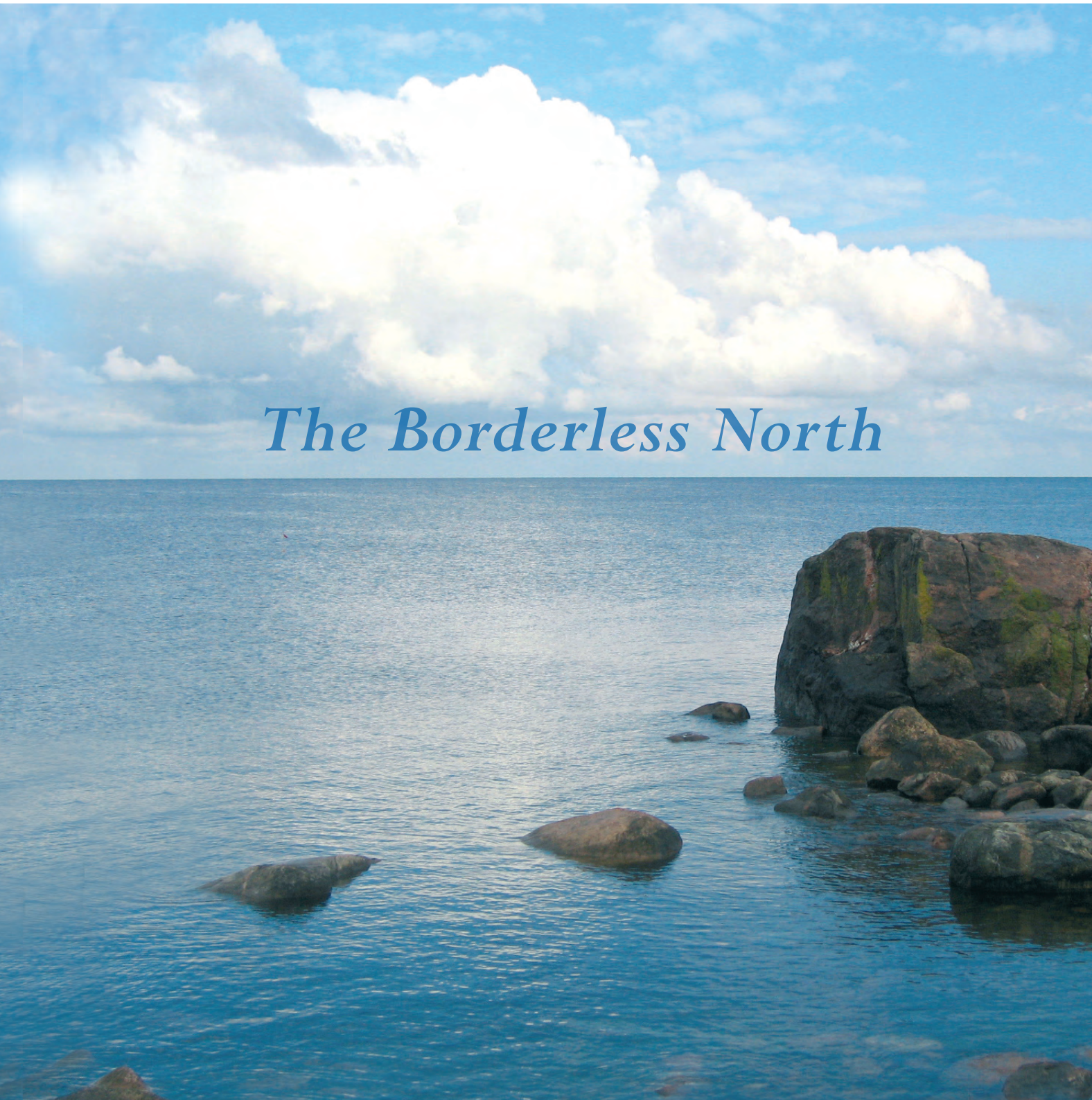
Northern Research Forum



The Borderless North

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Publication of the Fourth Northern Research Forum

The Borderless North
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The Fourth NRF Open Meeting "The Borderless North"

Foreword

The main theme of the 4th NRF Open Meeting was 'Tech-know-ledgy in Economies and Culture'. This theme calls for dialogue crossing borders of science disciplines and society sectors. It challenges us to think about the impact and realization of the technology knowledge on economies, energy-policies and cultures – in other words on the issues, which are important to people's everyday life. In our region, Bothnian Arch-coastal zone area on the both sides of Bothnian Bay and broader Baltic Region are important regions involved in this borderless tech-knowledgy. Moreover, the theme of the forum challenges us to figure the borders and barriers of science and technology, and to think about the borderless of north as a phenomenon itself.

There are four Viewpoints from Science to Borderless North. First there are no borders in the science world. There is neither local playground nor state borders in high-level research. Research work is done in international fields, where results are published in international journals and conferences and working groups are multinational. However it is important to get benefits to our own region too. The achievements of research and science should be used both for educating good researchers to the world of science but also at the same time there should be ways to integrate these achievements to support regional special needs. The University of Oulu has managed this well. For instance technology and know-how developed here in Oulu is used in processing the data obtained in the Mars Express spacecraft and in developing catalytic converters in Korea, but also in the processes of local industry.

All of the focus areas of our university: ICT, Biotechnology and Northern and Environment Issues have potential for both global high-level research and local utilisation of it. As an example of this, the green chemistry aims to renew and diversify the exploitation of natural resources by developing alternative sustainable technologies. Developing this kind of technologies fits well to northern areas where natural resources are rich, but these technologies can be researched and implemented all over the world as well. This means that the level of science skills should be high enough to compete at the highest level in the world.

Secondly collaboration is a way to borderless science society. There are well-functioning networks in the arctic area like University of Arctic and its thematic networks. We have good achievements in cooperation between research groups like Arctic Climate Impact Assessment (ACIA) and Arctic Human Development Report (AHDR). These kind of concrete projects are good examples of effective cooperation. The key issue is to be concrete. Everybody should benefit of the co-operation and there should not be semipermeability between actors which would cause inequality when sharing the benefits. To get other sectors of the society to join and cooperate in research and development requires open-mindedness from all parties. There are business opportunities related to northern environmental problems and creating a business out of it might be one of the tools in solving the problems.

Thirdly the opportunities of science and technology are both unlimited and limited. In future global changes and increase of the use of natural resources create the greatest threat for the northern environment and cultures, affecting health and welfare as well as social and economical relations and challenging sustainable

development of the area. Fragile northern areas are in the key position when researching and monitoring the climate change. Due to the fragility of northern nature global and environmental changes and impacts of pollution are visible and researchable in northern areas. These changes and preventing them still needs the attention of the whole science society. But do we really understand what is going on – everybody does not. Public discussion on the Global changes, especially global climate warming, is a good example on this. Researching new phenomena and applications of science and technology are an endless field of work in the research of global change and change mitigation. However, utilisation of results is limited because of factors beyond science world's control. Decision-makers should recognize and also act according to recent research findings. In Europe the industry has taken the responsibility of environmental protection by launching an objective of using best available technologies and practices. Hopefully also in other parts of the world an industrial evolution takes long steps towards this direction and cleaner technology would be directly used instead of repeating all the phases and mistakes of the technological development. Brave decisions and wise politics would support this progress. In addition to best available practices we need also best available knowledge and the skills and ability to understand it. We have to educate generations having skills to pick up and understand facts of natural laws and functions of society instead of having only pure media literacy. We have to be concerned of the skills young people have in mathematics and natural sciences and take care that these skills remain at high level. Then they will have ability to assess trends of the society and whether they are going to the right directions. And if not, they are capable to push up politicians to do right decisions. Everyone doesn't need to become an engineer or scientist but sufficient understanding on functions of nature and society has to be part of all-round education.

And finally even if there are well-functioning research networks in the North, definite financial instrument for them is lacking. Together with the research units operating in northern areas the University of Oulu is establishing a project, which aims to develop the Northern Research Platform. A central object of development of the northern platform will be the social and environmental innovation community that complements technology platforms and operates as a part of the possible Northern Dimension Forum. Ecologically efficient exploitation of natural resources, native population and peripheries require, in addition to technical and financial expertise, also strong knowledge in environmental and social issues as well as entrepreneurship. The platform will work as a central tool in the implementation of research and innovation related to the Northern Dimension. The aim is to define concrete research plan based on the relevant issues together with science community and other actors in the north.

The future content of the Northern Dimension undertaking is in process in the European Union. Our opinion is that concrete substance for this forthcoming undertaking could be joint research projects and student exchange. Researching the northern areas is not possible only by integrating these themes to other general research themes, but they have to be studied in their own programmes and with targeted financing. The University of Oulu is ready to invite other operators in the area to the development of such an instrument and also to invest in it. Especially universities should be committed themselves to develop this instrument.

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Introduction

The Fourth NRF Open Assembly: Inter-Disciplinarity, Policy-Oriented Discourse and Analytical Dialogues on Cross-Cutting Themes – an introduction

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The 4th Open Meeting of the Northern Research Forum, which took place in Oulu and Tornio in Finland, and Haparanda and Luleå in Sweden 4th-8th of October 2006, was all about cross-cutting themes, interdisciplinarity, policy-oriented discourses and analytical dialogues. The event's program entitled The Borderless North was a rich one and included an opening session, three plenaries, a special session of "Town hall meeting", six project sessions under the title of Day of Projects, four square hours and a summary session. There were also film shows "Northern Travelling Film Festival" (with four documentary films from Finland, Iceland and Russia), an opening of a photo exhibition "What's up North" and a dance performance "Deadly after dark".

Altogether 150 participants representing a wide range of Northern stakeholders took part in the activities of the meeting, including community leaders, regional and national policymakers, heads of state, civil society activists, business people, members of the research community and university students. Furthermore, the fact that two heads of state, President Tarja Halonen and President Olafur Ragnar Grimsson addressed the Forum and participated in discussions shows that Northern issues are relevant, and that the importance of Northern regions is growing in world politics. As a result, the 4th NRF Open Meeting was successful, creating, on the one hand, innovative approaches and concepts and, on the other, confirming several current ideas and procedures – for more information see Proceedings of the Fourth NRF Open Meeting "The Borderless North" (on the NRF web site:http://www.nrf.is/Publications/publications.html).

Although there was room for some more representatives from politics and business, the NRF was taken seriously by academics, policy-makers and civil servants at national, regional and local level as a potential platform in the North for discussing critical issues, meeting each other and learning about the latest developments in Northern research. Further, based on the experiences of the 4th NRF and the analysis of the first three NRF Open Meetings, the NRF has proven itself as a potential, even already successful, activity within the scientific community, even more so after it was decided to refer to the NRF Open Meeting as the Open Assembly due to rapid and significant environmental, geoeconomic and geopolitical changes, which have attracted global attention in the early 21st century.

All in all dynamic discussions and dialogues took place at the 4th Open Assembly among decision-makers, young researchers and senior scientists and a wide spectrum of relevant subjects were covered in the sessions. For example, the themes of two Plenary Sessions, "Tech-knowledgy and its Application" and "Borders, Barriers, Interactive Cultures and Borderlands" were broadly discussed as were the themes of two Project Day Sessions, "Legal Challenges in the Arctic" and "Gender and Human Security". In addition, substantial position/background papers were introduced and panellists made many detailed contributions. These are also the titles of the four themes of this publication, which is a collection of 25 articles based on either the background papers or the presentations of the 4th NRF,

Open Meeting "The Borderless North". I would like to thank all the authors for their significant contributions and their efforts in editing and otherwise preparing their articles for the publication as well as their willingness to continue the discussions and dialogues on relevant issues, both from a northern and a global perspective.

First Theme: Tech-Knowledgy and its Application

The preparatory discourse for the main theme of the 4th NRF Open Assembly, "Tech-knowledgy in Economies and Cultures" was started with a tentative theme of "Economics, Technology and Regional Development", originally proposed by Boris Segerståhl, emeritus professor of system sciences. The idea was to search for a new approach to establish interrelations between these three connected phenomena, and furthermore, to develop a shared understanding of how science, technology and economic development could be used for the benefit of northern regions. As a matter of fact, it is interesting and pleasant to discover that this approach is closely related to the way Elena Kotyrla discusses human development and regional economic growth, and their interrelations in the context of the Russian North in her article (in this volume). In a purposeful, if slightly artificial, final formulation of the main theme, "tech-knowledgy" means the combination of (western) science and technology, and traditional and local knowledge on the one hand, whereas on the other hand, there is an underlying interpretation that technological development dominates too strongly, and that our faith in technology is a two-edged sword for peoples and societies.

We were asked for a clear definition of the term "tech-knowledgy" by some panellists, for example. However, we preferred to hear participants', particularly panellists', interpretations and definitions of the term, and indeed, since the main theme is fresh and unorthodox, our expectations were high. Participants were encouraged by good position papers which included discourse on technology, science and traditional knowledge as the principal components of the main theme. Although there was some hesitation due to the complex, multifunctional and somewhat artificial concept of "Tech-knowledgy in Economies and Cultures", the theme was largely well received and broadly discussed in the sessions.,, Both scholars and policymakers, however, tended to focus on specific aspects or elements of the theme rather than being confident enough to adopt or apply a holistic point of view. Nevertheless, when trying to define a new phenomenon, even a somewhat vague but exploratory discourse on the theme produces results in the long run. This main theme in particular was regarded as a means to search for an alternative, but not necessarily easily accepted, way of obtaining a more holistic picture and improved understanding. This, however, does not necessarily mean a solution per se, but an open-minded search for new aspects and new knowledge (see Laine and Lajunen in this volume).

Technology is "a purposeful, practical activity which involves an interaction of tools or machines (as hardware) and human beings" which also includes "the application of knowledge by organizations of human beings" and "the interaction between human beings and hardware" (Wilson and Heeks 2000, 403). This is not sufficient, however, because all human activity, whether technical or not, also has both a strong social content and an economic content and thus deals with development. Therefore, "knowledge by organizations of human beings" includes traditional knowledge and local knowledge in general. For example, the Saami hey-shoe is a hi-tech feature of its time. This is especially true of traditional knowledge regarding the environment, i.e. Traditional Ecological Knowledge (TEK). It also includes indigenous participation in resource management, such as is discussed by Elina Helander-Renvall, Gail Fondahl and Tero Mustonen in their articles (in this volume). Consequently, it would be relevant to ask if it realistic to have a return of the traditional knowledge of the Saami back to the people and the Saami communities. Or, in general, how to continue an evaluation of information and communication technology (ICT) and promote it in Northern peripheries, like, for example, crossing borders by using ADSL (see Kajava, Kamaja, Anttila and Ilkko in this volume).

A more fundamental general question relates to developing and maintaining a shared language between experts on technology and its users in a society? Following from this there are challenges of "tech-knowledgy", for example, how to include human capital-building and regional capacity-building in technology. And furthermore, how can we promote an interface between the issues of climate change and human development, as reflected by the gaps in knowledge raised and discussed by the Arctic Human Development Re-

port (AHDR 2004, 238-240) which is based on a close international, mostly multilateral, scientific cooperation and multidisciplinary research. The issue is a recent example of a need for a new kind of inter-disciplinary discourse on knowledge, technology, and policies and procedures on the one hand, and, on the other, the interplay between science, politics and business in general. Indeed, these two, interdisciplinarity and the interplay between science, politics and business are much needed to create new knowledge, applications, practices, policies and programs, and a new way of thinking.

In the eight Arctic countries there are excellent universities and higher education systems, and deeper international and inter-regional cooperation, like for example, the University of the Arctic as an international network for higher education. In addition, the AHDR and the report of the Arctic Climate Impact Assessment (ACIA 2004) are real achievements as fast-created, multi-layered and well-founded sources of new knowledge on human development, sustainability and climate change in the North. The NRF has also discussed these issues extensively in its Open Meetings such as Oulu – Luleå 2006 and Yellowknife 2004, as well as in special Town Hall Meetings on human development and climate change for interested citizens organized by the NRF, such as the Town Hall Meeting in Anchorage, Alaska in February 2006, and a similar meeting in Inari, Finland as part of the Calotte Academy in May 2005.

It is another question whether there is potential for technology that deals with the impacts of climate change, and which could serve as some sort of "risk technology for the Arctic" (e.g. Brainstorming meeting 2005) this being another example of a faith in technology which is rooted in the faith in economic growth as one of the driving forces of modernization?

