mutual Assistance). From the Western and Swedish point of view, the contract meant that Finland had a political – and even military – alliance with the Soviet Union. After all, strict control of the borders was a part of the border administration policy of the Northern states. In general, the European North was a militarily important area for

the Superpowers. The border between Norway and the Soviet Union also doubled as the border between NATO and the Warsaw Pact. The role of the states in this state anarchy was to guarantee the security and the safety of the people inside the states and to define the real security risks for them.

During the Cold War, the political conflicts came from outside areas, and these conflicts did not have factual meaning in the daily lives of people in the North, except they created legitimate psychological barriers to co-operation in the area. The right-wing “pro-west” and left-wing “pro-east” political parties did not reflect the living conditions in the North. At least partly because of the Cold War, politics determined the state-centric system, it was difficult to see the common good for people in the North. The increased market value produced in the industrial process of northern natural resources did not stay in the area. There were also economical problems in the relationship between the northern periphery and the state’s centre. The cultivation of forests, hydro-electric power, and minerals in the North has spurred a more general economic growth of the states and has benefited the owners of the companies operating in the area. Because of the structural constraints as described, daily contact with people across borders was more an exception than a rule in the border regions in the North.

Structural constraints create an inability for common people to improve the conditions of their daily lives through social, political, economical and psychological channels. Each form of power is based on the certain resources that can be accessed only by collective acts. John Friedman (1992, 66–69) defined several bases of social power. Knowledge and skills refer to both the level of educational and the mastery of specific skills by members of the population. Safety and empowerment require the appropriate information in order to affect a household’s production, available public services, a change in political configurations, and opportunities for wage-paying work. Social networks are also essential for self-reliant actions based on reciprocity. People with extensive horizontal networks among family, friends, and neighbours have a larger space of maneuver than people without them. Their instruments of work and livelihood are the tools of household production: vigorous and healthy bodies (physical strength), and access to work and production. Financial resources include the net monetary income of households as well as formal and informal credit arrangement. In Lapland and other parts of the European North, there have been constraints against using the social, political, economical and psychological power of the people. The state borders, scarcity of people and unfavourable economical relations with the centre are among these constraints. The people living in the northern periphery have not been an actor or even a subject in the International System, and there have not been many possibilities to drink from the “fountain of power” of political realism in the European North.

Towards the democratic peace in the North

In the article I appraise the validity of a young student of politic Gav Nugent’s interesting explanation concerning Immanuel Kant’s democratic peace theory (Nugent 2011). My aim is just try to connect the people’s level in the theory. Nugent’s summary concerning Kant’s theory is, “Liberal democracies, in general, do not go to war with other liberal democracies” (ibid). In his theory Immanuel Kant argues that democratic states are peaceful because there are many bureaucratic constraints for war. Constraint is also that enterprises, children and citizens mostly do not like to go war. Only the military complex – some politicians, army and companies producing

weapons and guns – prefer war as a tool for state politics. The problem for the military complex is the political power in democracy. They do not have enough power to guide a state to war because politics in liberal democracies are guided by the people’s majority.

In the article “Democratic Peace Theory – Why Liberal Democracies Don’t Go to War with Each Other”, Nugent compares the “interpretative power” of dyadic and monadic explanations as a version of democratic peace theory. The monadic explanation sees the democratic State’s internal constraints for war. These kinds of constraints are the media, public opinion and private companies. Nugent sees some points in the monadic explanation, “in liberal democracies, decisions on whether to go to war or not attract mass media and public scrutiny” (Nugent 2011). If the people in the state are all at the time informed about the question of war and peace, war is a very complicated question for the politicians. Even if politicians have tools to guide the public opinion, they have to consider the feelings and opinions of the citizens. In liberal democratic states there are also democratic-bureaucratic constraints of war. Nugent wrote that “to be elected, candidates require support from the general public, who tend to vote on fairly ‘safe’ candidates. Then (in parliamentary systems, at least) candidates need to garner support from within the party to obtain a place in the executive” (ibid.). Pro-war opinions are rarely popular enough in the campaign whose aim is to maximize the number of votes for a party or candidate.

The dyadic explanations consider also the political system of other states in the International System. It understands that a liberal democratic state could not be peaceful alone. The internal constraints of the state for war are not enough. The dyadic explanations relate the State’s internal constraints to the inter-state political system in the world. In this system the relations between the democratic states are also constraint for war. In the system of liberal states, “[t]he security in knowing that the other won’t, or can’t suddenly declare war, eases tensions between the two states in itself” (Nugent 2011). Also trade between the states has been war constraint in the system of liberal democratic states. Nugent considers that “[g]oing to war against a trade partner would be hugely detrimental to the economy, and the private sector of the economy would nearly always lobby against war” (ibid.). It is quite easy to agree with the monadic and dyadic explanations of Nugent.

My argument in the article is that Nugent’s monadic or dyadic explanations are not enough. For the emancipation we need a triadic explanation for democratic peace. The explanation agrees with Nugent’s monadic and dyadic explanations. My contribution for the theory in the article is the people and the cognitive structure of their mind and their behavior in the liberal democratic state. I am interested in how peace – and the impossibility of war – changes the behavior of ordinary people. Long-lasting peace forces people – also in the military complex – to look after other kinds of tools for power in and between the societies in the world. This process is going on in the European North as in many other places in the world also.

The end of the Cold War was a very strong signal about the structural changes in the international system. Alexander Wendt wrote in his book *Social Theory of International Politics* that the collapse of the Soviet Union was a signal that “a new political culture has emerged in the West within which nonviolence and team play are the norm, in which case there might not be any such return to the past” (Wendt 1999, 297). Wendt calls this peace producing culture “Kantian” because Kant’s perpetual peace is the most well-known treatment of it. In the new structure, the states are more a friends or a team than enemies. Wendt wrote that in the post Cold War structure “states expect

each other to observe two simple rules: (1) disputes will be settled without war or the threat of war (the rule of non-violence); and (2) they will fight as a team if the security of any one is threatened (the rule of mutual aid)” (ibid., 298–299). Team work is necessary for the management of the new kinds of security threats in economical, social and environmental fields. Worth mentioning are the common aims for practically all the states in the world to solve the financial problems after the 2008 finance crisis and the co-operation for managing global climate change.

It is sure that economical, social and cultural ties between the people in different parts of the world are now denser than ever. This is the position also between the European North and other places in the world. The absence of war between the major powers has been a fact since the end of the Cold War. Now it is even possible to speculate whether the Kantian thesis about democratic peace could be practical realism for the democratic states in the world. Anyway, we could surely say that as a part of the structural change in the international system, the agenda of security threats has changed. In the world there are now new kinds of security threats in the world. The global finance crisis is a good example of security risks demanding teamwork. Also the risks in nuclear power, terrorism in civil society, national and international criminality, oil scarcity and social exclusion are worth mentioning. The core in security thinking is now the safety of the people, not the security of the state. Even the target of military violence is nowadays people and civil society not the state with its political system as was the case in state-centric system.

The changes in the structure of the International System determine politics, economy, culture and social relations also in the European North. In my triadic explanatory model security threats and emancipation are deeply interrelated. War and the threat of war are the main security threats in the system of undemocratic states. Emancipation is the freeing of people (as individuals and groups) from particular physical and human constraints. War and threat of wars are constraints which have dominated the people’s daily lives in the state-centric system together with poverty, inadequate education and political oppression. If Kant’s theory concerning democratic peace is valid, democracy means less domination and oppression and more empowerment for the people.

During the Cold War, the undemocratic structure of the International System dominated the life of the people in the European North. Since the collapse of the Iron Curtain, social relations between the people in Russia and the Nordic Countries have been possible. European integration has deeply connected the people in the North to the economy and politics in mainland Europe. New information and communication technology has brought new possibilities to the North. The roles of the borders are changing, and the people in Northern Finland and Northern Sweden can co-operate more informally than before. Since the end of the Cold War, the political dimensions in the North have changed. The confrontation between socialism and capitalism does not determine the relations between the people in the North. My argument here is that these kinds of changes are signals of the more democratic political structure in the European North. The triadic explanation model concerning Kant’s democratic peace theory shifts the perspective from the political structures to the level of the people.