An Arctic "risk" technology" does not really exist yet, but it is a typical Western response, even an ideology, which is very much in harmony with western knowledge and science and modern technology. This is based on trust in technical solutions and faith in the market economy, or capitalism, which stipulates that an economy should always grow. This orientation has its roots in the notion of growth-oriented financial management and, more generally, modernization based on the Enlightenment (e.g. Heininen 2006). For example, there is a belief that most of the problems of developing countries can be solved by Western economic growth, not necessarily by the strengthening of democracy and civil society, which have been mentioned as preconditions for sustainable development. Correspondingly, economic growth has been seen as a precondition for solving environmental problems, and climate change is also seen to be solved by more advanced technology, eliminating the need for changes in the current polluting politics.

Although the other main site of the 4th NRF was Oulu, the technological centre of Finland and the European North, the meeting felt it might involve excessive risk to trust too much in technology and wait for the practical application of science to rise to the challenge of solving problems such as of pollution and climate change. Faith in technology as well that of a growth-oriented economy might sound modern, but is too naive. If there is no technological solution yet, what might then be effective responses to challenges like that of mitigating the impact of climate change or adapting to it as Tristan D. Pearce et al. discuss in his article (in this volume). And there should be more emphasis on proper procedures to promote existing success stories like those mentioned by the Arctic Human Deve-lopment Report (AHDR 2004), and to create alternative, innovative ideas, something which might be achieved, in the dialogues of NRF Open Assemblies. If we take seriously the criticism that the spiritual and moral development of a human being has been much slower than the triumph of technology, we should be concerned with defining the problem through interdisciplinary collaboration of experts within different fields, and we should make an effort to ensure that new technological innovations are really needed in a society, and thus will be utilized.

This is even more the case, if we are interested in research findings being described, summarized and discussed in public by the scientific community, and if we feel they should be taken into consideration, and used in decision-ma-king by the rest of society for the development of individual countries and at international level. And also that a scientific community should be active at all levels in a dialogue between science and politics, stimulate open discussion and create new platforms for wider and deeper dialogue. Here the NRF, with its Open Assembly, could take on the role of a knowledge-based network with "the ability to transform scientific knowledge" like Boris Segerståhl writes in his article (in this volume).

Second Theme (and Geopolitical Context): Borders, Barriers and Borderlands

When reflecting upon current interdisciplinary discourse on (national) borders one aspect that causes concern is that in spite of receding borders within an integrated area, boundaries functioning as explicit (mostly national or other kind of political) divisions between territories, states, peoples and cultures have maintained their main purpose of separating people in the name of national security instead of promoting cooperation across national borders in our time of globalization. This particularly applies to the resilience of national borders in the North that Heather Nicol discusses on her article (in this volume). Though this is still the mainstream approach of international politics, the discourse in Europe since the 1950s has aimed to interpret a national border in terms of the lowest possible barrier.

This brings two other terms into the discourse, the terms "borderland" and "borderless space". The principle of connectivity and cross-border activities as is the central ideal of European integration under the auspices of the European Union as indicated by the existence of several euro-regions on the external borders of the EU. As a result, there is a borderland which works like a bridge, or even a neutral territory, between two or more states and regions with the main purpose of connecting peoples, societies and cultures on both sides of a border. Its main aim is to decrease tension and increase stability based on the theory of Functionalism by David Mitrany (e.g. 1966), to anticipate potential conflicts and prevent them from arising (e.g. Cooper 2004), and even to build security communities based on the theory of Karl Deutch. Finally, "borderless" can be interpreted in many ways, for example, "attractive, offering the prospect of free and unencumbered transfers of information, people and goods" although (coastal) states "tend to be vigilant concerning the threat…of erosions to their sovereign rights" as Ron Macnab writes in his article (in this volume).

The geographical arena and geopolitical context of the 4th NRF Open Meeting, the Bothnian Arc comprises the North of both the (Swedish) western coast and the (Finnish) eastern coast of the Bay of Bothnia, the biggest bay of the Baltic Sea. In the region there are many actors and even more interests, several cultures, identities and environments. On this occasion, an Open Assembly was organized for the first time in an internationally cooperative region. It took place in one economic and political union, two states, three countries and four cities or towns; it had eleven hosts - which meant that it became necessary to cross these national, regional, municipal and university borders, cultural borders, and borders between sectors, institutions, stakeholders and disciplines. Although, there is a well-known proverb "Too many cooks spoil the broth", through our meeting we all, i.e. the local organizers and the participants of the 4th NRF showed, even proved, that there are exceptions to that proverb.

As the 4th NRF Open Assembly took place within two member-states and regions of the European Union, it stimulated, on the one hand, region-building, even emphasized regionalization, within the Barents Region. On the other hand, it promoted regional stability and cooperation in Northern Europe in the context of the "new" Northern Dimension as it was described and discussed in a lively manner in the 3rd Plenary Session in Luleå (e.g. Henriksson 2007 and Riepula 2007 in the Fourth NRF Proceedings). In this context, the Bothnian Arc is a real borderland and per se a good example of "The Borderless North". It is a unique and exciting region in North Europe and within the European Union. It is also equipped with innovation systems and knowledge programs (e.g. Saari 2007 in the Fourth NRF Proceedings), and a modern heavy industry in stainless steel as was clearly demonstrated during the visit to the Outokumpu Tornio Works.

Furthermore, within the region lies the Torniojoki river-valley on the Finnish-Swedish border, a sub-region based on a rich tradition of communication and cooperation. The river-valley includes the Twin town Haparanda-Tornio, or "Haapatornio" a term used by the Finnish academic Matti Kuusi (1988) (also Ronkainen and Bucht 2007 in the Fourth NRF Proceedings), which is an interesting case study for border research (e.g. Zalamans 2001). This is especially due to the fact that the inter-municipal cooperation was not the result of Finnish and Swedish membership of the EU, but has started some decades ago and is based on local and regional 'bottom-up' cooperation across the border. Indeed, the Torniojoki river-valley is a unique

workshop for studying how a borderland influences the identity/ies and culture(s) of a region and inspires peaceful human and social understanding between people(s) as discussed in the 2nd Plenary in Tornio.

Another concrete example of a borderland in Northern Europe is the Euregio "Karelia" on the external border of the EU between Finland and the Karelian Republic in Russia, where both sides of this borderland share much of the same history and culture. It is with regard to this area that Gleb Yarovoy asks "Does history work?" in his article (in this volume). This interpretation of a (national) border indicates interdependence and is in accor-dance with new and alternative approaches of geopolitics, where, on the one hand, actors and identities, not only a space, play an important role (e.g. Paasi 1996; Heininen 2005a) and, on the other, this scenario suggests a de-bordering process which would make it possible to define a region in a new way and create a new kind of a virtual region. Pursuing this topic further, Dessislav Sabev discusses the role and importance of internal borders within a borderless space in his article (in this volume), and, similarly,, Olga Povoroznyuk's article (in this volume) deals with perceptions and practices relating to borders and lands.

There are, of course, also other kinds of borders to be crossed for example, those between different sectors of a society and especially between science and politics. Indeed, how to cross sectorial borders within a society, and the globalized world as a whole, is one of the contemporary challenges of our modern societies, and, in this regard, the interplay between science and politics is needed. Even the wealthy and democratic Northern countries, which have recently been used as examples for other parts of the globe, face the same challenges. Consequently there is a need for lively, fresh and open-minded approaches, discussions, actions and procedures as exemplified by the Triple Helix interactive co-operation and action research between local universities and industry and municipal leaders from four Norrbotten municipalities as described by Håkan Ylinenpää and Margareta Strömbäck in their joint article (in this volume). Another relevant topic is how to develop a multicultural education in mathematics in the Saami schools as Ylva Nutti illustrates in her article (in this volume).

Third Theme: Legal Challenges in the North

At the beginning of the 21st century, global trends reaching the North, which had already occurred in Northern seas in the 16th and 17th centuries through mass-scale harvesting and fishing and explorations by Holland and England, include an increased demand for transportation, heightened tourism, long-range air and sea pollution, militarization, increased scientific research and activities, and the presence of global (both governmental and civil) organizations and actors. The North is a periphery of eight unified states which are rich in natural resources as demonstrated by an Annual Gross Product of $ 230 billion. This production is essentially based on the intensive exploitation of energy sources "to meet energy needs of developed countries and the centres of them" (Duhaime 2004). This means both concern for, and trouble with, scarcity of energy resources and growing competition for energy, e.g. hot issues with regard to energy security. Partly following from this, and partly due to other reasons, the circumpolar North is no more a traditional periphery but is becoming increasingly central to world politics.

Consequently, the North has achieved a higher global strategic importance and become more interesting to the rest of the world, firstly from a geopolitical perspective, e.g. with regard to its large reserves of oil and natural gas and their transportation, as well as a deployment area for military hardware, such as the strategic submarines (SSBNs) and the National Missile Defence system; secondly, from a scientific perspective, e.g. the North as a former "laboratory" has become a global workshop for science in many fields; thirdly, through its diversity of life, including cultural diversity and the voices of indigenous peoples. Furthermore, "The North appears to be an active, fresh and innovative region, a characteristic manifest in pan-Arctic cross-border cooperation, region-building, and through new and innovative political arrangements" (Heininen 2005b), which has been promoted to a remarkable extent by the social sciences (Heininen 2005c). It should be, and indeed is, able to cross "the power and hegemony of the Cold War" and build a stable and peaceful region, becoming a model of "conflict prevention" to solve conflicts as they begin, or even before they have been created, like, for example, the "Nordic Peace" (Archer 2003) (Heininen 2007).

Although this is not an altogether new theme in scientific discourse, the North in the global context became a hot topic in the discussions of the 4th NRF. The issue was raised by President Halonen (see Halonen in the Fourth NRF Proceedings) and, particularly, by the five points of President Grimsson, and received significant support from the participants as well as attracting media interest. One might say that the mutual political conclusion that the North is playing an increasingly important role in global/world politics is one of the main findings of the 4th Open Assembly (e.g. Kaleva 2006); a role which brings with it both opportunities and challenges. Neither this nor the current stable political situation in the region is, however, given or guaranteed, but requires open discussion and dialogue based on expertise between all actors, and additional interactive stages and networks providing in-depth dialogue and representation.

This, however, requires political will and agreement across national borders. In this context, an Arctic Convention, or other international political and legal instruments for Northern, arctic regions have been suggested as a proper and needed political response. This kind of international regime for the Arctic has recently been much discussed as Natalia Loukacheva shows in her overview (in this volume) and is also supported by scholars and policy-makers, especially the Parliamentarians of the Arctic Region (e.g. Report 2004; Conference Statement 2004). This political response is based on international negotiations and international law, and also founded on a belief in legislation drawing upon the aims of the moral and legal school of Idealism, for example, those expressed by Hugo Grothius.

An Arctic Convention or another international regime "to address the sensitive issues of the future" (Report 2004) earns all the support but nevertheless has its weaknesses. For example, it is very difficult to achieve a legally binding agreement on the most relevant activities in Northern regions like the utilization of natural resources which is very much based on economic interests. Furthermore, in spite of the above-mentioned state of stability in Northern regions, there have been, and to some extent still are, ethnic conflicts caused by minority policies and language legislation by the Nordic countries, as Lars Elenius describes in his article (in this volume). Conflicts of interest also occur in relation to the utilization of natural resources. Parallel to a convention, there is "governance" as a social response based, on the one hand, on democracy and devolution of power, which has been a strengthening political tendency in many parts of the North and one of the basic themes of the legal systems of the Arctic states within the last decades (Bankes 2004, 114-116). On the other hand, this is based on traditional and local ecological knowledge as a new governance system for northern resources (e.g. Caulfield 2004). There are hopes that this may evolve into some sort of global administrative procedure.

Here a right to self-determination, cf. the ILO Convention No. 169, might be a good start for a new kind of governance to implement both international human rights and the cultural diversity of northern indigenous peoples as is discussed by Gudmundur Alfredsson and Tanja Joona in their articles (in this volume).

With regard to the current international organizations, strategies and policies in, and for, the North, such as the Arctic Council and the European Union's Northern Dimension to promote international cooperation and formulate a common policy in the North (e.g. Northern Dimension Policy Framework Document 2006), it can be stated that they contain several positive elements and aspects, and also cover most of the relevant fields, many of them being effective and flexible. Besides,, they would not exist without political will and agreement across national borders. There is a problem, however, since, most of them appear to lack the necessary strength and additional organisations may be required with a function similar to that of the Arctic Council, as Timo Koivurova discusses in his article (in this volume).

On the one hand, this is firstly, due to political - either international or national - strategies and programmes; in general, policies are compromises. Secondly, in most of the cases, strategies are not holistic enough. Thirdly, they neither go beyond the so-called faith of technology nor are they able to meet new kinds of challenges which go beyond the limit of a growth-oriented economy. This particularly applies to climate change as Maria Pettersson writes in her article (in this volume). Fourth, they are too often mostly based on national norms and legislation, and thus restricted to the unified-state system, whereas the challenges are more global (Heininen 2006). On the other hand, the matter relates to global security, environmental and other kinds of problems/challenges, the complex and multi-functional state of the international system, a globalized, but not neces-

sarily democratic, world order and a growing need for broader, even global, dialogue between all relevant actors - such as the European Union, the USA, the BRIC (Brazil, Russia, India and China) and the United Nations – and an even more urgent need for representation by all nations, cultures and religions.

Fourth Theme: Gender, Citizenship and Human Security

Generally speaking, however, one may feel that it is neither particularly likely that legislation will make the world better (e.g. Kanniainen 2006, 17), nor that, "governance" alone can provide a real recipe or formula for success, or, finally, that "ecology as a new discipline for disciplining" is neither fair nor a proper social way (Haila & Heininen 1995). Although this argumentation has its point, it is too simple and easy to be pessimistic and draw a dark picture of the future. We need neither be dramatic and predict the end of civilization, because all of collective humanity is "driving toward a wall", nor naïve, and believe in pleasant dreams of the future (when enjoying a glass of wine and listening to classical music on the deck of a sinking ship, which is not Titanic, but called the Earth as Matti Wuori (1995) wrote some ten years ago) without making the hard decisions and doing the tough work. There are good reasons to be (only slightly) optimistic (and well informed), knowledgeable and conscious (not necessarily idealistic), take care and make an effort to remain social and tolerant. And furthermore, to keep an open mind in order to understand new, even strange, and complex and multi-functional phenomena. And finally, it is important to be active, goal-oriented and tough if need be, and know what requires to be done (at least what first steps are needed), and understand that nothing is predetermined in life.

With a view to the above, what might be needed is an approach toward a holistic point of view with both an understanding of development and loyalty to the past in equal proportions. For example, preconditions for sustainable development can be interpreted to include democracy and devolution of power, governance and binding legislation; human and civil security; culture; and civil society (e.g. Dwivedi et al. 2001; Heininen et al. 1995, 141-158). Here we are by no means expressing fantasy or science-fiction, since sustainability and resilience are parts of traditional (northern) knowledge as Clayton Tinsley describes in his article (in this volume) on small-scale farming in Northern Scotland.

So far we have dealt with the interplay between science and politics and constant communication between different stakeholders across sectoral borders in a society, as well as general dialogue between peoples, societies and cultures in the world, where new global and regional platforms are needed for open discussions and innovative dialogues (e.g. Newsweek, July 30, 2001; Heininen 2005c). Here a dialogue is seen as strengthening, almost as a necessity, prior to decision-making (also Heininen 2007). It does not, however, stand alone but comes jointly with decisions, which are followed by action. This does not mean a dominance of meritocracy instead of democracy but rather drawing up a comprehensive picture, and analysing it. The final step is a synthesis and formulation of a holistic picture. After these steps are taken, there comes an increased readiness to face real human challenges.

An emphasis on human security and global citizenship with gender equality is also needed; this is very much the focus of the articles by Elana T. Wilson and Mervi Heikkinen (in this volume). Also the right to speak one's own language is a relevant part of this kind of equal citizenship for small nations, which depends strongly on the policies of individual states as Darima Bdmatsyrenova and Anna Elivanova discuss in their joint article (in this volume).

One alternative way of determining what else might be needed, is to combine the emphasis on human security and global citizenship, as well as the interplay between politics and science. The indications are that while challenges tend to be global, solutions are often local. Furthermore, in order to develop and promote this approach we have to know more about (local and global) communities and their interrelations as Amy Wiita discusses in her article (in this volume). Also, we must develop methods, mechanisms and policies for good practices by, for example, creating new, cross-cutting themes relating to relevant areas, focusing on research & development & technology & economics with the aim of developing environmentally friendly and secure energy production, technology and distribution.

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First Theme:

Tech-Knowledgy and its Application

Human Development and Regional Economic Growth in the Russian North

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Russian northern territories are characterized by extreme climatic conditions which is why these territories are unattractive for living. Nevertheless more than 10 million people are living in the North. This can be traced to historical, political, and economic peculiarities of development during the Soviet period. Economy in the North is not balanced. Standard of living of families in the North strongly depends on state guarantees (social policies), because a long distance between settlements is an obstacle to resource reallocation and regional economic development. The transitional process from an administrative to a market economy in Russia is a source of problems; how is it possible to accumulate and use regional human capital for the economic development of the North? We can estimate the effect of both state policies on regional economic growth and the interrelations between human development and economic growth in the Russian northern regions in comparison with others due to the results of "large-scale experiment" of the 90s.

Our research[1] was based on statements, that human development (in particular, the educational level) has a positive influence on economic growth, reducing excesses in average rates of fertility, creating a social environment that improves productive investment, making workers more productive and voters more prepared to choose a good government and promote reasonable socio-economic policies.

"To the extent that greater freedom and capabilities improve economic performance, human development will have an important effect on growth. Similarly, to the extent that increased incomes will increase the range of choices and capabilities enjoyed by households and governments, economic growth will enhance human development" (Ranis 2004). In the opinion of United Nations experts (Implementation … 2003), human development investments should be provided even prior to the beginning of economic growth, due to the state or other external treatment. "Income growth clearly strikes one as the main contributor to directly increasing the capabilities of individuals and consequently the human development of a nation since it encapsulates the economy's command over resources" (Sen 2000). Therefore, GDP per capita is a component of a Human Development Index (with the use of life expectancy and literacy). GDP is very important as an instrument for achieving a wide range of individual capabilities: to have better housing, transportation, or entertainment. However, GDP also has a strong effect on literacy and health outcomes, both through private expenditures and government programs. Thus, insofar as higher incomes facilitate the achievement of other crucial human development objectives, it also has an indirect effect on human development.

The purpose of the research is to show the interrelation between human development and regional economic growth in the North, compared with other Russian regions.

Main Hypotheses

First, educational level in the North increases due to economic growth, observed in growth of indicators, such as gross regional product; households' income, physical capital and human capital, regional budget expenditures.
Second, regional economic growth in the North depends on human development, in particular, growth of the educational level of population.
Third, small business development in the North as an important factor of regional economic growth depends on budget expenditures, especially expenditures for the development of transportation systems.

Policy Application

This research proves the importance of solving the following problems in order to optimize state treatment on human development in the northern regions:

- regional economy infrastructure development, first of all transportation systems, which decreases transaction costs for business;
- guarantees of a sufficient level of employment in a region by supporting the largest regional enterprises, or enterprises in single company towns;
- social infrastructure development, which is necessary for territorial labour markets and educational services balancing;
- guarantees of a social services minimum level.

Concerning northern regions of Russia, as an object of a state policy, presently no economic programs are realized, although some social protection measures for northerners are active (О государственных гарантиях … 1993), their further action is in doubt.

The Data

Far North status was an attribute to division on Northern regions and others. We carried out research to estimate interrelations between regional economic growth and human development in the twelve Russian northern regions[2], in comparison with fifty eight other regions. We excluded regions with mixed territories, where only part of them has Far North status or territories granted equal status. We used econometric panel-data models to analyze annual data from 1994 to 2002 for Russian regions (Rosstat).

Theoretical Models

We formulated two types of relations: 1) regional economic growth is an endogenous variable and human development is included with exogenous variables; 2) human development is an endogenous variable and indicators of regional economic growth are exogenous variables. Each equation was estimated separately by using econometric panel-data analysis. That means cross-sectional time-series regression models.

The influence of human development on regional economic growth may be described by a dynamic model where gross regional product (Y) growth or output of small enterprises (Ysmall) growth is an endogenous variable in a production function (1). A production function includes human capital (L) and physical capital (K). We added human quality growth in previous period (X) to the model. Growth rates of graduates with different educational levels (primary vocational - Xp, secondary vocational - Xps and university - Xh) are indicators of human development in the models. They were observed during a long period, but data for shares of employees with different educational levels are insufficient. We believe that regional budget expenditure (G) is the main factor of GRP growth in the model, because it is an important condition of economic growth in northern territories, not only in Russia but in other countries as well. We included in the model the density of motor roads (Rroad), because the improvement of transportation systems is very significant for economic growth in huge northern territories with a low stock of population (Siebert 1969). We added new variables equalling each exogenous variable multiplied on a dummy variable North (1 - for the northern regions, 0 - for the others) to differ influence of chosen factors in the northern regions and others.

$$(1) \qquad Y_t = f(K_t; L_t; X_{t-1}; R_t; G_t; N_t)$$

$$(2) \qquad X_{t+1} = g(W_t; K_t; L_t; R_t; Y_t; N_t)$$

Growth rates of graduates depend on economic growth (2). We believe that economic growth may be observed not only by GRP growth but also by households' income growth and by regional budget expenditures growth. Increase of average wage (W), the main part of households' income in Russia, reflects rise of labour demand during economic growth (Keynes 1936). Regional budget expenditures is an indicator of economic growth as well, because they are connected with the rising of a tax part of budget revenue during this period. Additionally we included human capital and physical capital to the model, because they may be indicators of possible costs of entrepreneurs into human development, and physical capital may be a substitution or a complement to human capital with different educational levels.

Evidence

Regional economic growth:
Regional output growth depends on human development. The model of production function is given in the Table 1 (see also app. A and B). Here gross regional product and regional output of small enterprises are endogenous variables.
Gross regional product growth positively depends on growths of physical capital and human capital. Elasticity coefficient of it by physical capital is less in northern regions than in others (0.019 vs. 0.114), but elasticity by human capital is greater (0.573 vs. 0.561). Consequently productivity of labour is greater in the Northern regions.

Factors	Gross regional product (Y)		Regional output of small enterprises (Ysmall)	
	Significance	The role: positive (+) or negative (-)	Significance	The role: positive (+) or negative (-)
Annual average stock of employed in economy (L)	Yes Influence is more in the Northern regions than in the others	+	Yes Influence is less in the Northern regions than in the others	+
Value of fixed assets (K)	Yes Influence is less in the Northern regions than in the others	+	Yes Influence is less in the Northern regions than in the others	+
Total expenditures of consolidated regional budgets (G)	No		Yes Indirectly, through the transportation system development only in the North	+
Growth rates of primary vocational training graduates in the previous period (Xp,t-1)	No		No	
Growth rates of secondary vocational training graduates in the previous period, (Xps,t-1)	No		No	
Growth rates of university graduates in the previous period, (Xh, t-1)	Yes	+	No	
Density of general-purpose hard surface auto-motor roads (end of year; km per 1000 sq. km of ter.) (Rroad)	No		Yes Only in the Northern regions	+

Table 1. Influence of human development and budget expenditures on regional economic growth.

Growth of employees with university education in human resources leads to 0.1% regional economic growth both in the North, and other regions. But growth of employees with primary and secondary vocational training does not influence it. This may be explained by current necessity in a modern management to first of all secure the growth of regional economy.

We expected that budget expenditures would be important for regional economic growth. But interrelation between them is insignificant. So we can conclude that budget expenditures were serving as solving of current tasks, but were not directed at strategic policies both in the northern and other regions during 90s.We also expected that transportation system development would be very important for regional economic growth. But this interrelation is insignificant. The condition of the Russian transportation system does not hinder economic growth. This conclusion was proved by other researchers as well (Russian Economy… 2005). This may be explained by transportation system development in the soviet period, which was executed according to state plans without expectation of productivity of system presently. Presently built roads notably differ in volumes of carriage. This is a reason for the insignificance of the transportation system as a factor of economic growth.

We also estimated panel-data models for small business development as an important factor of regional economic growth. Small business development is connected with additional transport and social costs in the North. Estimated model proves that the influence of human capital structure on small business development is less in the North than in others.

Low efficiency of the transportation system leads to higher transportation costs and a loss of income from transit carriage. Small business development much depends on it only in the North. A 1% increase of the den-

	Share of graduates to population in the next period					
	Primary vocational training (Xp,t+1)		Secondary vocational training (Xps,t+1)		University education (Xh,t+1)	
Factors	Significance	The role: positive (+) or negative (-)	Significance	The role: positive (+) or negative (-)	Significance	The role: positive (+) or negative (-)
Average monthly nominal accrued wage of people employed in the economy (W)	No		Yes	+	No	
Annual average stock of employed in economy (L)	Yes	-	No		Yes Influence is more in the Northern regions than in the others	+
Value of fixed assets (K)	Yes	-	Yes	+	Yes	-
Total expenditures of consolidated regional budgets (G)	Yes	+	Yes only in the Northern regions	+	No	
Gross regional product (Y)	No		No		Yes Only in the Northern regions	+

Table 2. Influence of economic factors on human development.

sity of motor roads is a condition of the increase in small business output of 5%. Thus, this result is evidence of the importance of a transportation system development for regional economic growth in the North. Small business is the main factor for improving employment, consequently for growth of households' incomes and human development.

Human Development

Human development in the Russian North is greater than in other regions in the last years. This tendency may be explained by the prevalence of industry and an insignificant share of agriculture in the northern economy. It may be also explained by the high significance of education for families where the members work or are going to work in corporations and public sector. These types of employment prevail in the North and employees in the public sector have more social protection than in small business and self-employment. Greater human development in the Russian North is observed despite of a drop of direct budget expenditures for education.

The results of estimation of the model (2) are given in Table 2 (see also app. C, D, and E). Growth of households' incomes significantly increases share of secondary vocational graduates only. But quantity of human capital is a positive factor for the growth of university graduates, and negative for primary vocational graduates. We believe that this growth is a kind of signal of households' incomes as well. It is connected with the influence of a shadow economy on the quality of statistical data about average wages, especially, in the private sector of the economy. We could say that the observed growth of average wages reflects a big share of employees in the public sector that is greater in the depressed regions (see Гимпельсон, Лукьянова 2006). A secondary vocational education is more accessible and attractive for teenagers from families with a low income. It is more attractive in comparison with primary vocational education because having received secondary vocational education they either enter a college (they have the right to directly join the third year of the similar type of college) or go to work (Sectoral and Regional… 2005). So rise of average wage leads to growth of secondary vocational education graduates.

For the depressed regions with young and fast growing populations the system of primary vocational education carries out an additional social function – temporarily reducing the acuteness of youth unemployment issue (Sectoral and Regional… 2005). It may serve as an explanation for a negative influence of annual average stock of employees in the economy on the growth of primary vocational education graduates.

We believe that the influence of annual average stock of the employed in an economy is a positive factor for the growth of university education graduates because it is an indicator of growth of households' incomes. An unprecedented growth in the number of high school students and growth of paid sector in university education was observed in the 90s (Sectoral and Regional… 2005). The influence of annual average stock of the employed in an economy differs for the northern regions and others. It is greater in the North. We can conclude that having a university education is more important for northerners.

In accordance to the best model physical capital is a complement resource for the employees with secondary vocational education both in the northern and other territories. Also secondary vocational education is a substitute for primary vocational education, and university vocational education is a substitute for secondary vocational education both for the Northern regions and the others. On the one hand the number of primary vocational education students went down by 11% from 1990 through 2000 (Russian Regions… 2003). Primary vocational education attracts the lowest volume of extra budgetary funds in comparison with other systems of vocational education. It is connected with outdated material and an obsolete technical basis. As a result, the graduates are incapable to work on modern equipment and machinery. In turn, employers are not interested in contributing to financing primary vocational education establishments because immediately after graduation the graduates are drafted into the army. On the other hand secondary vocational education is less competitive than university graduates (for the same pay an employer can get a worker with a higher level of education who will do the same job but with better quality) and primary vocational education graduates (they have better practical skills) (Sectoral and Regional… 2005). But the influence of physical capital on growths of primary vocational, secondary vocational and university vocational education graduates in the model contradicts this statement. The share of university graduates in the next peri-

od grows by 0.09% per 1% of gross regional product growth only in the North. It proves that regional economic growth in the North leads to human development independent of state treatment.

Due to the models we see that expenditures of consolidated regional budgets are important for growths of primary and of secondary vocational education graduates. But the first one depends on the growth of budget expenditures both in the Northern regions and others, and the second - depends on budget expenditures in the North only (elasticity is 0.08%). It proves greater that human development depends on the state treatment, especially, in the North.

In conclusion we should underline that human development and economic growth are interrelated. But in the North both of them depend on a state policy.

Notes

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2. We used division as in other northern researches; see for example (Север как объект…, 2005). There are sixteen northern regions, but in fact statistical data were observed for the twelve of them.

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О государственных гарантиях и компенсациях для лиц, работающих и проживающих в районах Крайнего Севера и приравненных к ним местностях - Закон РФ от 19.02.1993 N 4520-1 (Ред. от 29.12.2004)

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Logical Adaptation to Modern Technology - Snowmobile Revolution in Sápmi

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New technology is increasingly visible in indigenous societies since technologization of everyday life is one of the most central features of the modern society. Technology refers in this context mainly to technological objects (snowmobiles), values (cultural and ethical), and the field of activities and skills (for instance, know-how about technological devices and their use under different circumstances). Other aspects, such as masculinisation of technology, science and technological progress, and economic and ecological consequences, are left out here.

Reindeer herding is regarded by many as a core element in the maintenance of the Sami culture. During the latest decades, reindeer herding has gone through enormous changes. The commercialization and the technologization of herding as an occupation and social organization is one of the main themes when discussing change in the Sami herding society (Helander 1993; Nilsen & Mosli 1994).

This article examines adaptation and change as related to technology in reindeer herding.[1] I will make use of the actor-network approach (see below), and map actors and connections of herders´ network in order to get a better understanding of adaptation strategies and things that influence them. In other words, my aim is to follow "how a given element becomes strategic through the number of connections it commands" (cf. Latour 1998, p. 4). My approach is open-ended and will integrate several levels and dimensions.

In tradition, the Sami people have had a very close relationship with their lands. Embedded in this relationship is knowledge on the environment of the Sami people. Ingold (1993; 2000) argues that humans and their environment influence each other. Traditional ecological knowledge (TEK) refers to the human-environment interactions of Sami and other indigenous people herding (see below, sect. 4). The reindeer herders can use TEK to understand and influence their environment. In this article, traditional ecological knowledge is taken into consideration when analyzing the introduction of the snowmobile to reindeer herding.

Adapting to snowmobile technology within the reindeer herding society took place in North Finland in early 1960´s. Kaldoaivi reindeer district in north-eastern part of Utsjoki municipality was the first reindeer area in Finnish Lapland to acquire and experiment with snowmobiles in herding. The technical change of herding was rapidly welcomed by the local herdsmen and was also lodged easily in the lives of herders in other herding areas.[2] Today, the snowmobile as a technological entity is an actant[3] in the Sami cultural space.

Pertti J. Pelto (1973) has studied the adoption of snowmobile among the reindeer herders in Sevettijärvi, north-eastern part of Finland. Pelto uses in his study John Bennett´s (1969, p. 13) definition of adaptation. Pelto (1973, p. 11) writes about adaptive behavior of different individuals as related to a new technical object and economic situation. Adaptive behavior is usually defined in terms of goal satisfaction (Bennett 1969), as related for instance to securing of livelihoods (Berkes & Jolly 2001, p. 2). Modern technology surely fulfils some particular purposes: reindeer herders need a certain amount of technical artifacts to carry on their business. As an occupation, reindeer herding is expected to bring sufficient subsistence and survival possibilities for Sami

households. Snowmobiles and other technical inventories make it possible to run herding smoothly and effectively.

The main effects of the early technological revolution are, according to Pelto, "de-localisation" and "techno-economic differentiation". Pelto (1973, p. 166-168) uses the term "de-localisation" to describe some processes of modernization that lead to the dependency on different outside factors, such as commercially distributed sources of energy. Technology is not free. Thus, snowmobiles presuppose operation with budgets, and the maintenance of snowmobiles also costs money. Some herders live very scarcely. They do not have enough cash or reindeer to buy new technology and maintain it. Scarce resources are used for the operation of basic human needs and wants.

Some herders are doing economically well and manage to buy and support different technical devices. Thus, they are able to take part in all activities that are necessary in order to maintain and increase the size of a herd (Pelto & Müller-Wille 1972/73, p. 135). This means that poor herders can easily fall out of the system, because they do not have money to consume and support mechanisation of modern herding. The techno-economic differentiation leads to social stratification of a formerly egalitarian community (Pelto 1973, p. 168-178). In this way, it can be argued that technology shapes society. Some researchers also see the introduction of the new technology to the Sami reindeer society as a new mode through which the Sami herders may become oppressed by outside forces (Bergland 2005, p. 119-121).