The Empowering North?

For John Friedman (1992, 33) the empowerment of people – in furthering their pursuit of life and livelihood – is spread out between three kinds of power: social, political, and psychological. Social power is concerned with access to certain “foundations”, such as information, knowledge and

skills, participation in social organisations, and financial resources. When a household economy increases its access to these foundations, its ability to set and attain objectives also increases. An increase in social power may therefore also be understood as an increase in a household's access to the foundations of its productive wealth. Political power concerns the access of individual household members to the process by which decisions, particularly those that affect their own future, are made. Political power is thus not the only the power to vote; it is the power of voice and of collective action. Individual voice rises not only in local assembly but also, and at times more effectively, when it merges with the many voices of larger political associations – a party, a social movement, or an interest group such as a labour or peasant syndicate. Psychological power, finally, is best described as an individual sense of potency. Where present, it is demonstrated in self-confident behaviour. Psychological empowerment is often a result of successful action in the social or political domain. An increased sense of personal potency will have recursive, positive effects on a household's continuing struggle to increase its effective social and political power. (See Friedman 1992, 31–34.)

Empowerment of the people means possibilities for alternatives when compared to the development of exclusion and disempowerment. Empowerment and alternative development must be seen as a process that seeks the empowerment of households and their individual members through their involvement in socially and politically relevant actions. Since the end of the Cold War, it has been possible to find several socially and politically relevant actions for the empowerment of households and people in Lapland. Border crossing is now part of daily life for people in Lapland, and new information technology gives wholly new possibilities for discussion and contact from Lapland with all other places in the world. Also, the role of education is changing. It seems that education now focuses more on practical skills and non-formal learning, which is also useful for the economical and social “living world” in Lapland and in the other parts of the North. Lapland is now connected to the global economy, which, for Lappish Companies, means more competition from abroad but also larger markets for their products.

Because of the structural change in the International System, it has been much easier to cross the borders in The European North. The end of the Cold War opened the door for EU-memberships for the Nordic Countries. Until 1995, Sweden and Finland had been full members in this “post-state- border Union”. Because of the collapse of the Iron Curtain, increasing tourism from Russia – as part of rapidly growing international tourism – has been a reality in the Nordic Countries since 1991. Unofficial border crossing has been a reality on the border between Finland and Sweden since 1995, and the new political structures have enabled co-operation between Tornio and Haparanda. Now they even have a plan for a common city centre on the border of two states (Finland and Sweden). After Finland and Sweden's EU-membership, the villages either side of the border have started much non-formal co-operation on the frontier. The problem has been that the demography for future development in the border area – except in Tornio-Haparanda – has been unfavorable. The younger generations have moved from the villages to the cities mainly for education and work. Just now it seems that the Northern Resource Mining Company will open three new mines in Kolari and Pajala (Meänmaa), and it seems that these new mines will encourage more border crossing co-operation in the area, also on the level of civil society. Because of the mines' rapid economic growth, there will be many new households in the area in the future. (See Koivumaa 2008, 194–199.)

The new information and communication technology was one of the reasons for the post-Cold War structural changes in the International System. In Manuel Castells's opinion (2000, 5–67), the fundamental flaw of the centrally-planned economy was its inability to accommodate the processes of rapid technological innovation. The centrally-planned, state-centric economy was not flexible enough for the challenges in an information technology-oriented network society. The people in the Soviet Union understood the inconsistencies between formal state politics and informal 'real life' in the country. After five years of Gorbatshev's Glasnost and Perestroika policies – and a failed coup of Janajev's Junta – people were ready for real revolution in the country. The post-Cold War structural changes and rapidly developing information technology have stressed the role of networks in international politics year by year, and the role of information technology in political change is still growing. Since the early 2000s, new social media networks (Facebook, Skype) have connected the lives of people everywhere around the globe. Social media have had an important role in the political revolutions that have been underway in the Arab Countries since 2010. At first glance, it seems that information technology with social media would be extremely important for the people living far away from the centre. This is surely the case in the European North. The people and societies in Lapland, and indeed in other parts of the North, should effectively utilise the possibilities that information technology gives them.

The amount of people in Lapland is small but the global markets are huge. The President of Finland in the 1980s and 1990s, Mauno Koivisto, once wrote that it should be possible for Finnish companies to be successful in the global markets because in Finland we have only five million people producing products for the market of five billion people. We will find market niches somewhere if our products and society are competitive enough. It may be possible to apply Koivisto's ideas about economy and companies in Lapland. There should be even better possibilities in Lapland because in Lapland there are now 180 000 inhabitants, and the global markets contain almost seven billion individuals. Of course, the growing global economy is the reason for the new mines in the European North. In Lapland, many companies have noted the significance of global tourism for their businesses. These are, at the very least, weak signals about the growing number of possibilities that the global markets create for the people in Lapland.

Conclusion

Exclusion from development has been a problem for the North and Lapland. This article described what this exclusion and disempowerment mean for the people in the North. Empowerment creates an alternative form of development for the people, and it is this empowerment that paves the way from exclusion to full inclusion in the global modernisation process. People are the actors in the empowerment process: they should understand what possibilities they have to change their own lives socially, economically and politically. Kant's democratic peace theory gives us the tools to understand how peace and democracy are related within the International System of states, and there is some evidence for the theory in reality. In modern history, democratic states have not fought against other democratic states, and in the International System there are internal and external constraints against wars between democracies. Of course, nuclear weapons are very strong constraints against wars, at least between nuclear powers. In my triadic explanation model of democratic security, peace and democracy also mean new tools for people's empowerment in the International System.

In this article, standing beside the triadic model is the key for empowerment: security. Before the end of the Cold War, the main universal security risk was of war between states, and especially between superpowers. The threats also gave legitimate power to the powers: the state has the full rights to define security risks in the hierarchical political structures in the state. Because of anarchy in the International System, the state has all the rights to defend its geographical area and independence against threats from outside its borders. These positions mean disempowerment for the people and groups who do not strengthen the power and security of the states. Sheehan (2005, 165) writes that one can even see security and emancipation as “two sides of the same coin”. This is because war and also the threat of war, which are treated as the main concerns under traditional approaches, are only two of many constraints that stop individuals from carrying out what they would freely choose to do.

Because of the structural changes in the system, we should evaluate security and power differently from how the state-centric system operates. We should define the economical problems of the state, companies and people as security threats. Climate change, pollution and the problems in nuclear power are more challenging security risks than the military threats of the other states. From the empowering point of view, the most interesting security risks are probably the social problems. If we want to strengthen social security, we have to ensure that all people feel included in the society, and societies at all levels. The problem for the people is to find and organize the acts that give them more economical, social, political and psychological power in their own life. Thus empowerment produces more security, as the more economic, social and psychological self-confidence you have, the safer and more secure you feel.

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Institutions and stability: the Arctic case

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What role do international institutions play in creating and maintaining stability in a given region of the world? The question will be approached here by proposing an empirically based framework for the relationship between institutions, stability and security;¹ and then by applying it to the circumpolar Arctic zone. The present roles of institutions existing in or impacting on that region will be explored, and some questions raised about the future.