Actor-Network Theory

Technological determinism positions people in a passive relationship to technology (Mackay 1995, p. 239). It presents technology as neutral and inevitable and perpetuates the idea that it is something beyond culture and society (ibid.). Technological determinism gives mono-causal explanations to change. The deterministic approaches "underestimate the importance of the interaction between technology and organisation and the process that mutually shapes the two" (Cordella & Shaikh 2006, p. 7). The actor-network approach can be regarded as oppositional to scientific determinism.

The goal of the actor-network theory (ANT), as developed by Bruno Latour, Mines Michel Callon and John Law, is to examine social, technological and organizational phenomena and processes. It pays a special attention to the analysis of socio-technical networks of aligned interests (Law 1999). Actors of networks are both natural and cultural. Actors and actants have each their own autonomous properties (Latour 1993, p. 6 and 64), but at the same time they possess cultural meaning and qualities established by human actors. Actors are entities that do particular things, but they cannot do anything without a network. "Actant" is a more abstract term than "actor". An actant is an independent entity with actantability (probability to act). Actant can under specific circumstances become an actor (Law & Hassard 1999). Actors use an approach called "translation" to negotiate their will when creating, changing, maintaining or putting an end to a network. In other words, the alignment of a network occurs through translation (Law 1992).

ANT analyzes relationships and interactions seeking meaning in context and in doing so it denies the separability of the social and technological. ANT assumes that the construction of reality is achieved through the interplay of different actors with equal constitutive character (Law 1999; Cordella & Shaikh 2006). "Technology and people do not have *a priori* different and defined effects on their relational interplay" Cordella & Shaikh 2006, p 10). Furthermore, social networks (human relations to each other) have "no privilege nor prominence" (Latour 1998). Thus, one should be aware of that ANT does not distinguish between human and non-human actors. Different actors or actants (objects, human and non-human actors and ideas) have the same ability to influence a network (Actor-Network-Theory 2006). Accordingly, technology has the status of actor.

As already indicated above, both human and non-human actors are treated as equal partners in the network of culture. Thus, actor-network theory deals with "persons, things, artifacts, and events all in the same breath" (Strathern 1999, p. 156). These entities or actors "take their form and acquire their attributes as a result of their relations with other entities" (Law 1999, p. 3). For instance, the snowmobile has become a symbol of wealth and a necessary tool as related to the reindeer herding society.

ANT as a research approach uses a variety of perspectives. Actor-network is open-ended. When looking at the changes and effects, ANT analyzes different factors influencing a network or operating within it. ANT may help to identify all people, things, technologies, connections, interaction sequences and power relations that simultaneously have a causative effect on someone or something, and influence a situation, a relationship, a process or what people do. For instance, what a reindeer herder does in a concrete working situation or as related to a meat production network, is a result of his or her connections to other acting entities within a specific network.

The Adoption of Snowmobiles in Kaldoaivi Reindeer District

Kaldoaivi reindeer district (fi. paliskunta) was the first area or reindeer society in northern Finland to adopt snowmobiles. The first snowmobile to reach Finland came from Canada. It was Bombardier Ski-Doo. It was bought in late 1961 by a Finnish schoolteacher living in the north. He used his vehicle mainly for fishing tours, and for transportation of wood and other goods. Other popular manufacturers were Polaris, Ockelbo and Motoski. The new mechanical vehicle of the above-mentioned schoolteacher awakened an immediate interest in some herders of Kaldoaivi (Read more, Pelto 1973, p. 67-75).

Kaldoaivi reindeer district bought in 1962 two snowmobiles, one for Heikki Länsman and one for Hilmar Holmberg to use and experiment in herding. At the same time Niiles Länsman and a couple of other local herders acquired snowmobiles. To start with, snowmobiles were used for different experiments in herding operations. While driving and gathering reindeer, the skis were combined with the use of modern technical vehicles, but soon enough the skis were abandoned as a means of herding tools (Helander-Renvall 2005-06).

After some experiments, the snowmobile was given a specific meaning by herders. The herders of Kaldoaivi realized that the snowmobile as a technical vehicle had multiple functions and it could perform many various tasks of importance for the herding society (Helander-Renvall 2005-06). They learnt to know various technical solutions of snowmobiles that make it possible to use them under harsh circumstances (ibid.). As a consequence, the snowmobile was given a status as an actor (actant) in the herding society.

The "scientific" analysis was made by the actors themselves. More precisely, the snowmobiles received locally and also in a wider region their characteristic attributes and shared meaning as a consequence of inter-district experimentation and as a result of discursive sharing of experiences between herders of different districts. Muddusjärvi district, which is immediately neighboring to Kaldoaivi area, was the first district to study the use of modern vehicles in Kaldoaivi´s herding operations. In early 1963, when herders from Muddusjärvi had difficulties in gathering reindeer, they hired herders and snowmobiles from Kaldoaivi to help them to bring reindeer to a corral (see Pelto 1973). The use of the snowmobile was regarded by Muddusjärvi people as so successful that they decided to buy these vehicles for themselves. By 1963/64 there were already 60 snowmobiles in northern districts and a couple of years later 335 snowmobiles. The snowmobile revolution was a fact (Pelto & Müller-Wille 1972/73).

In Kaldoaivi, the wealthy and influential herders were the first ones to introduce snowmobiles in herding. The wealthy herders bought also cars, outboard motors and other kinds of modern equipment (Pelto 1973, p. 199). Those herders who had modern equipment tended to, and still do, control and monopolize reindeer herding in Kaldoaivi. These strong "actors" had the means to adopt new technology and the means to force other actors to do the same.

Actually there was enormous social pressure towards the acquisition of motorized vehicles. In accordance with ANT thinking, the non-operating herders were forced to change their attitudes with regard to the snowmobile. Actually, it became more and more difficult to use skis in herding operations for those who resisted modern technology. At the same time, some herders fell out of the system because they did not have the economic means and overall skills to support modern technology.

One has to be aware of that the real life-situations reveal the role of technology for various groups of an actor-network. It seems that the young herders were the willing proponents of the modern vehicles. The introduction of the snowmobile gave them new opportunities to become successful as reindeer herders. When it

comes to the network dynamics, it can be stated that the young herders were eager to support the "translation" and modify their own behavior to meet the demands of modernization. They also were ready to take financial and other risks connected to the acquisition of snowmobiles (Pelto 1973, p. 140).

The traditional ecological knowledge was used when operating snowmobiles. On the other hand, some of the young men did not have proper traditional skills in all areas of importance (for instance, regarding snow and weather conditions, reindeer behavior, and various landscape features). Instead, they paid much attention to the technical capacities of the snowmobile. At the same time, the snowmobile took them to places and activities that provided them with good possibilities to learn traditional knowledge. Research made among the Sami in Northern Norway shows that young Sami boys are socialized outdoors in nature (see, Helander-Renvall 2007). Furthermore, many young herders are satisfied with the technological knowledge, that originates outside the traditional Sami learning contexts (Bergland 2005).

The attributes of the snowmobile have had unexpected effects. It has become clear that there are risks connected to the use of snowmobiles that were difficult to calculate when the snowmobile was introduced in 1960s. One of the risks is the health hazard. Reindeer herding is a physically demanding activity, and at least in Sweden, it is one of the most hazardous occupations (Hassler et. al. 2004). Accidents among the male herders "caused" by the snowmobiles take place during herding activities, such as gathering, separation and slaughtering (ibid.). Snowmobiles are heavy machines and quite hard to operate. This unwanted attribute came out into view after the snowmobile was included in the actor-network of the herding society.

There are other threatening things that have emerged after the snowmobile was introduced to the Sami communities. An example is the need to have bigger herds in order to be able to acquire and maintain technical vehicles. Furthermore, the mechanization has resulted in higher slaughter rate (Pelto 1973) "gradually depleting the resources of some herders" (Müller Wille et. al. 2006, p. 373). The poor herders are forced to leave the occupation. Big herds create more pressure on the grazing lands which easily leads to ecological threats and to severe conflicts inside the Sami herding districts. Consequently, sovereignty and coherence of the Sami herding society become threatened.

Why was it Easy to Adapt to Mechanical Herding in Kaldoaivi?

As noted by Pelto (1973, p. 72), it is frequently stated that the introduction of new technology starts in centres and diffuses from there to peripheries. Concerning the snowmobile revolution in Finnish Lapland, the case was the opposite. The acquisition of snowmobiles started in the far north among the Sami reindeer herders and spread from there outward to the south. In Utsjoki there were certain facilities that made it possible to buy snowmobiles. For instance, there was a repair garage owned by a local Sami, Hans Guttorm. Also in a nearby village, Nuorgam, there was a mechanic. In addition, there was a bank which arranged loans for those who did not have cash.

It is evident that many various factors had an influence on the eagerness of Kaldoaivi herders to adopt the snowmobile and on the positive results of their undertaking. One relevant factor had to do with the characteristics of those herders that initiated the project. They had financial and material wealth and they came from families with political or social power within the reindeer herding society. They, and many other local herders, were already acquainted with mechanical vehicles and objects, such as outboard motors, modern fishing equipment, cars, bicycles, sewing machines and so forth. Many of them were also good at maintaining machinery. For young herders the snowmobile brought in new ways to combine physical strength, speed in time and space, and overall readiness with herding operations (Helander-Renvall 2005/06).

The snowmobile has its own attributes. For instance, it is a good working tool for transportation, driving and chasing the reindeer to a specific spot, and zooming around fast when searching for and gathering animals. It is time-saving which means, for example, that gathering of reindeer for round-ups takes place rapidly and that herders have more time for their families than before. According to the ANT approach, reindeer are also actors and influence the situation in a network. Reindeer are easily scared by the roar of the snowmobiles.[4] But reindeer tend to behave collectively in herds and

follow leading individuals (reindeer) when chased or moving to a specific direction or place. These behavioral attributes make it easy to drive them towards a certain locality.

It is said that the main reason why it has been very easy for Kaldoaivi herders to become successful with mechanised reindeer herding may be of an ecological character (Pelto & Müller-Wille 1972/73, p. 139). Namely the Kaldoaivi district has favourable physical settings. The hills have heights from 400 to 600 meters. The trees are low and partly covered by snow during the winter time. The terrain is treeless in many areas and it is easy to see where the herds or single animals are located. It is also easy to drive animals to the corrals, the work, which takes little time and demands little or no losses of single animals.

However, there is a point that is not discussed earlier in research texts regarding the snowmobile revolution: namely, that the reindeer herders possess traditional ecological knowledge (TEK) that is very useful when moving through different terrains and landscapes, when herding reindeer, when predicting local weather conditions and interpreting landscape features. TEK is everyday knowledge about local environment transferred orally from previous generations (Helander 2005). TEK is about the relationships of living beings including humans with one another and with their environment (Berkes et.al. 1993, p. 2). It also encompasses relationships with the land. A close relationship with lands is central to Sami people´s cultural thinking. Lands and landscapes have their own attributes. It is already said, that the terrain in Kaldoaivi is suitable for driving with off-road vehicles.

Tim Ingold (1993; 2000) argues that humans and their environment influence each other. Lands and landscapes become cultural because people act upon them. For Ingold, perceptions of nature are shared cultural modes of interpreting the environment. Cosgrove (1989) claims that humans and their culture write expressions into the landscape. Consequently, one can view lands and landscapes as cultural texts. Sami herders interact with their environment including reindeer in such a way that they shape their environment and environment shapes them.

Herders have an ability to 'read' their lands, and relate the 'text' they see to snowmobile and how to drive it in order to take care of the herding business. TEK, based on empirical observations, is knowledge that herders have learnt in the context of everyday life and through learning from older people. Through years, decades and centuries of adaptation the Sami have built enormous knowledge regarding their environment. '*Johtit*' is a very old word in the Sami language. It means 'to move forward, move, migrate'. Through ages Sami have been migrating long distances and have learnt to know the nature thoroughly. Sami know for instance the snow and weather well. The precision and complexity of the reindeer herders´ knowledge of snow and ice conditions is built in the Sami language. Herders also know a lot about the habits and behavior of reindeer under different ecological and weather-related conditions.

TEK helps to analyze the changing conditions as related to nature. As already indicated, it is a part of the knowledge behind the decisions concerning acquisition and use of modern technology. TEK is of importance when making decisions in concrete working situations. An example is given here from herding terminology regarding snow and ice. The northern Sami word *'cuoŋu'* means 'hard crust on snow'. While there is *cuoŋu* it is difficult for animals to penetrate to the ground level for lichen. But the movement from one place to another becomes easy. Consequently they start moving to all directions after food. However, *cuoŋu* can turn into *'moarri'*, which means that the hard cover starts getting softer. In the spring moarri can become '*soavli*', icy and soft snow, and reindeer have difficulties moving. *Soavli*-condition may hinder herders from using snowmobile, in any case in certain terrains and limited areas, such as wetlands, lakes and rivers.

Conclusions

My purpose has been to examine how snowmobile was adopted by reindeer herders in Kaldoaivi district in northern Finland. I have used actor-network theory (ANT) to map the nodes and strands of the herders´ network in order to get a better understanding of adaptation strategies and things that influence them. Attention is also paid to the traditional ecological knowledge (TEK). As said above, traditional ecological knowledge is about the relationships of living beings including humans with one another and with their environment. TEK is everyday knowledge about local environment transferred from previous generations or learned in

the context of the everyday activities. It is still used and helps to analyze the changing conditions as related to nature. Based on this, it can be stated, that cultures never give away completely to the new.

From the text above one can draw the conclusion that there are many factors that simultaneously influence the ways mechanization of a specific culture takes place. To the snowmobile were ascribed some particular attributes when herders made experiments and compared the use of the snowmobile with the use of the skis. As a result, the snowmobile was rapidly adopted by the herders of the different districts and became an actor in the actor-network of the local herders. Snowmobiles were easy to operate even in the difficult snow conditions. The gathering of reindeer took place much faster than earlier. For the young herders, the new technology was especially attractive. The introduction of the snowmobile gave them new opportunities to become successful. What is more, the snowmobile took them to places and activities that provided them with good possibilities to learn more about the traditional ecological knowledge

As already said, I have used actor-network approach to study the snowmobile revolution in Finnish Sápmi. Actor-network theory analyzes relationships in context and in doing so it denies the separability of the social and technological. ANT assumes that the construction of reality is achieved through the interplay of different human and non-human actors with equal constitutive character. The research approach taken from ANT is found to be suitable when doing research on the adoption of the snowmobile by the Sami herding society. The snowmobile is regarded as an actor or actant of the herders´ network. Various actors of the herding society may have different interests or attributes, but they are willing to translate (modify and change) their ways so that the alignment of their network can take place.

The material I have used in this article concerns mainly the situation in the 1960s. In the long run, the changes and complexities embedded in them become more visible. This raises a need to do more research on the mechanisation of the Sami reindeer herding. The fact that the nodes and strands of a network have "as many dimensions as they have connections" (Latour 1998, p. 2) makes this theme even more intriguing to study.

Notes

1. The material used for my article is from the research of Pertti J. Pelto and Ludger Müller-Wille in addition to my own field notes and other information from Utsjoki.
2. Hannu Heikkinen, a Finnish anthropologist, has made research on adaptation in the western parts of Finnish reindeer herding area. Heikkinen (2002, p. 326-329) counts three clusters of change in herding: 1) slowly changing cultural core (for instance, the relationship between the behaviour of reindeer and the locality of human settlement), 2) culture-based traditions (for instance, reindeer terminology), and 3) rapidly changing cultural features of everyday life (for instance, a new technology).
3. For Latour (1998), an "actant" can literally be anything provided it is granted to be the source of an action.
4. It has to be remarked that reindeer have become used to the noise of the snowmobiles, apparently because they (reindeer) associate the sound of the motor with extra food that herders bring in winter to them.

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Increasing Indigenous Participation in Resource Management in the North: Research Opportunities and Barriers

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Indigenous peoples have long been excluded from the management of their homelands and the natural resources these contain. In the Circumpolar North, most indigenous peoples began to experience significant deterritorialization by the 19th century, if not earlier. This loss of control over lands and resources was a major contributing factor in indigenous peoples' impoverished conditions relative to the dominant populations of the states in which they are encapsulated.