Roles of institutions

The term ‘institution’ is here applied to any grouping of more than (say) 2 or 3 states, which meets more or less regularly and has some kind of consistent title, agenda and identity. An entity of this kind can affect regional stability and security conditions in two basic ways: through the difference it makes simply by ‘being’, and what it achieves by ‘doing’. The mere existence of an institution has *process costs* and *process effects* defined by how it operates, but also by the difference its creation makes from conditions prevailing before. Even a ‘light’ institution with no permanent secretariat or central

¹ This paper adopts the wide definition of ‘security’ developed by institutions like the OSCE, NATO and EU and by individual European states since the 1990s. For an example see (OSCE 2003), and see the next section.

budget demands time, money and energy from those who attend its meetings. On the positive side, the mere fact of neighbouring nations joining together over previous barriers of ignorance, distrust or hostility can transform local relationships. It should help to dispel exaggerated 'enemy images' and to identify common ground, opening the way for common policies and actions.² Useful chances also arise in the 'corridors' of formal meetings, and at social events, for discreet exchanges that may in several ways promote understanding, defuse confrontations and thus reduce conflict risks. Last and not least, the chance for a state to hold a rotating chairmanship and host group meetings can help to build its self-confidence, diplomatic skills and prestige, bolstering a national identity that allows pride without rejection of the 'other' (Gudjónsdóttir 2007).

What institutions actively 'do' for stability and security covers a huge range of variation, from those that (at best) produce fine-sounding declarations, to those (like the EU or NATO) that carry out large-scale, wide-ranging activities both within their own territory and beyond. The minimum level of value added by the institution itself starts when it has a chairperson or other central point to serve as coordinator and 'post-office'. Most institutions go at least some way further towards the pooling of funds, execution of projects or longer-term activity programmes, establishment of subordinate bodies, forums and networks, publications and information work, and/ or dialogue and partnership with non-member states and other groupings. In an extreme case, the institution may acquire *supranational* elements with independent powers and budgets of their own, such as the Commission, Court of Justice, Court of Auditors and to a lesser degree the Parliament within the European Union (EU) system.

Even the most advanced institutional roles of course depend on nation-states to pay for them, and to pool the resources or competences they require. But transferring the point of action to the institutional level does make a practical difference. Most obviously, pooled efforts can have greater impact than any state could achieve on its own, under an international free-for-all. But the collective institutional 'label' also matters: making it less problematic (for instance) for beneficiaries to accept the institution's help than if it came from a single state that might expect allegiance or another *quid pro quo* in return.

Institutions and security

Agendas and motives

The analysis so far could cover any kind of institutional agenda; what specific functions and impacts may institutions have in the sphere of security as such? The answers cover a wide range (Bailes and Cottey 2006) but for convenience may be split into two categories: those concerning traditional military aspects of defence, armed conflict and weaponry (often called 'hard' security issues); and those dealing with threats and risks that arise in the civil sphere and/ or are tackled primarily by non-military means. The summary in table 1 is tailored for Northern hemisphere conditions: a region of developing states could have quite different priorities.

² In International Relations theory, the concept of Social Constructivism explores inter alia how the development of groups (including groups of states) comes to affect the subjective views and behaviour of their members – see (Baylis et al. 2011).

All the items in table 1 are on the agendas of one or more European institutions, but given this paper's title, we may question how they relate to 'stability' as such. 'Hard' aspects of cooperation relate most directly to peace in the sense of conflict avoidance and management. Close alliances between states, and agreements among less friendly ones – including measures of self-restraint like arms control – reduce the risk that these states will fight each other, but also help the region to withstand external threats and to bargain with other (national or institutional) powers. Strong regional military groupings threaten stability only if and when they clash within the region; trigger violence with outside forces; or – some might argue after the experiences of Iraq and Afghanistan pursue foreign 'peace' missions too aggressively. Why, however, should the matters in the second list be linked with stability and security, when they arise in distinct areas of public policy and mostly have no link with deliberate violence, let alone the use of arms?

Table 1: Two areas for institutional action on security

Defence- and Conflict-related
Defence alliance
Conflict prevention and avoidance
political: dispute resolution, mediation
material: arms control and disarmament, confidence and stability building measures (CSBMs)
Collective peace missions at home and/or abroad, from monitoring to combat-like 'peace enforcement' (including civilian elements)
Other military cooperation (eg reform, specialization) and armaments collaboration
Non-Military or Civil Security
Non-state threats: terror, crime, WMD proliferation, (non-state) cyber-attack, piracy, smuggling
Border protection and management, migration control (asylum-seekers, refugees, trafficking etc)
Internal law and order
Accident and disaster planning/response (natural and manmade events)
'Soft' security cooperation: economic and financial, energy, other vital supplies inc. food, transport security and other critical infrastructures, environment protection, climate change response, epidemics and public health, etc.

The answer is that they do not have to be. The question of why and how issues acquire a 'security' label has been explored by 'securitization' theorists, often also called the Copenhagen School (Emmers 2010). They argue that a phenomenon or policy field becomes defined as a security matter when someone in authority calls it so, and when the 'audience' agrees to allow security-style remedies, usually tougher than normal, to be applied.³ Normally leaders make the definition and

³ Securitization theory perhaps over-plays this point, since modern policy-makers may choose to approach tough security problems with softer, indirect methods ('addressing the causes', etc). However, a security label almost invariably conveys higher priority for public spending.

the people acquiesce; but the reverse is possible if grass-roots fears drive the authorities to act. Thus different 'security' agendas may be defined by different states, regions, and even sub-state communities, while security priorities also evolve over time.

Applying this perspective to the second issue-list: challenges like terrorism, violent crime, or piracy are likely to be felt as security issues by most people. The violence and disruption they bring not only damages people but affects the state's ability to defend its borders and keep order at home. Large accidents and natural disasters can have similar effects if the state is weak – *vide* the Haiti earthquake. Issues like economic management, finance, energy or infrastructure, however, offer more choice in classification. They may remain areas of civil public policy in their own right, without security connotations. Alternatively, specific aspects within them may be singled out as security challenges: e.g. hijacking within aviation safety, or money-laundering and terrorist financing within financial policy. Finally, a state or institution may define something like energy supplies or financial stability as a security issue *per se* because of the severity of damage if the system fails, and/or because they see some other actor deliberately threatening their interests in this sphere. A 'soft' issue can also be securitized when it affects 'harder' interests of the community: thus energy blackmail could damage national autonomy, an economic crash may decimate defence spending, etc.

It is important to stress, however, that securitizing an issue is not the same as 'militarizing' it. Even violent challenges like terrorism can be tackled with military force only to within strict limits, under specific conditions: most anti-terrorist work takes legal, political, economic and other 'civilian' forms. Military methods have similarly limited application for protecting economic, financial, energy or transport interests (e.g. freedom of shipping). On the other hand, military forces and assets may be brought in as a practical tool for purely 'civil' problems like natural disasters or search and rescue.

Further, states may select issues for institutional cooperation for reasons intimately linked with security, but without using that word to define the topics or to explain their rationale. This happens especially when security relations with the relevant cooperation partners have been tense, or domestic opinion is sensitive. Successful neighbourly cooperation in such cases still boosts stability, through the mere fact of dialogue as well as any concrete measures agreed. This deliberate hushing-up or sidelining of security implications is logically enough called 'de-securitization' by the Copenhagen School. Analysts have detected it in the story of North European cooperation with Russia, as also discussed below (Joenniemi 1999).

Multi-institutional patterns

The broader modern concept of security also widens the range of institutions that can be seen as having security effects, making it unlikely that any given region today will conduct all its security-related work in a single body. Typically, different parts of the security spectrum will be dealt with by a number of institutions relating to each other either *vertically* (smaller groupings within larger ones) or *horizontally* (undertaking different tasks in the same geographical space). Thus in Europe's case, some challenges still demand global cooperation – epidemic response is led by the WHO as a UN agency. *Vertically* below the UN come the OSCE and Council of Europe, covering the

continent in its widest definition across to Central Asia.⁴ Below them come the EU, NATO and groups made up of Russia and its neighbours:⁵ and finally come the ‘sub-regional’⁶ groups of neighbours like Benelux, Nordic Cooperation and the Council of Baltic Sea States. An issue like WMD smuggling or pollution control could be addressed at all these levels if it also demands different levels/intensities of cooperation. *Horizontal* division of labour occurs notably between NATO, dealing with joint military defence of its members’ territory; and the EU, which began in the 1950s with predominantly economic competence but now covers all the rest of the security spectrum, from military peacekeeping through to health and consumer protection.

Thus far, the focus has been on multi- state (inter-governmental) institutions; but the modern division of labour on security and stability involves other types of actors too. First, cross-border cooperation between *local government* (provincial) authorities has been on the upswing in Europe since the Cold War, often involving more than two states where their borders converge.⁷ It achieves ‘process’ effects for stability by building common interests and good-neighbourly feeling across borders, and may also address security-related issues like frontier management, infrastructure safety and environment protection. Secondly, *non-state actors* like private business enterprises, non-governmental institutions, social groupings, and the independent media play multiple roles both in shaping/influencing the actions of inter-governmental groups, and performing direct security functions. The ‘softer’ the domain of security, the more likely that the private business sector and/or other non-state players will own or at least manage the assets and activities involved. Aside from maintaining services like public transport, communications, and water and food delivery, private actors can get involved in security by lending the state their hardware, software and human expertise; carrying out delegated tasks (e.g. in guarding, first aid and rescue); and cooperating directly with each other across borders on aspects under their own competence.

If this analysis is starting to sound over- complicated, it reflects problematic aspects of the reality too. The pattern of state and non-state institutions in any region is more like a messy, bottom-up-built shanty-town than an architect-designed model city. Only rarely do the designers/developers of different groupings bother to consult and de-conflict their efforts, even when the same nations are involved. The result can be confusion, overlap and duplication of effort, leading sometimes to outright competition between institutions claiming to serve similar values. EU-NATO tensions are a familiar problem, but the larger European institutions OSCE and Council of Europe have also quarreled about overlapping competences in the field of democracy and human rights.

Such problems may initially be traced to competing secretariats, but considering where the institutions’ money and instructions come from, they also imply a certain schizophrenia in national capitals. Different national ministries and political groups may prefer different institutions (the Right being more pro-NATO, for instance); or the nation itself may be ‘acting out’ different roles in institutional arenas that reflect still unreconciled facets of its own security culture and identity

⁴ Websites at <http://www.osce.org> and <http://www.coe.int> respectively

⁵ Notably the Collective Security Treaty Organization (CSTO) for military work, EURASEC for economic cooperation and the older, multi-functional Commonwealth of Independent States (CIS).

⁶ The term ‘sub-regional’ is used here for neighbourhood groupings smaller than the EU and NATO, following the logic that (1) the OSCE uses the term this way and (2) the UN views OSCE as the recognized ‘regional’ organization for all Europe. See (Cottey 1999).

⁷ Examples supported by the European Union include the Czech/Slovak/Austrian/ Hungarian border region near Vienna, and the five-nation Trans-Carpathian area.

(Bailes 2009). Finally, it is remarkably hard to get rid of an institution that has exhausted its usefulness. The results of all these factors include not just institutional overlap and tension, but also illogical gaps in institutional coverage.

Assessing regional needs

It would be tempting but wrong to try to cut through the complexity by drawing a 'model' institutional design for regional stability. The diversity of regional institutional patterns world-wide is neither an accident nor a necessary sign of failure. It tells us rather that each regional family has its own needs, options, and cultural/political/ psychological preferences (Crocker *et al.* 2011). Institutions also take time to evolve: from the first cautious moves for dialogue, to permanent constructions, and later to enlargement or reshaping. The patterns that they form will be affected by states' own feelings on issues like the presence and nature of shared regional interests; whether diversity among (and within) states breeds tolerance or hostility; and how readily governments will cede part of their sovereign powers for greater collective efficiency. Macro-issues like the presence or absence of a single large regional power, the influence of an outside power, whether the region is basically self-sufficient in security, and indeed whether it can 'export' major security contributions also greatly affect both the shape of local institutions and their external standing.

Crude comparisons of regional 'progress' that ignore these factors are unfair, and trying to impose on a region more 'togetherness' than it can objectively and subjectively sustain is usually self-defeating. Care is thus needed in using words like 'strength' or 'weakness' about a given institution in its regional setting. An institution that controls armed forces is not necessarily 'stronger' than one that manages ('desecuritizes?') inter-state relations so as to banish conflict, and/or successfully tackles non-military hazards affecting the daily lives of millions. Cooperation in the form of EU-style unitary, binding common regulations is not necessarily the 'strongest' model for purposes of peace and stability, even if it can be judged the most *intensive* or *advanced*. As the EU itself has learned more than once, pushing top-down integration too fast can provoke a bottom-up backlash that undermines the hopes of further progress.

Finally, simplicity in institutional patterns is not a virtue per se but depends on what the actual challenges are. If they demand different responses from different sub-sets of neighbours, adding a sub-regional tier of institutions makes sense.⁸ If a state finds it easier to integrate in one domain (say economic security) than others (say military defence), it will be convenient to cover these functional agendas in different institutions. If cooperation is needed both with close friends and less friendly nations who share certain concerns, smaller deeply integrated groups can coexist with larger ones seeking stability in diversity. Lastly, a complex system creates multiple options for developing institutions further, as security needs, perceptions, and outside relationships may dictate.

The Arctic case: characteristics

How can this analysis be applied in the Arctic? First of all, it immediately undercuts the argument that the region's security and/or governance is in trouble because it lacks a single treaty structure, or single omnicompetent institution. Antarctic comparisons are misleading here because the Arctic

⁸ This reasoning is accepted by the EU in the doctrine of 'subsidiarity', which posits that a task should be addressed at the lowest level that makes for efficiency.

is an inhabited region with land territories under the long-standing sovereignty of nation states, whose oceans have been exploited for both defence and economic purposes at least since the fifteenth century. Each of the eight full member states of the Arctic Council⁹ – Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden and the USA – belongs to at least four security-relevant institutions (on top of the UN), and is thus at home with the multi-institutional approach to security building. If for this and other practical or political reasons, local nations reject the idea of a new ‘Arctic Treaty’, it is difficult to see how anyone else could impose one upon them. Moreover, such a monolithic solution might not be ideal in objective analytical terms. Following the argument above, the diagnosis should rather start with *what kind of region this is*; what process needs and functional needs its existing institutions are designed to meet; whether they are fit for that purpose, and how well they can meet foreseeable new demands in future.

The feature of the Arctic most often stressed is its (relative) peacefulness, transparency and predictability over a long period – in a word, *stability*. This might not seem surprising in a region so thinly populated, with a limited range of economic activity, and whose remoteness and arduous conditions make it hard to imagine any outside power making a ‘grab’ for it. What makes Arctic stability a genuine achievement is the diversity, in every sense, of the nations surrounding the North Pole: ranging from two of the world’s largest powers (USA and Russia), through a large state with modest population (Canada), to the small Norway and Denmark – the latter present by virtue of Greenland – and the very small Iceland, with less than a third of a million inhabitants. One of the things they do share, a keen sense of national identity and regard for sovereignty, makes them *a priori* difficult candidates for any deeply integrated venture.¹⁰ Throughout the Cold War, Russia – then the Soviet Union – was the military and ideological foe of the remaining circumpolar states, all of them NATO members since 1949. Further, several maritime boundaries between Arctic neighbours (and the ownership of certain islands) have remained under dispute, although one uncertainty has been resolved with the Russian-Norwegian maritime demarcation agreement of September 2010 (see map by Durham University 2011). Elsewhere in the world such factors might well produce tense confrontations, efforts by the contenders to undermine each others’ security in every dimension, and potentially, armed violence.