We see the slow reversal of this situation in the last few decades, most notably in the changing territorialities precipitated by "land claims" processes, through Settlement Acts (e.g. Alaska), other treaty processes (e.g. those in Canada), the creation of Territories of Traditional Nature Use (Russia, at least in theory), and other similar initiatives. Indigenous peoples have challenged, and made some in-roads into upsetting, the practices of dominant institutions controlling resource use and allocation in the North. Their re-territorializations pose myriad interesting research questions regarding borders and borderlands, including questions about the impacts of re-bordering of space along different axes, about changes in socio-spatial practices due to the creation of new bounded (resource) spaces, and regarding landscape manifestations of these new borders, etc. There is much more study needed of how state borders have been challenged and perhaps partially effaced through the trans-border co-operations of ICC, the Sami, and other groups regarding resources. In this article, however, I want to follow another trajectory – and consider research opportunities, particularly for social scientists, regarding improving indigenous participation in natural resource management.

Where indigenous peoples are achieving greater control over the natural resources of their homelands, they are doing so in significantly altered landscapes and situations to those extant when they originally lost authority. Their homelands have become sites of industrial forestry, of mineral and hydrocarbon extraction, of tourism destinations. Resource management strategies on indigenous homelands are contingent on new pressures, opportunities and constraints. These new realities affect the visions, values, goals and objectives of indigenous peoples, who frequently wish to be involved in such resource-based activities and to gain greater control over their development, while concurrently sustaining a variety of 'traditional' territorial-based activities (hunting, gathering, fishing, reindeer herding, etc.). They also often want to maintain certain 'traditional' values in the development of the new opportunities.

Below I briefly consider two aspects of indigenous participation in natural resource management: the issue of improving indigenous capacity to participate, and the issue of informing resource management with Indigenous Knowledge. I note a few of the research opportunities (and indeed needs) under these two themes, as areas that I see as critical to this topic and ways that researchers might contribute to the re-territorialization of indigenous peoples. There are many more that I don't identify here. My comments draw on my own research experiences with indigenous peoples in Eastern Siberia and in Northern British Columbia.

Improving Indigenous Participation in Resource Management

As legal confirmation of indigenous rights to control their homelands' resources proceeds in much of the Circumpolar North a key issue is indigenous **capacity** to assume such control. Indigenous peoples have multifaceted visions for the development of their resources, with concomitant goals and objectives of improving employment opportunities, sustaining the environment, preserving key spiritual and other culturally important sites, and perpetuating and developing their distinct cultures. At the same time they are confronted by dynamic social, economic and eco- systems. Legal and policy frameworks stipulate and sometimes constrain choices for resource management. Economic restructuring processes, especially notable in the Russian North, but characteristic of all parts of the Circumpolar North, shape possibilities. The North is currently characterized by a predominance of single-resource based communities. Population outflows of work-age and educated members typify many of its communities, including indigenous communities, while economic leakage remains another challenge. In some cases rapidly changing social and economic conditions are exacerbated by environmental change (for instance the huge impacts the Pine Beetle epidemic will have on aboriginal communities in northern British Columbia over the next generation as much of the pine forest dies off; the effects global climatic change will have on northern communities). Many wish to diversify the spectrum of resources on which their community well-being depends (e.g. through timber certification processes, eco-tourism development, etc.). Indigenous communities need the capacity to respond to such challenges, to identify new and desirable opportunities for resource development and to be able to act upon these opportunities.

Discussions with indigenous people in the Russian North indicate their strong desire for employment opportunities, but also their strong commitment to protection of the environment – a fact in part based on traditional values, in part on their current dependence on subsistence activities of fishing, gathering and hunting. Some envisage developing local non-renewable resources (e.g. gemstones) in order to support traditional activities. First Nations in northern BC also want jobs, especially ones that provide local opportunities for youth – and they also regularly discuss the need to protect culturally important sites (e.g. medicinal plant harvesting areas) and to revive their languages – all in the context of resource development strategies.

What research opportunities does this need for indigenous capacity building in resource management suggest? Firstly, researchers can contribute to developing and testing rigorous and locally-sensitive methodologies for facilitating community visioning exercises for resource management strategies that will meet their economic, social and environmental values, and generating the goals and objectives that issue from these visions. Once such methodologies are evaluated as effective, researchers should then provide training to community members on how to carry out such exercises themselves, as these need to be repeated at appropriate intervals.

Researchers can also provide skills inventory assessments, identifying the skills and training needed by the community to meet resource management goals and objectives. What professional and technical expertise exists within the community? What lacks? Are there transferable skills, or opportunities for upgrading existing skills of community members? This information can then feed into community planning for strategic capacity building regarding resource management, in terms of training programs, education in critical areas, and means of acquiring experience in key fields.

It is critical when planning for resource management to understand changing patterns of resource use ('traditional' and 'non-traditional'), patterns and changing intensities of participation in various resource-base activities, and the values community members attach to different resources and their uses. This understanding can inform assessment of risk factors involved in different resource development strategies, and of possibilities for amelioration of such risks. Researchers are well situated to design, with community input, such studies, and then implement them with community participation.

Local resource management takes place within the context – and constraints – of current legislated structures and processes. Researchers can help to identify how community input can be effectively incorporated into resource management plans, considering opportunities and barriers, including those specific to indigenous participation (e.g. inter-cultural communication challen-

ges, racism). When local resource management plans must articulate with regional plans that involve other indigenous and non-indigenous players, researchers can suggest models for engagement that have worked elsewhere, and, working with the local population, can identify alterations needed to these models, given the local context.

Where indigenous groups envision a new direction as desirable (e.g. ISO certification of their harvested timber for market advantage, ethno-tourism development), researchers can provide feasibility studies for such ideas, looking at the opportunities and challenges of various diversification strategies – again attending to the issue of community capacity for such development.

Informing Resource Management with Indigenous Knowledge

As indigenous peoples resume control of their territories' resources, they also aim to develop resource management strategies that incorporate their values and are informed by their knowledge. Indigenous people are regularly touted as significant contributors to sustainable resource management, through their practices, their unique connections to their homelands, and their local, place-based knowledge. Indeed, they fully understand the importance of the production of knowledge in creating territories (Paasi 2003), and intend to re-territorialize through the inculcation of these values and this knowledge into their resource management.

Yet efforts to incorporate indigenous values into resource management systems have to date been spotty at best. While in part due to constraints imposed by legislation and policies, in part efforts are stymied due to a lack of procedures for explicating such knowledge and values, a critical preliminary step for their inculcation into resource management plans. (The lack of respect for such knowledge among key non-indigenous players is also an on-going challenge.)

One recent development in sustainable resource management has been a trend toward the use of indicators as a means to measure progress toward achieving sustainability. Indicators have been developed to monitor the sustainability of ecosystems and of communities. Yet few indicators have been established within indigenous contexts and drawing on indigenous input. The following quote, although speaking specifically of forest management, is certainly generalizable to other resource management regimes:

"Indicators will ultimately influence what important aspects of forestry are to be measured and monitored, and against which SFM [sustainable forest management] is subsequently evaluated. This, in turn, impacts the influence that Aboriginal values have on sustainable forest management. Therefore, the fewer the number of Aboriginal indicators in existence, the less of an impact Aboriginal values will have overall in sustainable forest management." (FNFP 2004: 23)

Researchers can assist indigenous peoples in informing resource management by indigenous knowledge through a number of means. They can develop rigorous and culturally sensitive procedures for identifying local-level indicators and measures of sustainable resource management (e.g. Sherry and Fondahl 2004, Karjala et al. 2004).[1] In doing so, they can develop culturally appropriate and procedurally reproducible methods for identifying cultural experts within the indigenous community – a critical step for external legitimacy of research results in some situations (Davis and Wager 2003). In many northern areas these procedures must acknowledge the limited literacy and strong oral traditions of indigenous elders, as well as other cultural specificities.

Technologies that assist in the identification of indigenous resource management values, indicators and measures beg development. One example of initial steps in this direction is visualization software/hardware, whereby an elder can view landscapes within the traditional territory through 'virtual fly-throughs', and indicate which landscapes provide key habitat for various species, for medicinal plants, etc – thus facilitating the identification of sustainable landscape indicators and their measures when treks into the bush are impractical (e.g. due to age or health of indigenous expert, or season) (Elliot nd). Other visualization software allows indigenous communities to 'see' what the landscape will look like in 10, 50, or 100 years under various management regimes, and to explore different development options (Kessler *et al.* 2001). Many other computer-based visualization technologies can be imagined that would aid in the identification of indigenous values and indicators of sustainable development, a requisite step to their inculcation in management plans.

University – Indigenous Research Alliances

The above comments suggest very applied types of research. It is increasingly common in the North to hear pleas, indeed demands, for relevant research. Indigenous and non-indigenous community members alike frequently complain that they have been 'studied to death' with few obvious benefits flowing back to them. They want to see tangible results and/or useful products. Research must involve community members, and findings must be communicated in language and media that are accessible to them.

Co-management of research provides a means for improving the relevance of research and to increase indigenous participation in resource management. If co-management of resources is a strategic approach for asserting greater indigenous control over territory (Notzke 1995), co-management of research can provide a means by which indigenous peoples can assert greater control over research and researchers. By doing so, they can better ensure relevance of the research conducted on their territories, while also learning about research processes along the way. This also gives them insights into the limits of research and constraints on researchers, making their own expectations in terms of timing and outputs more realistic.

In Canada, a Community-University Research Alliance program[2] is founded on the assumption that communities are best situated to identify their key issues and problems; researchers can assist in identifying solutions to these challenges. While not specifically set up for indigenous-university research collaboration, it has supported numerous such endeavors: in 2004, of the 15 projects chosen for funding, 6 involved university-aboriginal partnerships.

Research with communities can provide community members with a host of training, in interviewing skills, transcribing, archival research, content analysis, technical writing, data base development and internet research. Skill can be honed in word processing, cataloguing, poster design, and independent work skills. Indigenous research assistants may be exposed to and become more knowledgeable about research protocols that their nations have generated, and to cross-cultural communication. In parts of the Canadian North, where Treaty Offices and other offices perform increasing amounts of research, rather than depending on outside consultants, research may be a significant employer, and capacity-building here can be a significant boon to indigenous communities. Even being able to better question and evaluate the research of outsiders done on their behalf, through a greater understanding of research processes, contributes to indigenous peoples' capacity.

The co-management of research benefits not only the indigenous community, but the researchers (and researchers-in-training), who learn how to work more effectively and respectfully in a multi-cultural environment. As resource control increasingly resituates from non-indigenous to indigenous institutions, such skills will be increasingly valuable to both researchers and their students who act as research assistants, but then pursue employment in other sectors (industry, government) and conduct activities with indigenous communities. As many researchers are also teachers, such experience can contribute to curriculum development that attends more to indigenous values and knowledge.

Notes

1. Our research has shown that local-level, indigenous indicators of sustainable forest management attend much more to social and cultural measures of sustainability than do internationally or nationally-generated indicators, which focus more on economic and ecological parameters (Sherry et al. 2005).
2. Under the auspices of the Social Sciences and Humanities Research Council; see http://www.sshrc.ca/web/apply/program_descriptions/cura_e.asp#1. See http://cura.unbc.ca for an example of information on one such project, directed by the author.

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Eternal Kantele at the End of Time – Reflections on Retraditionalization of Traditional Knowledge In the Face of Rapid Ecological Changes in the Arctic

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...Iski kerran, iski toisen / She struck it once, struck it twice

iski kohta kolmannenkin / soon struck it a third time too:

jo ilolle tuntui / now joy had the feel of joy

laulu laululle tajusi / and song had the sense of song

alkoi sormet souatella / Her fingers began to work

käsivarret vatvaella / her arms to move back and forth...

Introduction

This article looks at the role of traditional knowledge (TK) and revitalization attempts of this knowledge in face of rapid social and ecological changes in the Arctic, more specifically in the context of human-induced Arctic climate collapse (Arctic Council 2004, Mustonen et al. 2004). As the incapacity of the regional, national and international regimes of governance becomes more evident in trying to respond to the looming crisis, the local Northern communities are on the front lines of receiving the impacts of the climate and weather changes. At the same time, these communities in the North, many of which are Indigenous by population, have survived colonisation, modernisation and have entered into the "global" age as survivors and significant actors in the multiple frameworks of the North; from land claims recipients to international focal points of Arctic change. For example the Inuit people have demonstrated this with the active policies regarding climate change. One of the themes of the Northern Research Forum, 4th Meeting, is"*Borders, barriers, interactive cultures and borderlands – is the North becoming a common borderless space?"* More specifically it has been identified that one of the key sub themes *is"Learning the epistemology of indigenous knowledge systems and worldview"*. This article, while outlining some of the recent examples of the application of local and Indigenous knowledge systems into research and policy (Arctic Climate Impact Assessment Report, 2004) touches on a number of themes embedded in this field. At first, after introducing Snowchange, the organisation operating as a context for this article, an outline will be given on the relationship of ecological, including climate changes to traditional knowledge, with examples from the Baltic-Finnish cultural zone. Then a quick overview of three community-based oral history projects will be done to highlight practical, concrete examples of Arctic and Subarctic communities trying to preserve and revitalize core elements of their knowledge systems. These cases come from Arctic Canada with the Inuit of Igloolik, Sakha Republic (Yakutia), Russian Federation and the Savo-Karelian cultural zone in Finland and the Russian Federation (Provinces of North Karelia, District of Kainuu and Republic of Karelia, Russia). Igloolik Oral History Project based in the Canadian High Arctic in the Inuit community of Igloolik was started in the

1980s on the wishes of the local Elders and researcher John Macdonald to preserve the Inuktitut language, dialect and Inuit Qaujimajatuqangit, Inuit traditional knowledge. Snowchange Yakutia works with two communities in the Republic of Sakha-Yakutia, Siberia, Russia to preserve and advance local Chukchi and Evenki knowledge, language and oral histories as well as document rapidly advancing climate change in partnership with the local reindeer herders, subsistence fishermen and hunters. "Tuohiaika" – 'Age of Birch Bark' an oral history project to document North Karelian, Savo and Russian Karelian oral histories regarding fishing, hunting and weather knowledge was initiated in 2005. In the end, some reflections on the Indigenous criticism of documenting and establishing"oral history projects" will be offered and a look ahead provided.[1]

Snowchange cooperative

Winner of the prestigious Worldwide Fund for Nature 2002 'Panda Prize' for best national ecological project, SnowChange was started in late 2000 to document and work with local and Indigenous communities of the Northern regions. In 2001, a partnership was established with the Arctic Climate Impact Assessment to provide case studies from Finland and Russia to Chapter 3 of ACIA: Indigenous perspectives. The aim of this project was to document and work with local communities and Indigenous peoples to present their findings of climate and ecological change in a way that would offer a viewpoint that empowers the local people of the changing Arctic. Also, a strong educational element was included to introduce students of the mainstream societies of Russia, Finland, Iceland, Canada and Alaska to the values, ethics, lifestyles and knowledge of the Indigenous societies of the North. Students worked with reindeer herders, fishermen and hunters in the circumpolar regions to collect the Indigenous observations of change. The results were released in a groundbreaking publication Snowscapes, Dreamscapes in Helsinki, Finland in June 2004. Overall the Sámi and other local participants have a clear message of the changes taking place; in the past 20 years there has been a significant new phase in the weather and natural cycles. The Sámi have traditional knowledge building on generations of people living in close relationship with the sub-arctic ecosystem. This knowledge is best expressed in the Sámi language. Despite colonization attempts by missionaries, boarding schools and the Nordic states, the Sámi culture and people survive and are regaining the control of their own destiny once again. SnowChange community interviews are being digitalized and archived into DVDs for future generations, while new documentation goes on.

The scientific priority of Snowchange is currently in the following areas of the North: the Saami territories of Finland, Russia, Sweden and Norway, Murmansk Region and the Republics of Karelia and Sakha-Yakutia, Russian Federation, Savo, North Karelia and Kainuu, Finland, Iceland and Faroe Islands, British Columbia, Northwest Territories and Nunavut, Canada, Alaska, USA. In addition to these operations in all Arctic countries (United States / Alaska, Canada, Iceland, Greenland and Faroe Islands (Denmark), Norway, Sweden, Finland and Russian Federation) Snowchange has partners in Bolivia, Nepal, Ghana and New Zealand. In all of our member regions there is a large network of community people to whom we owe our daily thanks for making Snowchange possible. As well, several NGOs and other organisations such as the International WWF Arctic Programme have been and are key allies with our work.