Instead, the Arctic both before and since Russia’s October Revolution has been a space where neighbourly cooperation is closer to the surface (literally!) than confrontation. There are long traditions of peaceful, collaborative scientific exploration and monitoring, with the focus on natural phenomena. The widespread exploitation of fisheries has not led to significant physical clashes (unless with outsiders – the British-Icelandic cod wars). One strategically located territory, the Norwegian-owned archipelago of Svalbard (Spitsbergen), is governed by a treaty regime preventing militarization and allowing all treaty parties an economic presence.¹¹ In terms of non-military security, modern nation- building and economic exploitation have carried a cost of cultural, social and even physical damage for the small indigenous populations: but since the late 20th century the norm has shifted in favour of protecting both the existence and the rights of the survivors. Regional institutions go unusually far in giving indigenous peoples direct representation and influence, and

⁹ <http://www.arctic-council.org>

¹⁰ Of this set of states only Denmark is in the EU (though Iceland has now applied), and it has four opt outs from the Union’s more intrusive policies.

¹¹ Spitzbergen Treaty 1920, at www.lov- data.no/traktater/texte/tre-19200209-001.html.

– in the West at least – there have been varying degrees of movement towards recognition of their land rights and political self-governance.¹²

Yet the Arctic as a whole is far from demilitarized. Nuclear-armed submarines patrol below the ice, while strategic nuclear weapons confront each other from US and Russian bases and all circumpolar states except Iceland maintain air and naval forces in the North.¹³ Though tensions have eased since 1990, the region has seen a relatively smaller drop in military preparedness than – for instance – Central Europe or the

Mediterranean. To understand how this factor can coexist with and perhaps even serve regional stability, four points seem crucial. First, given the limited relevance of ground force operations in the Arctic, there has never been a large-scale nose-to-nose confrontation with the linked risks of violent accidents and permanent burdens on front-line populations. Accidental collisions between air and naval assets may happen, as recently between a French and British submarine, but are typically small-scale, easy to diagnose and to isolate for crisis management purposes. Secondly, the traditional strategic value of the Arctic space has lain not in its contents but its use for transit in war, further reducing the motive for active contestation over territory and resources in peacetime.¹⁴ Thirdly, the very fact that it is NATO and Russia who confront each other, i.a. with nuclear forces, raises the stakes exceptionally high: imposing a certain discipline and – at least so far – deterring any adventure that might escalate. Lastly, other actual and potential factors of violence are abnormally weak. Intra-state conflict or major civil disorder is virtually unknown, as are terrorism and violent organized crime – all things that may also breed inter-state tensions and start a slide towards war. In fact, the Arctic security spectrum has for long been largely ‘empty in the middle’ between the highly schematized military confrontation at one end, and challenges in the ‘softest’ dimensions of environmental security and economic/social welfare at the other.

The Arctic case: institutions

If these factors on balance favour Arctic stability, what institutional regime might in principle best reinforce them? Three observations flow from the generic model above:

- closely integrated, homogenizing institutions of the EU type are ruled out both by local states’ diversity in size, system, and (for Russia) arguably in norms, and also by national preferences;
- as ‘hard’ security postures are divisive and driven by motives, forces and alliances originating outside the Arctic, no regional arrangement can realistically be expected either to replace or override them. This calls for a ‘de-securitizing’ approach that sidesteps the military agenda to find security dimensions (without necessarily naming them as such) where neighbours have more common or compatible interests;
- institutional effects (through ‘being’ as well as ‘doing’) that help reduce tension and build understanding, also among non-state players, will be at a premium - including cross-border cooperation where applicable.

¹² For several relevant studies see (Alfredsson and Koivurova 2011).

¹³ The US missile defence facility at Thule in Greenland may also be mentioned.

¹⁴ WW2 hostilities by sea and land in the High North prove the rule, as they were a side-theatre of a conflict launched among non-Arctic powers.

Sure enough, today's Arctic is occupied by notionally 'weaker' forms of sub- regional organization, none of which imposes intrusive harmonization or directly addresses military issues. The Arctic Council (AC) created in 1996 fits all these prescriptions. By its sheer existence and the informal 'corridors' it provides, it supports the peaceful coexistence of circumpolar nations and reinforces ties between them and its other members, Sweden and Finland. Its scientific and ecological work has always benefited environmental security; and more recently, it has started addressing issues of functional security and emergency management – shipping codes, search and rescue, oil spills – where Arctic nations' goals are both compatible and globally beneficial.

More specialized sub-regional needs are also catered for. In the European Arctic, the Barents Euro-Arctic Council (BEAC)¹⁵ has since 1993 allowed Russia and its Nordic neighbours to work together, both at government and provincial level, on border management and cross-border cooperation. Like the AC, BEAC provides direct representation for indigenous peoples and consciously seeks to engage local administrations and relevant non-state actors. Since 1999 the EU has had its own Northern Dimension (ND)¹⁶ scheme where the same nations take the lead, backed politically and financially by Brussels. BEAC and ND both address civil and human security issues like accident response, anti-smuggling or disease control, while tacitly helping to allay 'harder' tensions with Russia. A further sub-set of the AC consists of the five states describing themselves as 'littoral' (ie, having substantial land territories above the Arctic Circle), who held two Ministerial meetings in Greenland in 2008 and Canada in 2010. While Finland, Iceland and Sweden have condemned such moves as divisive,¹⁷ the states concerned would argue that they are responsible both for the Arctic's best-known conflicting territorial claims and its navigable coastlines: making it particularly desirable for them to reach some basic understandings. Their Ilulissat declaration (Ilulissat, 2008) expresses determination to resolve all disputes peacefully, protect the environment and local peoples, cooperate in maritime security and respect the UN Law of the Sea Convention (UNCLOS).¹⁸ This is a rational prescription for Arctic stability, attuned to regional conditions both in content and in its purely political and voluntary character.

Mention of UNCLOS, however, underlines that conditions in the Arctic are not shaped only by its local institutions. Other UN agencies like the UN Environment Programme (UNEP) have relevant competences, as does the World Maritime Organization (WMO) - recognized by AC members as the best place to develop rules on safe and environment-friendly navigation. Europe's pan-continental organizations, OSCE and the Council of Europe, have not yet been active in the Arctic (Bailes, 2011), but NATO has substantial influence through 'over-the- horizon' deterrence and its own efforts to stabilize relations with Russia. The EU is present through the Northern Dimension, and has impact in several relevant fields of governance where Denmark, Sweden and Finland (though not Greenland)¹⁹ observe its rules as full members, and Iceland and Norway observe those of the European Economic Area (EEA) and Schengen border control regime.²⁰ The USA

¹⁵ <http://www.beac.st>

¹⁶ http://www.eeas.europa.eu/north_dim/index_en.htm

¹⁷ Iceland also objects on the grounds that it too should be termed a 'littoral' state.

¹⁸ The USA has not yet ratified UNCLOS but the Administration wishes to do so and has pledged to follow its relevant rules voluntarily.

¹⁹ Greenland has opted out of Denmark's EU membership, as have the Faeroes.

²⁰ For more on this see (Bailes 2010).

and Canada are linked (for their whole territory) through the North American Free Trade Area, NAFTA, and joint air defences.

In sum: the Arctic is a space where local institutions play a positive and quite ‘strong’ role in stability, precisely through what others might see as their ‘weakness’: their non-constraining, inclusive mode of governance, their accommodation of diversity, and their selective, ‘de-securitizing’ approach to strategic agendas. While suiting the region, they have also served the world – notably in terms of environmental security. The full explanation of Arctic stability, however, lies only partly in what these institutions are, do, and abstain from doing. Without UNCLOS and other specialized global norms, there would be no foundation for such diverse neighbours to agree on a regulatory framework. Without NATO – both its strength and its self-restraint – there would be no established military balance and deterrence. Without the economic benefits provided to various circumpolar states by the EU, EEA, NAFTA, Russia’s regional and global trade partnerships, and arguably even membership in the G20 and international financial institutions, it is questionable whether local populations would enjoy the level of prosperity and access to global goods that they do, and whether central governments could sustain the level of subsidies that some communities need.