> …Ei ollut sitä metsässä / There was none in the forest
>
> jalan neljän juoksevaista / running on four feet
>
> ku ei tullut kuulemahan / that did not come to listen
>
> soitantoa Väinämöisen, veen emosen / to Väinämöinen's playing…

Theoretical Approaches to Oral Traditional Knowledge Systems

Human-induced climate change has become a reality in the Arctic. Findings of such international research projects as the Arctic Climate Impact Assessment, ACIA [Arctic Council, November 2004] and the International Governmental Panel on Climate Change, IPCC confirm that the Arctic ecosystems and human societies face immense challenges in the nearby future. At the same time around the Circumpolar North, people living in small communities have argued for a number of years that there is an urgent need to study traditional economies and knowledge systems, to appreciate their character

and complexity, and to preserve them. The traditional knowledge developed within local communities, is grounded in the close interaction between people and their local ecosystems over periods of hundreds, or even thousands, of years. It normally reflects subtle strategies for maintaining social cohesion and for making wise use of renewable natural resources in ways that are inherently sustainable. Traditional knowledge is of scientific interest as an (largely unexplored) example of knowledge acquisition and transmission, a medium of social cohesion, and a set of human strategies for coping with social and natural environments. Traditional, local knowledge is a hidden, but important, constituent of a culture, which is important to the maintaining of social and personal identity. It contributes to the preservation of the basic social fabric in a period of rapid and de-stabilizing change. It adds to the richness and diversity of experience no less than other cultural components such as art, literature or music. Like these other components, it deserves to be available to the public, but unlike the others, it is very difficult to display. Although the strategies and insights of traditional knowledge may become in various ways obsolete when the matrix surrounding human life undergoes rapid and drastic change, they may in many other cases be of help in understanding and adjusting to change and novelty. Traditional knowledge provides culturally specific tools which enable people to adapt strange and unexpected influences to the local. The diversity of knowledge embedded in local traditional knowledge is reflected in local languages and language usage, and this requires ecologists and social scientists to reach out to linguistics in order to better appreciate the cognitive map of traditional knowledge, which exists within a largely oral context. In the United States, the National Science Foundation explicitly endorsed and recognized the value of the traditional knowledge in 1999. However, despite growing recognition of the importance of traditional knowledge, and awareness of the danger of such knowledge vanishing in a rapidly changing world, very little has actually been done in the way of revitalization of traditional knowledge on community level.

> …Ei ollut sitä ilmassa / There was nothing in the air
>
> siiven kahden lentäväistä / flying on two wings
>
> ku ei tullut kuulemahan / that did not come to listen
>
> soitantoa veen emosen / to Väinämöinen's playing…

Significant Natural and Ecological Changes as Reflected in the Batic-Finnish Oral Histories

Our focus region is the Baltic Sea and its Northern Rim; homelands of the Sámi, Scandinavian and Baltic-Finnish Nations for millenia. Therefore I will present some discussion on the role of traditional oral knowledge and its relationship with large scale ecosystem events and changes in the past. Ain Haas, Andres Peekna and Robert E. Walker argue that:

"The observation that human societies are shaped by the natural environment appears in the earliest treatises on cultural diversity. Scholars have focused their attention on the ordinary conditions of the environment (weather patterns, topography, natural resources, and other enduring features) or on recurrent events in an area (earthquakes, floods, droughts, etc.), when trying to account for local inhabitants' distinctive customs and beliefs. Yet recent investigations of ancient cataclysms suggest that truly extraordinary events can also have a great and lasting impact...The Finnic and Baltic peoples, in particular, are noted for their extensive collections of folk songs and tales, compiled mostly in the 1800s – a product of their deep reverence for the oral traditions of their ancestors and their recent and wholehearted conversion to literacy. These peoples are also noted for their tenacious commitment to their homelands. Compared to most other parts of the world, the population of this area has been relatively stable for millennia. Archeological, linguistic, and genetic evidence all point to continuous occupation of the shores of the Baltic Sea since the end of the Ice Age" (2003; 49-50).

Ain Haas, Andres Peekna and Robert E. Walker discuss the knowledge regarding the birth of fire in their article further:

"In his books Hõbevalge (1976) and Hõbevalgem (1984), Lennart Meri (the scholar, anthropological filmmaker, and diplomat who became Estonia's first post-Soviet president) notes that another, literally earth-shattering, cataclysm took place in the area, when a meteorite broke apart in the atmosphere and the pieces smashed into the Estonian island of Saaremaa to form the crater of Kaali *and several smaller ones. He presents an intriguing argument that this had a major impact on Estonian-Finnish mythology, folklore, involvement in iron-*

making and trade, etc. The date he reports for this event, 600–700 B.C., was based on radiocarbon dating of charred wood from the craters...The Kaali meteorite crash is the kind of unique and astounding event that must have become a topic of storytelling and singing for many generations afterward. As mentioned above, it evidently occurred around 2000 BC, on Saaremaa Island in the Baltic Sea. As recent scientific studies have established … a meteorite of iron streaked from east to west over the Estonian mainland, broke apart as a result of atmospheric friction, and hit the island in at least 9 places, leaving craters that can be seen to this day.... In the folkloric sources of the peoples living in the vicinity of the cataclysm, the description that is the most detailed and seems closest to the reality of the meteorite crash can be found in the Kalevala epic. The 47th rune of the revised (1849) version is as vivid, comprehensive, and accurate as one could ever expect, if an account of the disaster had been passed down through some 4000 years (or about 160 generations) of oral tradition. The poem's reference to the fiery fragments of heaven speeding and crashing along the cloud-line fits with the scientists' calculation that the meteorite came in at a 30–45° angle with respect to the horizontal surface. The white-hot fire that consumed people, a spruce forest, and boglands also fits." (2003; 51, 56, 61).

Even though the written epic *Kalevala* by Elias Lönnrot can hardly be taken as an accurate oral history document, the point emphasized by Haas et al. is an important one. Deriving their conclusions on oral knowledge largely from President Meri, they are looking at how multifaceted variations of one of the most significant and spiritually potent oral songs of the Karelian and Finnish Nations, *"Birth of Fire"*, may reflect an event of a massive scale – that of a meteorite hitting Estonian homelands in the distant past. Such knowledge and detailed, sensitive readings of local landscapes, place names, harvest areas and localities that are embedded in the oral systems of knowledge in the Arctic are at the core of understanding traditional knowledge. Age of the rune singers and Finnish traditional community life has been declared over at the close of the 19th Century. Many community people, artists and scientists however have tried to work and make sure that cultural knowledge core of taiga forest ecosystems was preserved. In 1960s and 1970s, at the height of the post-War modernisation and industrialisation in Finland several important social and cultural figures tried to maintain rudiments of this relationship through their work; these include fisherman Into Sandberg on the Pori area Baltic Coast, artist Reidar Särestöniemi, photographer Matti Saanio and most significantly, author and translator Brita Polttila, to name a few. Polttilas *"Pohjan Portit / Gates of the North"* from 1982 offers a break-though reading of the relationship between Karelian / Finnish traditional oral songs and the cyclic, seasonal changes of the Northern taiga ecosystems, with strong emphasis on northern lights and the way they are reflected in our song, in our belief and in our ideas of the land.

In the field of Arctic sciences, the application of traditional knowledge to the understanding of ecosystem changes has begun to take root. The most significant of these attempts so far is the Arctic Climate Impact Assessment from 2004 (Arctic Council 2004), which contains observations of climate and weather changes around the Arctic communities. At the dawn of the 21st Century Arctic, with an imminent collapse of the climate system in front of us (*The Siberian permafrost region has the potential to release billions of tonnes of methane, says Walter. "It is a ticking time bomb," she says;* in Walter, Zimov, Chanton, Verbyla and Chapin 2006: 71 – 75) the local communities and individuals are faced with a significant question*: How do we adapt and mitigate the vast and overlapping changes that loom ahead?* In many cases of the North, the traditional knowledge and the revitalization of this knowledge are proving to be answers to the dilemma. In short this process features the following components:

First, revitalisation of Community Autonomy (political, economic, cultural) leading to
Second, revitalisation of Local Economy and Language (Oral history projects) leading to
Third, revitalisation of Knowledge: People of the Land teach young people to be on the Land

> …Veen emosen soitellessa / As Väinämöinen played
>
> kutku kullervoiellessa / as she plucked the loud strings
>
> lohen purstoista iloa / as the salmon tail rejoiced
>
> kalanluista kanteloista / to the fish bone kantele…

Overview of Snowchange-Related Oral History Projects

Igloolik oral history project

Igloolik Oral History Project based in the Canadian High Arctic in the Inuit community of Igloolik was started in the 1980s on the wishes of the local Elders and researcher John Macdonald to preserve the Inuktitut language, dialect and *Inuit Qaujimajatuqangit*, Inuit traditional knowledge. Copies of all documented Inuit Qaujimajatuqangit interviews are stored at the community and are available to stakeholders. In 2000, the project yielded a community-based book"*Arctic Sky"* devoted to the Inuit knowledge of the celestial events, navigation, myths and so forth. Community events, such as seasonal festivities (return of the sun etc.) have been re-activated and re-introduced. Snowchange has collaborated with the Igloolik Oral History Project since 2002 in the form of joint publication of materials, online exhibitions of Inuit Qaujimajatuqangit and educational projects, including seminars. The Igloolik Oral History Project represents one of the most long-running attempts in community based knowledge revival and therefore is an important baseline and comparative case.

Snowchange Yakutia

Snowchange Yakutia works with two communities in the Republic of Sakha-Yakutia, Siberia, Russia to preserve and advance local *Chukchi and Evenki knowledge*, language and oral histories as well as document rapidly advancing climate change (Walter, Zimov, Chanton, Verbyla and Chapin 2006: 71 – 75) in partnership with the local reindeer herders, subsistence fishermen and hunters. The project "Ecological Traditions of the Aboriginal Peoples of the North of Russian Federation In Context Of Climate Change" represents an attempt to collect and accurately describe the cultural heritage of Northern peoples in Yakutia. Primary attention is given to rapidly disappearing materials, spiritual heritage patterns and bearers of traditional culture of Northern and Arctic peoples. Simultaneously, attention is paid to existing display of Indigenous peoples cultures, which have not been obtained properly in the past. Previous colonial researchers have misrepresented the local cultural issues in a distorted way. The Snowchange Yakutia project is designed so that Indigenous participants work with other Indigenous informants and retain full control of the project during its execution – thus ensuring a proper way of representation and participation. The first segment of the documentation and research of the traditional knowledge has been conducted in Nerungrinsky region, Sakha Republic, Russia and Niznekolumsky region, Sakha Republic, Russia by the Russian partners and Snowchange. In total appr. 150 hours of interview materials, diaries, maps and photos have been researched and documented. First community in the Snowchange Yakutia process is the village of Iengra (Evenki) and the nearby nomadic reindeer camps, with a special focus on brigade #4. Community oral history project began in July 2004, with long fieldtrips in 2005 and 2006. Niznikolumskaja raion is the second territory in the Snowchange Yakutia**.** Even, Yukagir and Chukchi Tribal Indigenous communities Nutendli and Turvaurgin *obschinas* are the primary partners for this work. Niznikolumskaja raion is as well one of the three ECORA Project regions in the Russian North. Snowchange works closely with the integrated ecosystem management process of ECORA in the fields of climate change studies, traditional land use, and education of Indigenous communities, development of civil society, conflict management and preservation of traditional knowledge. The ECORA project represents a historical attempt in the Arctic to preserve and revitalize Northern communities. It may be the best and last attempt to influence the development of this region. Next Snowchange Conference is planned in Iengra sometime in 2007-2008 with the Evenki people.

Most of the project field work will rely on ground-up approaches. Actual field interviews are expected to be conducted using semi-structured interviews. Informant participation is important and semi-structured interviews will allow the participants to prioritise the issues, observations, narratives and processes that they feel are important for them. This method ensures that proper presentation and guidance of fieldwork will be conducted as well as an ethic treatment of the local participants according to the established standards of the international law and guidelines of similar research. Each local participant is a co-owner of the documented material. They and / or their representatives have rights to decide what parts and in what ways their knowledge will be presented to various audiences and in the Snowchange archive. Technically, documentation of the field work involves the use of field notes, digital

cameras and minidisk recorders as well as conventional documentation equipment. Most of the field documentation has been filmed using MiniDV Digital Cameras. Topics of research include narratives, observations, stories and understandings that put emphasis on relationship between local people and surrounding ecosystems. Emphasis lies as well with climate change, to start monitoring of community-based observations in Yakutia and to continue the work of the previously mentioned ACIA and IPCC climate change studies. In April 2007 the Snowchange 2007 Workshop – Traditions of the North is planned in Neriungri and Iengra of Sakha Republic to release key findings of the community observations of the changes from the field work regions.

The Nutendli Nomadic School

Nomadic way of life survives in Yakutia. Rapidly melting permafrost, loss of culture and other factors are priority challenges for Snowchange. We are funding *Nutendli Nomadic School* to preserve Chukchi culture, language and way of life. In short, the new nomadic schools, which would allow the Indigenous children to receive their education close at their traditional homes on the land may represent last and best attempt to preserve the unique cultures, livelihoods and languages of the peoples involved. This may sound theoretical and romantic at first, but at the core of the debate this issue really emerges - the survival of the traditional mind and peoples on the land. Once the nomadic way of life is over, the process can never be reversed. When Siberia was colonised by Russia and later the industrial colonisation took place under the Soviet state, Indigenous societies of the region were assimilated and the attempt was made effectively to wipe out the local knowledge systems, beliefs and languages. The residential *internat* school system has caused the near destruction of these societies. Therefore the introduction of new nomadic schools in Yakutia represents an attempt to correct the problems of the colonisation in Russia and support the re-birth of the (neo) traditional lifestyles of the tundra and taiga. In the process of establishment of a nomadic school the first responsibility is always with the local obschina or community / family. If they feel they have the responsibility and resources to enter into this demanding attempt to re-establish Indigenous education among their peoples, this decision is the start of the process. There has to be some real "criteria" of internal situation in place that the concept will work. Some of these include whether the language is still spoken, is the nomadic way practiced, are there enough Elders who can teach the young people the core of the traditional knowledge systems, rituals, ceremonies, reindeer way of life, and in the end, does the community have the willingness to enter into this challenging road. In principle the idea of nomadic school is considered to be good and worth support in Yakutsk among the government representatives, NGOS, UNESCO, and educational bodies. Lip service is paid very often to the fact that support is given. Even in the regional centres the same rhetoric is practised. Unfortunately so, 99% of the time no support flows down to where it is needed the most - the actual school and tribal community. Now we see the rhetorical support for the idea of these schools among politicians but as we get to the local and practical level, in fact there is active suppression and denial of protection and support for these attempts. A priority would be to provide higher-than-normal salaries for the teachers of the Indigenous languages and other nomadic school teachers, if they come from outside, as this could be a method of attracting people to the remote localities. Now very few people wish to go to remote camp along the Kolyma or to Aldan, when similar and higher paying job might be available in Yakutsk, Cherski or Neriungri. There is neither enough legal protection nor financial help from the government. Curriculum development to reflect Indigenous knowledge, something that we are very heavily involved in Nutendli, is not happening to a large extent because there is no funding to renew curriculum or rather the *way* in which teaching should be done in traditional ways. Unfortunately the most recent situation (Autumn 2006) points to the opposite direction - with the plans to introduce "rent" on the traditional land use of reindeer herders, fishermen and hunters, instead of the right of use and hopefully one day traditional ownership, which has taken place in Canada (Nunavut, Deh Cho, Nisga'a Final Agreements). Snowchange opposes strongly the new law of "renting" these lands, and continues to work both on the community level as well as all administrations of Russia to influence the situation. This nomadic school *"Nutendli"* and the tribal obschina led by Slava Kemlil represents in many ways the best example of trying to regain control of the culture, language, traditional livelihood and survival in the Arctic. It has few peer projects. Therefore the new nomadic schools are a historical attempt to try to break the sad circle of colonisation which has led to the near extermination of the local languages, cultures, beliefs and ways

of life inherent to the Russian North. Instead "civilisation" has brought diseases, suicide, alcoholism, western (Russian) education, Russian language, resource extraction and in 1930s during the purges the killing of spiritual leaders (shamans) and old people. Further development of the nomadic schools in Russia is an attempt to renew life, relationships, languages and traditional knowledge in culturally appropriate terms. They are the most advanced form of Indigenous education today in the Arctic. They may, given positive developments, enable the re-birth of the traditional mind in the current generation and future children and ensure that the ancient way of life continues.