In conclusion: changes and consequences

Unique in many ways, the Arctic thus resembles other regions in having a complex, multi-institutional prescription for security. It is also not unusual in being exposed to change that could make its present stability unstable. Everywhere in the world, institutions both weak and strong are under pressure to evolve in face of new conditions and challenges. The latter are, however, particularly formidable in the Arctic. The progressive opening of ice-free spaces will create possibilities – though exactly when is unknown – for exploitation of sea-bed hydrocarbon and mineral deposits, new fisheries, large-scale commercial transport along coastal routes and eventually across the Pole, and also tourism. Secondary effects imply the creation of large new infrastructures, population in-flows and major socio-economic and cultural changes for existing inhabitants. Permafrost melting could at the same time be disrupting extractive work on land and undermining (literally) existing infrastructures and communities. The security implications cover the whole spectrum: from man-made legal, political or even military clashes, through the possible rise of criminality and disorder, infrastructure failures and accidents, environmental damage and more frequent natural disasters, to aggravated pollution and disease risks and other hazards for human security. The governance framework is itself a variable, as new sets of official actors are bidding to join the game – most obviously the EU, China, Japan and South Korea²¹ – and non-state actors both from private business and the NGO sphere will play perhaps equally critical roles.

At least two broader elements of stability could weaken in consequence. New resources will make the Arctic a prize and goal per se, not just a transit space; and scope for internal (possibly cross-border) violence and disorder will increase. The insertion of new, state and non-state players could also be destabilizing: but that depends on the nature of their engagement and behaviour, and it is not excluded that they might even improve balance and settled governance. It would be difficult

²¹ Another potential new element would be an independent Greenland.

for any new power to ‘invade’ with a major military presence, and if NATO remains viable (admittedly, an issue in itself) some basic strategic restraint will continue. Further, two components of regional stability common elsewhere but so far alien to the Arctic might be introduced: direct economic interdependence (for example via shared investments in extraction and infrastructure), and explicit restraint regimes such as protected areas, military no-go zones and/or confidence-building measures.

Institutional responses will be shaped by the will of states (perhaps increasingly also outside ones) and the nature of concrete challenges, more than by any rules of theory. However, as a starting-point for further discussion five main options may be distinguished:

1. Strengthening of the Arctic Council and/or other intra-regional groups. This is already under way (Arctic Council 2011) but the question is how far it could be pushed without losing members’ consensus and the benefits of ‘weakness’. Another conundrum for the AC is whether stability profits more from keeping ‘new powers’ out or embracing them;
2. Strengthening of UN oversight going beyond the present significance of UNCLOS and IMO, possibly involving the Security Council;
3. Involvement of pan-European organizations, notably OSCE (for restraint measures, human security and rights etc);
4. Stronger EU involvement notably as an economic and environmental actor, and/or more explicit (not necessarily more aggressive or intrusive) NATO policies;
5. Extension of existing, or creation of new, purely political groupings to manage coexistence in an evolving group of key nations.

The Arctic states at present have diverging, often negative, attitudes to each of these paths. They all claim, however, to want a peaceful, stable, responsible future for the region; and given the magnitude of contextual changes, they cannot realistically expect to achieve that without some evolution also in institutional concepts and action. Time will tell: but experience suggests the banal conclusion that institutional adaptation will be belated, confused, and probably combine several solutions anticipated or not anticipated above.

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Appendix 1: Annual Calotte Academies in 1991-2019

This is a list of the annual academies in 1991-2019, including dates, locations & routes, themes and sessions titles, numbers of participants, and those of presentations and sessions.

May 23-24, 1991 in Inari with the theme, *Security, the Environment and Sustainable Development*, and session titles: “The Needs of a Centre and the Environment of a Periphery”, and “Sustainable Security or Safe Development?”; Circa 25 participants; 14 presentations in 2 sessions.

May 21-23, 1992 in Inari with the theme, *Future, Environment and Sustainable Development*, and sessions titles: “Local experiences and ideas”, “Strategies for the future – what are they?”, and “A state of the environment in the North Calotte”; 48 participants, and 10 presentations in 2 sessions + panel with 6 panelists.

May 20-22, 1993 in Inari and Svanvik with the theme, *Regional Cooperation, Self-determination and Sustainable Development*, and the session titles: “Land Claims and Sea Law in the Northern Areas and Seas”, “From Environmental Problems to Social Solutions” and “The Strategy of the Arctic for the Future”; Circa 30 participants, and 13 presentations in 3 sessions.

May 26-29, 1994 in Inari, Svanvik and Nikel with the theme, *Regionalism in the Barents Region / the North Calotte*, and the sessions titles: “Possibilities and Forms of Regionalism”; “The North Calotte as an Economy Region”, “Security Policy in Transition in the North Calotte”, and “Environmental policy in the North Calotte”; altogether 64 participants, and 19 presentations in 4 sessions.

May 18-21, 1995 in Nikel, Kirkenes and Inari with the themes, *The European Union in the Barents Region* and *Regime for the Arctic*, and the session titles: “The European Union in the Barents Region I & II” and “Regime for the Arctic I & II”; altogether 76 participants, and 21 presentations in 4 sessions.

May 29 – June 1, 1996 in Inari and Kiruna with the theme, *Economy of the European North / Barents Region*, and the session titles: “The Barents Region as an Economic Region in the EU Context”, “The Barents Region as a Multiple-Use Region”, “Kiruna as case Study”, and “Alternatives for the Development of the Barents Region”; altogether 73 participants, and 18 presentations in 4 sessions.

April 25-26, 1997 in Rovaniemi with the theme, *Northern Dimension and Alternative Scenarios in the European North*, and the session titles: “Institutionalization and Regionalization in the North”, “North-West Russia in the 1990s”, “Northern Dimension and Policy of the Arctic States”, and “Alternative Scenarios of the Future in the European North”; 28 scholars and other experts, and 14 presentations in 4 sessions.

June 3-4, 1998 a town-hall meeting on *Understanding the Impacts of Global Changes in the Barents Region* in Inari with a few scientists and bigger local audience including Saami fishermen, hunters and reindeer herders. And in beginning of October first, a fact-finding Field Trip to Murmansk, Nikel, Kirkenes and Svanvik, and second, October 9-10, 1998 a Think Tank seminar in Rovaniemi with the theme, *The European North - Hard, Soft and Civic Security*, and the session titles: “Transition to Civic Security in Russia”, “Changes in Problem Definition in the European North?”, and “Security as a part of Northern Dimension in North Europe”; 24 scholars and other experts, and 13 presentations in 3 theme sessions.

June 17-18, 1999 in Euro-City 'Hapatornio' (Tornio and Haparanda) with the theme, *Civil Society, Democracy and Security of Everyday Life of People*; 26 participants and 17 presentations on 4 sub-themes.

May 6-7, 2002 in Inari with the two-fold theme, *Population Dynamics and Human Capital in the European North*, and *Traditional Knowledge and Application(s) of New Technology*, and the sessions titles: "Population Dynamics and Wellbeing of Northern People", "Information and Knowledge", "Reindeer meat in Politics - Technology in Reindeer herding", "Opportunities for the European North"; 33 participants and 15 presentations in 3 sessions, and a roundtable with 7 panelists.

April 4-6, 2003 in Rovaniemi (in cooperation with Barents Press Annual Meeting) with theme, *Regional Dynamics and Challenges of Democracy in the European North*; Slogans: "Is the North needed to be populated?" & "Democracy, old structures and new challenges"; 25 professionals and 18 presentations in 4 sessions.

August 13-15, 2004 in Saariselkä, Inari (back-to-back North Calotte Conference) with the theme, *The Developing Calotte*; The roundtable theme "Human development in Northern regions"; 3 presentations in 1 session.