> …ei ollut sitä meressä / there was nothing in the sea
>
> evän kuuen kulkevaista / moving with six fins
>
> purston puikerrehtavaista / darting with a tail
>
> ku ei tullut kuulemahan / that did not come to listen
>
> Veen emosen soitellessa / As Väinämöinen played…

Indigenous Criticisms of "Oral History Projects"

In brief, criticism of documentation of traditional knowledge exists, but has been marginalized in academia and at large. One of the leading scholars of this topic, Leanne Simpson from the Anishinaabe Nation in Canada, argues that:

"Our teachings tell us that knowledge is a process that must be lived *(italics by author). Anishinaabe knowledge holders for example have always documented aspects of their knowledge systems (petroglyphs, pictographs, scrolls, wampum etc.) but the contemporary pressure to document is coming from the colonizing culture. So whenever I am confronted with a documentation project I always look at the motives. In cases where real Indigenous knowledge holders want to document aspects of their knowledge for specific political purposes, I can usually respect that decision...Documenting knowledge makes it more accessible and palatable to those who know little or nothing about Indigenous cultures. Our knowledge holders caution that documented knowledge is only the "residue" of these systems and it can easily be misunderstood and exploited when taken out of context. Meaning is derived by context. I believe we need to focus our efforts on internal matters – on community and nation building, on recovery and revitalization on decolonizing, etc. in terms of knowledge that means creating situations where youth are interacting with Elders so that Elders and knowledge holders have the opportunity to pass their knowledge on using culturally inherent ways. It means protecting the land. It means promoting language, recovering traditional political culture, leadership and governance. It means strengthening connections to the land. It means finding a way to live our knowledge in the contemporary world".* (2006).

Comments made here are a welcome and fresh point of view in the rush of the academia to document and extract, "strip-mine" if you will, traditional knowledge of the North.

> …Veen emosen soitellessa / As Väinämöinen played
>
> kutku kullervoiellessa / as he plucked the loud strings
>
> kalanluista kanteloista / to the fishbone kantele
>
> lohen purstoista punaisen / the red salmon tail...

Conclusions

My own cultural background, as a member of a Karelian family with ancient roots in Äyräpää in Ladoga Karelia and Leppävirrat in Savo region of Finland, is a contested one and complex one. Our traditions have been documented for decades by scholars from the *Association of Finnish Literature* among others. Traditional Finnish Knowledge has been documented for centuries. On the surface we are a modern European nation-state. Often it is said that our traditional knowledge is dead. However, it is the first priority of the Snowchange Cooperative to make sure that the forest knowledge of Finns is preserved and actively in use. Our language is very old, our epic songs, incantations and sacred beings consist echoes and stories since Time Immemorial. This forest knowledge is best expressed in our local dialects and languages. Therefore Snowchange is in active process of re-traditionalisation of our society in different levels. Examples include handicrafts, *nuotta* style traditional fishing, *runonlaulanta* singing and many more.

"*Tuohiaika*" – "Age of Birch Bark" is an oral history project to document North Karelian, Savo and Russian Karelian oral histories regarding fishing, hunting and weather knowledge. It was initiated in 2005. Key components of the Tuohiaika project are; critical analysis of the character, nature and extent of surviving Karelian knowledge, documentation and archival of Finnish knowledge, organisation of community events, training, conferences and participation in research that enable the advancement of traditional Karelian and Finnish Knowledge, opposition and positive action to stop unlimited forestry and other industrial activities in the European Peripheries, community based conflict management and solutions and most importantly, the rebirth of Forest Knowledge of Finns. This process will as well provide a new, post-colonial scientific framework that will lead to a "new approach", attitude and interpretation of cultures of the Arctic. This new approach will be built on the traditional governance and learning structures of the local cultures. Such a unique process has few peer projects in the world.

Ain Haas, Andres Peekna and Robert E. Walker write about the social functions of remembering rapid, drastic ecosystem changes and cataclysms:

"There can be no doubt that after the sudden periglacial lake drainages and the meteorite crash occurred, the cataclysms became a main topic of conversation for the observers and their descendants for a long time to come. People would have tried to interpret the unprecedented events in terms of more familiar concepts, speculated about what unseen forces or supernatural beings might have made Nature take such unexpected turns, and worked the amazing events into the stories, songs, incantations, and other lore passed on to subsequent generations. Those who were eyewitnesses to the events would have related their experiences with firm conviction and strong emotion. Those who were born shortly after the event would have taken the claims most seriously and passed them on without casting doubt on the veracity of their elders. In those days, people lived a precarious existence, had to pay close attention to the dangers and opportunities in the natural environment, and could not afford to believe only what they had directly experienced themselves. Many generations later, the lore connected to the cataclysms would have receded in importance. Without recurrences, interest in the ancient events was bound to wane eventually. New disasters and extraordinary events would come to the fore – wars, plagues, religious conversions, etc. – and compete for the attention of storytellers and singers. New characters might be connected to old sites, as in the mainland Estonian tale about Vanapagan (Old Pagan) doing his sauna-whisking and bathing at Kaali...But there would still be an important reason to pass on ancestral lore about the environment of the past. Remembering something about what was considered noteworthy by one's elders and those before them would be a way of honoring ancestors and affirming one's affiliation with a long chain of generations of one's own kind, even if the relevance of the information to contemporary problems seems minimal.... Many of the metaphors that are preserved in the lore will remain mysterious, but a clearer understanding of some of them is possible if we start from an examination of what our ancestors' world was actually like and think about what they might have wanted to emphasize in their tales and songs." (2003; 72, 74).

Brita Polttila, a scholar, author, writes in her «Pohjan Portit» from 1982:

*«As I was reading the (documented) version of the birth of the Cosmic '*kantele*' instrument, I was filled with an emotion that among the poetry of the world there cannot be more potent celebration of the healing powers of Life…The world view, belief system and imagination embedded in our songs and poems is one of shamanism. There are no traces of the shaman drums in our poems. But just like the Sámi and Altaic shaman drum, kantele is our symbol for the universe…Kantele was used to predict things, the playing of kantele allowed* noita*, the shaman to fall into trance to travel to the spirit world. When* noita*, shaman conducted her incantations kantele rested on her knees. It symbolized a cosmic instrument built from the eternal jaw bones of the Northern Pike. It was a cosmic kantele of the Aurora Borealis. The Kantele of the Rites was a powerful symbol of forces of life and renewal of the new Cosmos, Life itself. »* (1982; 237).

Spirituality, land, language and weather changes are related. New documentation of climate change and further adaptation and mitigation has to recognize spirituality. Indigenous and cultural spiritual relationship is best expressed in local languages. We need spiritual leaders to determine the direction of our work. We need mechanisms in place for financial, material and educational support of these local languages. There is a need for sensitivity in relationship with spiritual knowledge. We in Snowchange have to make sure our ways of life and local knowledge are kept despite colonization and the predicted changes that are affecting our realities.

We must find different ways to document snow, ice and other related terminology and the ecosystem changes. We need to create a forum for indigenous and local peoples to express these relationships. We need to have to dialog with people who are threatened by indigenous peoples. We need to include people with different values into the discussion. Documentation is just one step - in some cases that is what is needed. But according to our vision we archive and document knowledge to embark on a road to re-traditionalize and rebirth our cultures, our languages, our beings in the world. At the time of changes, we believe we must live our knowledge, our songs, our dreams.

> ...Veen emosen soitellessa / As Väinämöinen played...

Notes

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Knowledge Work in the North - What Networking and the Barents Region have to offer to Northern Finland

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In Finland, work has traditionally focused on concrete objectives. In knowledge work, the outcomes are very often abstract in form – research results, plans, and software applications - and thus deviate from what is expected in traditional production. One wholly singular form of knowledge work is management. The early 1990s taught us that merely processing paper documents is not enough to feed a nation. But, are our competencies in knowledge work today enough to keep Finnish business competitive and keep Finnish companies in Finland? How will the growth we see in the Barents Region be reflected in the demand for knowledge and know-how in Northern Finland? Do we have the resources with networking capability in the scale required?

As the Information Society expands, the importance of information will increase accordingly. The concept will come to denote not only the production and dissemination of information but all information-related human interaction. The Information Society requires better and better education from its workers, although computers do more and more of the tasks that once required a high degree of training. The expectation was that IT would allow us to work more efficiently and thus give us more leisure time. What has happened, however, is that IT seemingly lures successful individuals into a frenetic pattern of round-the-clock work.

Society Under Pressure

Society finds itself under many and various pressures today. The debate on the ageing population shows that the impending shortage of skilled experts is a formidable challenge that must be addressed. Attracting foreign workers for these jobs will not suffice. Expertise must be built on know-how and the work of an expert must be duly valued. The situation is most acute where leadership and the development of leadership are concerned.

In recent years, the Finnish economy has rested on three pillars – the paper and pulp industry, the metals industry and the electrotechnical and electronics industries. The first two are closely bound to their production sites but the third is increasingly independent of location. The Finnish paper and pulp industry has branched out and started to build mills in South America, where trees have a far shorter harvesting cycle. Each of these branches of industry relies more on the successful management of business knowledge and information than ever before.

Society confronts certain expectations related to work and the well-being work is supposed to bring. For businesses that are going international the key questions here are the price of labor and logistics: they try to have the work done where wages are lowest and transportation needs are minimal. Finland's location means that it is far from the centers of consumption, and labor is far more expensive here than in many rival countries. What has made us strong to date is that successful production has required product development and design alongside it. If a Finnish company moves its manufacturing operation to a cheaper region, it must maintain the same manufacturing process in Finland to aid in product design and development. Small-scale facilities are sufficient to this end. The pressures for change which European societies face are relatively minor, evolutionary ones. In developing societies, the pressures at work and the scale of change could be described as revolutionary. In many cases, what is involved is a step straight from an agrarian society to a society that relies on knowledge and information.

Outsourcing

In 2005, design - like production before it - began being transferred to regions where labor was cheaper. A number of operations related to the production of services were also being carried out elsewhere. In the Information Society, products are delivered not only physically but also via information networks, meaning that distance is no longer an essential factor in transportation costs. This rapid delivery and distribution of knowledge-intensive products is an advantage that production in Finland has been able to offer.

When particular phases of the manufacturing process are transferred outside a company, much of the know-how associated with the process goes with it. For example, a customer should insist that products or components of products manufactured outside a company meet the same standards of quality that would apply if they had been manufactured in the original company.

When even services are transferred outside the company, the nature, extent and diversity of the operations determine how and to what extent information should be protected. For example, customer data is perhaps the most sensitive component of the information needed in the daily operations of a service center. When design is outsourced, there is a far greater risk that the confidentiality of strategically important information will be threatened. (Kajava et al. 1996)

Yet anyone working in today's modern business environment must in the name of cooperation reveal a great deal of confidential design-related information to his or her partners and even to key clients. Here, too, great care must be taken that strategic information does not fall into the wrong hands. (Kajava et al. 1995)

Nokia's network services have recently been closely watched business. It was quite a surprise this past summer when Nokia announced that these operations were being transferred in their entirety to a new company established with Siemens in which Nokia and Siemens would own a fifty-percent share. This arrangement nevertheless guarantees that the industry will remain in Finland.

Typically, the first companies to transfer operations abroad have been the "faceless" multinationals, such as Flextronix. Surprising, amid this wave of transfers abroad there are a number of exceptions. The Indian company Wipro, a business with a human face and thus a real owner, has bought the Rovaniemi-based Saraware, and Sasken Communication Technologies is in the process of buying Botnia Hightech in Kaustinen. Both of the companies being acquired have considerable know-how in the field of wireless data communications software. The purchasers lacked this expertise. Although one should be cautious in cases like these, the first indications have been that the number of professional staff will be doubled. The companies that have been bought have also been given the opportunity to act as contacts in the Nordic area for other local companies. Having a firm foothold in Finnish business culture to draw on will clearly make cooperation with other Nordic companies easier for the newcomers. (Kajava et al. 2006)

In Finland's neighboring regions, the signals where manufacturing is concerned have been positive and operations seem to be expanding. However, there are experiences from distant countries that information security is fraught with serious difficulties. For example,

foreign workers do not understand the binding nature of confidentiality agreements.
Many large organizations made decisions to outsource based on what were hasty assessments and have now been compelled to insource by either returning operations to the original company or having a new partner produce the services.
Elektrobit is among the companies that have followed a path of their own. A year ago, it announced that it would no longer hire employees in Finland because this was too expensive. Now it has reported that it is hiring over 200 engineers for design, including Finns. The company's design projects involve wireless communication solutions and embedded software for automobiles.

Finland still has a solid reputation in the world as a reliable partner, whose products have a quality one can trust. Essential to this success is that we have not tried to be good in every field but have sought to excel in certain narrow "spearhead" sectors.

Information Security in Outsourcing

The outsourcing of services always entails information security risks. It is essential that both the client and the service-producing organization consider themselves winners; this is the win-win principle. (Kajava – Anttila, 2005)

Outsourcing can mean taking a very limited, short-term job out of the company (Kajava et al. 1996). It can also involve an individual project or system that is given to a service provider to handle. When both parties know the area of operations in detail, as well as the special issues of IT and contract law involved, outsourcing has every prospect of success. (Kajava – Viiru, 1996)

If the case is one of complete outsourcing, for example all IT operation, there is a risk that the company will lose strategic know-how. If this is lost, the development of the company may seriously falter and go awry.

Where operations are outsourced, it is essential that customer related information meets the basic standards of information safety: the information must be confidential, correct and accurate and available. Confidentiality means that the information is accessible only to those who have the right to use it and that it is not disclosed to anyone else nor does anyone else have the opportunity to manipulate it (Kajava et al. 1995). A service provider's clients are often competitors and a breach of confidentiality here would be catastrophic for it. Reliability of individuals becomes a prominent concern in the case of outsourcing (Kajava – Jurvelin, 1996). Accuracy means that at all times the information is what it is supposed to be; in other words, it reflects the company's true situation at the time. Availability of information means that those entitled to access the information should be able to receive it immediately or after only a very short delay only. Important information is often marked 365/7/24, meaning that it should be available at any time of the day, any day of the week and any week of the year.

It is very important to define information security procedures and aims when outsourcing. A company must be aware of the importance of information security and see to it that management of information security within the organization is in the hands of professionals (Kajava – Jurvelin, 1998).

Rising to the Challenge

All business sectors - modern IT and mobile phone networks being no exception - eventually reach a certain maturity where the knowledge work associated with production and design reach a plateau (Kajava – Viiru, 1996). Well-established knowledge work that is strongly linked to a technology sector is easier to outsource or transfer to cheap-labor countries than, for example, work in human-centered sectors and sectors that stress social innovations. But can we find an area of research that has extensive potential for development, one where planning and implementation require expertise and presence of users and the research resources? This is what service-provision has proven to be. Services can be understood broadly to include the public and private sectors as well as research, development, design and implementation. If such work is to succeed, it will require at least the development of an innovation system that provides effective support for social as well as technological innovations. How might we then add to this elements of operational models in multidisciplinary contexts and of research on the theory of science?

Expectations to the Northeast

Extensive plans are now in the works for exploiting the energy and raw materials just to Finland's northeast. The Barents Sea is estimated to hold 25 percent of the world's oil and gas deposits, most of these in Russia. Russia is thought to have the world's largest reserves of natural gas (www-document 1). Where the maritime areas north of Finland were once a crucial Cold War venue, they are now a stage where rival energy strategies are playing out (Heininen, 1999a; Heininen 1999b). With the continued instability in the Middle East, we will most likely see the world take an intensified interest in the Barents.

At the moment, international interest is focused on the Shtockman gas field in the Barents Sea off of Murmansk. It is a project with at least ten times the potential of the Snow White -field being developed off the coast of Norway. There are no Finnish businesses that could implement the project but a large number of subcontracts are in the offing. One indication of the scale of the project is that the price of housing in Murmansk – which has suffered a declining population – has now begun to rise. Finnish business would have much to contribute and to gain in creating a new infrastructure in the region's harbors.
On balance, it is not hard to conjecture that the present trend towards outsourcing production and services will soon turn in our favor. What opportunities do businesses in Northern Finland have to meet the demand that we will soon come our way? Surprisingly, our remote location is proving to be a benefit; we find a bountiful harvest right next door for the reaping.

The Barents could be a source of wealth to us today comparable to the Sampo, the magic mill of the Kalevala. Businesses in the region tend to be small, and each has its own success story. The question is how a relatively scattered business community can focus its energies on joint goals rather than embark on ruinous, dog-eat-dog competition? The production capacity of individual businesses falls short of the volume needed. The solution is to form extensive cooperative networks, specifically in the SME sector: this is what will raise the value of work in Northern Finland to what it should be and give it the depth it needs.

Finland's Objectives

The chambers of commerce in Northern Finland have begun demanding that the government pay more attention to the potential of the North. Politicians and civil servants have done quite a lot but the fruits of their labors are still on the vine.