May 26-28, 2005 in Inari with the two-fold theme: *Role of Science and Research in Regional Development of Northern Regions, and Cold Climate Research and Technology in Finland and Lapland & State of Human Development, and Impacts of Climate Change in the Circumpolar North and North Calotte*; 42 participants, and 21 presentations in 2 theme sessions and a Town Hall meeting.

May 19-22, 2006 in Inari and Kirkenes with the themes: *Inari in the middle of North Calotte and in a periphery of Europe & Multiculturalism in Lapland*, and the panels: "Inari in a middle of North Calotte and a periphery of Europe", and "Multiculturalism in Lapland"; 42 participants and 16 presentations in 3 sessions.

June 14-18, 2007 in Inari, Kirkenes / Svanhold and Murmansk with the theme: *The New Northern Dimension*, and the session titles: "Life quality and health of northern residents and Indigenous peoples"; "Stability and security", "Cross-border cooperation and issues", "Northern natural resources and environmental protection", "Culture and identity", "Economic cooperation and regional development" and "New northern dimension of research, development and industry"; 30 participants and 23 presentations in 7 sessions.

May 22-26, 2008 in Inari, Kirkenes and Murmansk with the theme: *Climate Change Defining Human Security*, and the integrated sub-themes: "Climate change as a new discipline for disciplining?", "Climate change and livelihoods", "Climate change and indigenous peoples", "Climate change, oil drilling and transportation", "Climate change and alternative energy", and "Climate change, sovereignty and international law"; 31 participants and 27 presentations in 6 sessions.

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May 28 – June 1, 2009 in Inari, Kirkenes and Murmansk with the theme: *Environmental Politics and Industrial Development*; Public session titles: “‘Politicization’ of the Environment, and (International) Environmental Politics”, “Societal Impacts of Industrialization and Transportation, and Environmental Protection (in the Eurasian North)”, “Industrial Development and Societal Impacts of Industrialization (in the Eurasian North)”, and “Environmental Degradation and Conflicts, and Environmental Protection”; 32 participants and 27 presentations in 7 sessions.

April 7-13, 2010: Salla, Inari, Apatity and Murmansk with the theme, *The High North in World Politics and Economics*; Session titles: “Economics, Resources, and Development”, “Energy and Energy Security”, “Policies and Strategies of Arctic States” and “Regionalism and Region-building in the High North”; 26 participants and 19 presentations in 9 sessions.

May 26 – June 1, 2011: Inari, Kirkenes and Apatity with the theme, *From Circumpolar Stability toward Nordic Peace*; No session titles; 34 participants and 31 presentations in 7 sessions

May 28 - June 4, 2012 in Kiruna, Abisko, Tromsø and Inari with the theme, *Water – globally and in North Calotte*; Session titles: “Water globally and as a universal thing”, “Water regionally in the Norther Calotte”, “Water as a factor of regional development”, “Hydropower and regulation power”, “Water and decision-making”, “Understanding water resources in a rapidly changing Arctic”, and “Fisheries, shipping and searching in Northern Seas”; 27 active participants with a presentation, and written report, in 10 sessions & roundtable discussions.

May 16-23, 2013 in Rovaniemi, Inari, Tromsø, Kiruna with the theme, *Resource Geopolitics – Energy Security*; Session titles: “Resource geopolitics, energy security and mining (in the Arctic)”, “China and the Arctic”; “Alternative / bio energy vs. strategic resources and energy security”, “Land use in reindeer herding areas”, “Land use in reindeer herding area, and introduce to education on reindeer economy”, “An Arctic Paradox”, “Environmental issues”, “The Arctic Council”, “Voices, resources and governance in the production of Arctic futures”, “Knowledge about the past and a resource for understanding futures”, and “Regional voices on resource governance and energy security”; 38 active participants with a presentation, and written report, in 11 sessions.

June 1-8, 2014 in Rovaniemi, Inari, Kirkenes, Murmansk and Apatity with the theme, *Resource Geopolitics – Sovereignty*; Session titles: “Sovereignty in the globalized Arctic”, “Discourses on security and safety”, “Indigenous people’s rights, resource exploitation and public interests”, “Discourses and debates on land use and exploitation of resources”, “Ecological risks and crises, and ecosystem-management measures”, “Economic development vs. regional development”, “Russia as a part of Europe – EU-Russian relations”, “Resource geopolitics – from exploitation to sustainability?”, and “Nation-building and region-building in the North”; 37 active participants with a presentation, and written report, in 10 sessions.

May 31 - June 7, 2015 in Rovaniemi, Salla, Inari, Murmansk and Apatity, and Kirkenes with the theme, *Resources and Security in the Globalized Arctic*; Session titles: “Resources, energy and security”, “International cooperation, Arctic strategies, science diplomacy and security”, “Human and social capital, “Environmental management”, “Sustainable / regional development”, and “The Environmental military strategies and security”. Session titles: “Resources, energy and security”,

“International cooperation, Arctic strategies, science diplomacy and security”, “Human and social capital, “Environmental management”, “Sustainable / regional development”, and “The Environmental military strategies and security”; 38 active participants with a presentation, and written report, in 10 sessions.

May 30 - June 5, 2016 in Inari, Finland, Kirkenes, Norway and Murmansk with the theme, *Resilience related to Sustainable Development in Globalization*; Session titles: “About resilience and sustainable development – theoretical discussion”, “Resilience and sustainable development by regions and sub-national governments”, “Arctic tourism”, “About resilience and sustainable development – (best) practices”, “Freedom of expression and media”, “Urbanization and regional development of the Arctic”, and “Resilience and sustainable development, and oil & gas drilling in the Arctic”; 33 active participants with a presentation, and written report, in 8 sessions.

June 1 - 11, 2017 in Inari (Finland), Kirkenes (Norway), Murmansk and Apatity (Russia) and Umeå (Sweden) with the theme, *Perceptions of the Arctic: Rich or Scarce, Mass-scale or Traditional, Conflict or Cooperation?*; Session titles: “Outsiders’ perceptions of the Arctic”, “The Sami and energy diversity”, “Energy”, “Security”, “Arctic urbanism and tourism”, “Science diplomacy”, and “Sustainability and communities”; 29 + 9 active participants with a presentation, and written report, in 8 + 3 sessions.

June 3-10, 2018 in Rovaniemi & Inari, Neiden & Kirkenes, Apatity & Kirovsk with the theme, *Discourses on the Arctic – (inter)disciplinary theories & methods of Arctic research*; Session titles: Perceptions and discourses on the Arctic, Calotte Academy as a method of research, supervision and learning, China and the Arctic, Indigeneity and Indigenous peoples, Geopolitics and exceptionalism of the global Arctic, Migration, inflows and future developments, The environment and security, Digital Arctic, Regional development for the Russian Arctic, Energy solutions for Russian Arctic, Russian discourses on the Arctic; 48 active participants with a presentation, and written report, in 11 sessions.

November 12-19, 2019 in Rovaniemi & Inari, and Neiden, Kirkenes & Kautokeino with the theme, *Future Arctic Societies: Scenarios, Innovations, Best Practices & Actors*; Session titles: “Digitalization as a driver for changes in the Arctic“, „Inari perspectives“, “Global change and non-governmental actors“, „Sami perspectives & education“, „Media and science communication“, Reindeer herding and Indigenous peoples rights“, „Arctic community development“; 24 active participants with a presentation, and written report, in 6 sessions and 3 excursions.

Appendix 2: List of Calotte Academy publications

Final Reports of the Calotte Academy 2005-2011 (as printed), and *Final Reports* of the 2012-2019 academies at <https://calotte-academy.com>

Climate Change and Human Security from a Northern Point of View. Eds. by Heininen & Nicol. Centre on Foreign Policy & Federalism, 2016. On-line: www.sju.ca/cfpf - Open access;

Nordia Geographical Publications, Volume 40: 4. *NGP Yearbook 2011* "Sustainable Development in the Arctic region through peace and stability". Eds. by Heininen & Rouge-Oikarinen;

Jäitä poltellessa. Suomi ja arktisen alueen tulevaisuus. Eds. by Heininen & Palosaari. TAPRI, 2011;

The Proceedings of Calotte Academy 2007 - New Northern Dimension. Faculty of Social Sciences, University of Lapland and Municipality of Inari, 2008;

Vital North! Security, Democracy, Civil Society. The Calotte Academy. Eds. by Grönick, Päiviö & Waller. STETE, Helsinki, 1999;

Security in the European North - from 'Hard' to 'Soft'. Eds. by Heininen and Lassinantti. Arctic Centre and Olof Palme International Centre, 1999;

BEARing the European North: the Northern Dimension and Alternative Scenarios. Eds. by Heininen & Langlais. Arctic Centre, University of Lapland, 1997;

Inari - Svanvik - Nickel. Kalottiakatemia 1994. Ed. Heininen. Arctic Centre, 1994;

Regionalism in the North. Eds. by Heininen & Katermaa. Arctic Centre, 1993;

Inari Kalotin keskellä ja Euroopan laidalla. Ed. Heininen. Arctic Centre, 1991.

Appendix 3: The Original Books, the Articles published first time at

The Arctic Yearbook 2019 (based on Calotte Academy 2018):

Gerald Zojer, “Free and open source software as a contribution to digital security in the Arctic”

Wilfrid Greaves, “Arctic break up: Climate change, geopolitics, and the fragmenting Arctic security region”

Nordia Geographical Publications, Volume 40: 4. NGP Yearbook 2011 (based on Calotte Academy 2011):

Teemu Palosaari, “The Amazing Race. On resources, conflict and cooperation in the Arctic”

Alyson JK Bailes, “Institutions and stability: the Arctic case”

Margret Cela, “Towards Nordic peace: a small state approach”

Jari Koivumaa, “Empowerment as a part of the peace and stability in the European North: a case of Lapland”

Audur Ingolfsson, “‘Go North, Young Man’ – Gendered discourses on climate change and security in the Arctic”

Sebastien Duyck, “Participation of non-state actors in Arctic environmental governance”

Simo Sarkki, “Payments for ecosystem services as a road to sustainability? A case of forest dispute in Muonio, Northern Finland”

Jussi Huotari, “Energy policy and (energy security) as a part of Russian foreign policy”

Climate Change and Human Security from a Northern Point of View (based on Calotte Academy 2008):

Svetlana Touinova, “Climate change & renewable energy prospects in North-West Russia, and energy security a part of ecological security...”

Lisa Cockburn, “Accepting uncertainty: The role of nonhuman agency in shaping responses to climate change”

Susan Crate, “Climate change and human rights: Making the case for Viliui Sakha of North-eastern Siberia”

Tuula Tuisku, “Impacts of climate change in everyday life in the Nenets Autonomous Okrug”

Willy Østreg, “The formation of extended security and climate change in the Arctic from 1987-2010”

Mikhail Kalentchenko, “Marine protected areas in Russian waters: Legal framework for a climate change resilience tool”

Heather Nicol, “Natural news, scholarly discourses and the Arctic: From new Cold War to ‘Business is usual’”

The Proceedings of Calotte Academy 2007 (based on Calotte Academy 2007):

Vladimir Didyk, "Tendencies of economic and social restructuring in the Murmansk region"

Vladimir Masloboev, "Status of the environment on the Kola Peninsula and its change as result of anthropogenic and technologic impacts"

Margrete Aanesen, "Economic cooperation across national borders – A battle of the sexes?"

Oliver Krone, Antti Syväjärvi and Jari Stenvall, "Information and Communication technology in the Northern Dimension's Arctic region – Taking stock of the status quo"

Vital North! Security, Democracy, Civil Society (based on Calotte Academy 1999):

Aino Saarinen, "Women's networks and prospects of women's and family policy in the northern region – Example: crisis centre project"

Olga Liapounova, "Crisis centre for women – help for everyday survival"

Security in the European North - from 'Hard' to 'Soft' (based on Calotte Academy 1999):

Jan Prawitz, "Some measures of confidence-building in the European North"

Ola Tunander, "Norway, Sweden and Nordic cooperation"

Arto Nokkala, "Perspectives on a Euro-Arctic Military Dimension"

Pertti Joenniemi, "The Northern Dimension: Allegiance or revolt?"

Timo Koivurova, "The legal status of international Arctic cooperation"

Douglas Nord, "The European North within a broader Arctic community: How does one build a northern network?"

Alexander Sergounin, "Russian policy towards the BEAR: From 'hard' to 'soft' security"

BEARing the European North: the Northern Dimension and Alternative Scenarios (based on Calotte Academy 1997):

Larisa Riabova: "Social consequences of the reforms in Russia: Toward a human social policy?"

Sveinung Eikeland: "The Action Zone in Nord-Troms and Finnmark"

Lassi Heininen: "The European North as a multiple-use region for different interest groups"

Inari - Svanvik – Nikel (in Finnish) (based on Calotte Academy 1994):

Elina Helander: "The Status of the Sami People in the Inter-state Cooperation / Saamelaisten asema valtioiden välisessä yhteistyössä"

Ulf Wiberg: "Calotte as an Economic Region in the World Economy / Pohjoiskalotti maailmantalouden osa-alueena"

Olli-Pekka Jalonen, "Conversion, Economic Integration, and Development in the Russian Calotte" /
Konversio Venäjän luoteisilla alueilla"

Sanjay Chaturvedi: "The Arctic Today: New Thinking, New Visions, Old Power Structures / Arktinen
alue tänään: uutta ajattelua, uusia visioita, vanhat valtarakenteet"

Håken R. Nilson, "Environmental Factors in Multilateral Cooperation. The Europeanization of the
Barents Region and the Organization of Environmental Cooperation / Monenkeskiset tekijät
ympäristöyhteistyössä"

Regionalism in the North (based on the Calotte Academy 1992):

Nicholas Flanders, "International Markets, National Security and Local Control: Oil in Arctic Alaska"

Olav Stokke & Rune Castberg, "Regionalization in the Barents Sea Area"

Kari Hakapää, "Some Observations on the International Regulation of Offshore Mineral Activities in the
Arctic"

Jyrki Käkönen, "Northern Peripheries in Europe"

Inari Kalotin keskellä ja Euroopan laidalla (in Finnish) (based on the Calotte Academy 1991):

Alexei Roginko, "Arctic Development, Environment and Northern Natives in the Soviet Union /
Arktisten alueiden kehitys, ympäristö ja alkuperäisväestö Neuvostoliitossa"

Steinar Pedersen, "The Traditional Way of Life, and 'Modernization' of Production / Norjan
saamelaisten perinteinen elämäntapa ja tuotannon modernisaatio"

Erkki Nordberg, "Potential Tensions in Icy Waters; Some prospects / Kriisimahdollisuuksia pohjoisilla
merialueilla – eräitä näkökohtia"

The Calotte Academy is an international travelling symposium and interdisciplinary academic seminar, a ‘School of Dialogue’ on Northern & Arctic issues with high expertise, participatory approach and strong educational component. Each annual event consists of a core group of open-minded people and talented minds, as well as local audiences in several locations in the European Arctic (Finland, Norway, Russia, Sweden and Sapmi) creating lively discussions between different stakeholders. The first academy took place in May 1991 at Jeera in Inari, and since then it been arranged annually.

The “Selected Articles of Calotte Academy ” publications consists of 54 scholarly articles from the annual academies in 1991-2019, and the Academy’s (first time) written history. Edited by Lassi Heininen, Professor (emeritus) at University of Lapland & Co-Founder of Calotte Academy, and Jussi Huotari PhD candidate at University of Helsinki.