The Northern Dimension was given high priority as part of the Finnish EU presidency (1.7.-31.12.2006). Russia has joined the countries that have committed themselves to the new Northern Dimension Policy Framework. During Finnish EU presidency The Northern Dimension became a joint policy of the EU, Russia, Iceland and Norway. The environmental partnership that forms part of the Northern Dimension has made projects available to Finnish businesses the economic partnership being planned would no doubt offer similar benefits.

A second crucial priority during the Finnish EU presidency was competitiveness (www-document 2). The two areas – the environment and economics - come together in the R&D funding of business in the North. The funding could be directed specifically to the improvement of networking.

Abother player is the Barents Euro-Arctic Council, an organization stressing regional and intergovernmental cooperation. Economic cooperation, which was one of the key themes of Finland's chairmanship (2006-2007), will contribute to networking among SMEs. (www-document 3). With the support it receives from the Barents Council, the University of Lapland's Arctic Centre will soon be able to provide a broader and richer range of information of the kind that businesses in the Barents area have been looking for.

As borders between countries in the region fade, the exchange of information and questions of information security become more topical than ever before. (Käkönen – Lähteenmäki 1995; Käkönen 1996; Käkönen 2002)

Finland's aim in another interesting cooperation forum, the Finnish-Russian Offshore Technology Working Group is to support projects exploiting oil and gas deposits in the northern regions of Russia - projects

that could ensure the supply of energy in Finland. The cooperation is geared towards developing oil and gas transportation and other services along the Northeast Passage. It will also contribute to Finnish industry as a builder of infrastructure and equipment for the oil and gas industries.

The chambers of commerce form a natural foundation for business networking; cooperation among chambers of commerce is already routine in the Barents. With a country like Russia involved, government support for cooperation is also important. Its role is to maintain good relations between the countries and remove any and all obstacles to collaboration among businesses. Finland has done its utmost to accomplish just this by taking part in bi- and multilateral forms of cooperation through the EU, regional organizations and the Finnish-Russian Economic Commission. In the Barents Region, this work has to set itself long-term goals. Not all of the fruits of these efforts can be plucked at one go.

The SME Sector

In the years to come, efficient networking in the SME sector in northern Finland will be a key factor in the national economy. What we propose is that efforts be made to enhance networking capability in ongoing R & D activities. Here we mean the ability of a business or organization belonging to a network to function in that network 1) in a process-oriented manner, as an efficient performer of the tasks requires; 2) in a disciplined and professional manner, for example, in using agreed standards and procedures; and 3) as a network partner fully conscious of the importance of information security. This will require that each organization in the network develop its management practices as well as its know-how with the needs of networking operations. It would be desirable to build sector-specific networks initially for purposes of training. Cooperative networks take on a heightened significance when the volume of actual production increases.

The Keys to the Future

Although work is slipping through our fingers and going to countries where the cost of labor is low, there are nevertheless some new prospects in view. Business in the Barents will not be a matter of who can deliver goods and services most cheaply; the focus will be who has the requisite level of professional skill and expertise - and will enjoy salaries commensurate with these qualifications. Can we prepare ourselves adequately for this new phase of development by supporting small businesses cooperation among them? How can we see to it that also issues of information security are made part of the daily routine in these businesses? If we cannot address these questions, we will have the unenviable task of see production slip away towards the Baltic or even Central Europe for lack of volume and lack of the ability to cooperate.

The Tides of Time

Cycles of good and bad years are part and parcel of business life. Economic collapse is not out of the question by any means. We only have to go back to the stock market crash of the early 1990s and the collapse when the bubble that was the "hyper" phenomenon burst at the end of the millennium. Now we are learning to leave out the 'e' where it is self-evident, but without collapses. The new IT will take that as self-evident.

Perhaps what we see is the dawn of a new era. Information processing is making use of ever smaller units. Alongside traditional computers we have smaller pieces of equipment that grab their power where they can. In new networks one does not need servers in the traditional sense. However, the Internet will remain an information superhighway and on the level of protocol, networks will still rely heavily on IP-based solutions. Nevertheless, it would be worth our while to draw attention to a significant change: IT (Information Technology) is now being gradually replaced in modern organizations by a new IT (Interactive Technology).

What is our position now and in the future on globalization? It has been claimed that a small country like Finland cannot change or influence the direction or content of globalization; in other words it can only try to adjust to the changes as efficiently as possible. This claim and its conclusion seem distressing. Must we adjust to the loss of thousands of thousands of jobs to cheap-labor countries? Or do we finally have what it takes to successfully chart today's unsettled waters?

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Travel Routes, Harvesting and Climate Change in Ulukhaktok, Canada

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> Since March, changes go from fog to rain, it is not normal weather. It really affects the people who go out on the land, travel on the land. When people want to travel and weather patterns change like this it affects their emotions, their mentality. They live on country food. It [traveling on the land and harvesting] is good for their soul, a time to spend with family (translated from Inuinnaqtun by Annie Goose, 15 July 2005).
>
> *- Jimmy Memogana, Ulukhaktok*

Introduction

Evidence of climate change has been widely documented in the Arctic including, changes in temperature, frequency and magnitude of extreme weather, sea-level rise, sea ice dynamics and permafrost thaw (Hinzman et al., 2005; McBean et al., 2005; Gearheard et al., 2006; Laidler 2006). These changes are projected to continue and the effects of future climate change are expected to be felt the earliest and most pronounced in the Arctic (Arzel et al., 2006; Teng et al. 2006). Arctic people have long known about and coped with environmental changes; however, the rapid rate of current climate change together with changing livelihoods is creating significant challenges for Inuit way of life. One of these challenges is the ability for community members to travel on the land and participate in subsistence harvesting activities under changing environmental conditions.

During the past half century, Inuit have experienced rapid social, political and economic changes, including moving into permanent settlements, compulsory education, health care services, the introduction of wage economies, new technologies, and increasing pressure for natural resource development (Oakes and Riewe 1997; Damas 2002; AHDR 2004; ACIA 2005; Ford et al. 2006a; Ford et al. 2006b). Despite undergoing sweeping socio-economic and political changes, Inuvialuit in Ulukhaktok continue to live in close association with the natural environment and travel on the land and subsistence harvesting are important activities in the lives of community members (Usher 2002; IHS 2003). Harvesters use a vast network of travel routes to access seasonal harvesting grounds, most often via mechanized transportation including snow-mobile, all-terrain vehicle (ATV) and motor boat; as a result, people are making shorter duration, more frequent trips on the land.

As described by Condon et al., (1995), Collings et al. (1998) and substantiated in interviews, in the opinion

of most community members, country foods (fish and wildlife that are harvested from the land) are preferred because they are healthier, fresher, and therefore better tasting, more satisfying, and less expensive to obtain. Furthermore, the acquisition and consumption of country foods is essential to cultural identity. The importance lies in the activity of harvesting, spending time with family members, the fulfillment and pride associated with the harvest and also in the distribution of country foods in the community. In addition, over half of the community earns some cash income from methods other than wage employment (Stern 2001). Subsistence harvesting offsets the financial cost of purchasing store-food and provides an important source of income for some community members (guiding and helping on sport hunts for polar bear, musk-ox and caribou, the sale of furs, pelts, and/or clothing and gifts made from wildlife products) (Usher 2000; 2002).

This article reports on research conducted with the community of Ulukhaktok, Northwest Territories (NT) documenting the livelihood implications of climate change impacts on travel routes used by community members to access harvesting grounds, and associated adaptation policy options.[1]

Case study: Ulukhaktok, NT

Ulukhaktok, formerly known as Holman, is a community of 434 people (NWT Bureau of Statistics 2006), 95% Inuvialuit, located in the Inuvialuit Settlement Region (ISR), Northwest Territories (NT), Canada (Fig. 1). Beginning in the 1920s, Inuvialuit of Ulukhaktok made a rapid transition from a lifestyle entirely based on subsistence to one that now depends on a mixed economy in a permanent settlement, where wage income and subsistence earnings both play important roles.

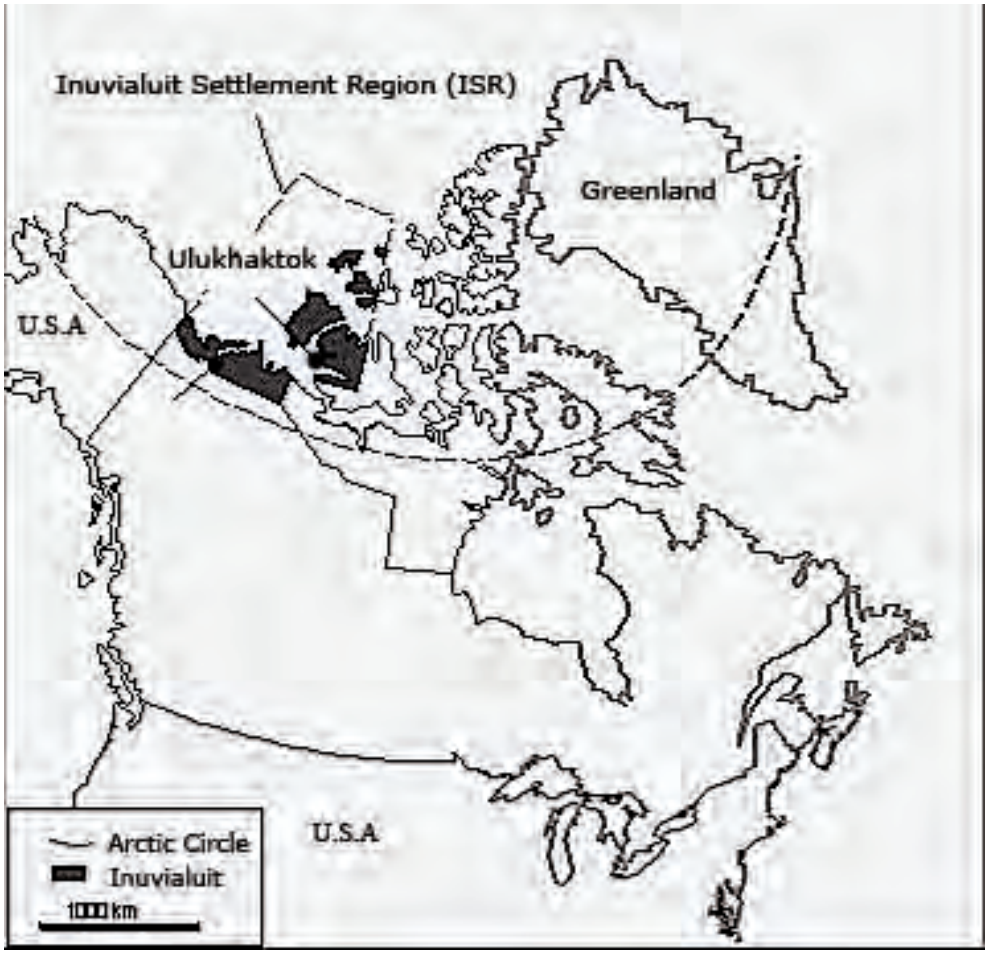

Figure. 1: Location of Ulukhaktok in the ISR, NT, Canada.

During spring and summer 2005, information was collected in the community from multiple sources: secondary sources of information including, community reports, community meeting minutes, harvesting data, and climate records; participating in community activities and experiential trips on the land; and 62 semi-structured interviews with a cross-section of adult community members. The purpose of the interviews was to document and characterize what risks interviewees have, and are currently dealing with, gain insights on adaptation strategies being employed to deal with current risks, and identify those factors which influence the ability of the community to adapt.

Vulnerability Approach

The research employed an approach for assessing vulnerability described by Ford and Smit, (2004) and Smit and Wandel, (2006). This approach builds on research in natural hazards and risk management and conceptualizes vulnerability as a function of both the exposure-sensitivity of a community to climate risks and the ability of the community to cope with, recover from or adapt to exposures-sensitivities (Smit and Pilifosova, 2001; Turner et al., 2003). Vulnerability does not exist in isolation, but is considered within the scope of other social and ecological factors and processes.

The first stage of the methodology is to assess current vulnerability. This involves the integration of natural and social science data with the knowledge of community members to identify risks (climate related and other) that are relevant to the community (e.g. nature of the spring melt), or exposures-sensitivities, and the capacity of the community to adapt to these risks (e.g. ability of harvesters to travel via alternative modes of transportation if spring conditions are not suitable for travel by snow machine). The second stage of the vulnerability approach incorporates future climate pro-

babilities and future social probabilities to assess future vulnerability. This involves looking at those climate change risks currently affecting the community (e.g. compromised travel routes) and the adaptive strategies being employed, in light of future climate change projections and future social probabilities to characterize vulnerability in the future.

Community involvement

Stakeholders – community members, local leaders and decision-makers – are an integral part of every stage of the research process. In order to facilitate the active engagement of community members, key steps for community research collaboration were developed and applied. These steps draw on the experiences of researchers, Inuit and northern organizations, arctic communities and other community-based research projects (Condon et al. 1995; Berkes and Jolly 2002; Ford et al. 2006a; Ford et al. 2006b; Laidler 2006). The outlined steps taken for effective engagement of the community in this research also respond to, and compliment the discussions that took place during the project session, 'Community-Based Research' at the Northern Research Forum, 2006.

Early and ongoing communication with community partners was central to the research process from its early conception (e.g. pre-research visit) to final project results (e.g. dissemination of research findings in the community). It ensured that local ideas and concerns were integrated into the research design and process. Early and ongoing communication also provided an opportunity for community members to identify risks that are important to them and adaptations that are realistic beyond those selected a priori by researchers. The research proposal was developed collaboratively by researchers and community representatives. Researchers worked with community members to refine research questions; select the most suitable methods for data collection; choose the most appropriate time to conduct research in the community; and identify training opportunities for community members. Training opportunities as research assistants were identified for two high school graduates, Fred Kataoyak and Robby Inuktalik. Fred and Robby were responsible for assisting in all stages of the research process including, data collection, analysis and dissemination. Annie Goose worked as the research project's Inuinnaqtun interpreter. Annie's role went far beyond interpreting and also included, facilitating research activities requiring translation (setting-up interviews), providing guidance to ensure that data collection was conducted in a respectful and culturally acceptable manner, and back-checking interview translations. Research findings were communicated back to the community using multiple dissemination techniques including, a plain-language summary booklet,

presentations to the school and community groups, and individual household visits. Dissemination materials were available in Inuinnaqtun and English. Ample time (two months), as determined together with local partners, was given so that community members had the opportunity to discuss the research findings with the lead author, ask questions and provide feedback.

Current Vulnerability:

Current expo-sures-sensitivities

Current changes in the climate together with changing livelihoods are affecting the ability of community members to perform harvesting activities. Travelers are being exposed to increased risks and compromised travel routes to harvesting grounds making travel on the land more hazardous and sometimes preventing travel altogether. Environmental changes that are identified by community members as problematic include, (1) earlier and more rapid spring melt, and (2) variable timing of sea ice freeze-up and break-up.

It is often the interaction between multiple stressors, climate and non-climate driven, which have changed, and in many cases increased, the exposure-sensitivity of the community to these climate risks. Changes in harvesting behaviour including dependence on mechanized transportation, the speed and timing at which traveling now occurs, and the erosion of land-based skills in youth have increased the sensitivity of community members to climate risks. As a result, some community members are spending less time on the land and are harves-ting less country foods with implications for food security, local economy, cultural preservation and health.

Community members report that weather patterns have become increasingly unpredictable and it is now more difficult to forecast when conditions will be optimal for traveling. Weather conditions are described as occurring in extremes; it is either too hot or too cold, nothing is steady anymore.

> …weather patterns have really changed, it can be nice and then suddenly a storm can hit. It's like we don't have time to say the weather is going to change. The change is so rapid (translated from Inuinnaqtun by Annie Goose, 14 July 2005).
>
> *- Margarit Egotak, Ulukhaktok*

Increased variability in weather patterns has been observed in the late winter and early spring (March-June); the timing of the spring melt is described as being unpredictable, occurring earlier in the season and taking place over a shorter period of time. Local observations are supported by climate data which show that the average length of the melt season in the Arctic has increased by approximately 5.3 days per decade between 1979 and 1996 (Smith 1998). This is consistent with a documented pattern of increasing air temperatures in the Arctic, notably in the winter and spring; the average trend in temperature increases in the Arctic between 1966 and 2003 was 0.40C, approximately 4 times greater than the average for the century (McBean 2005). Earlier spring melt dates have disrupted inland trail conditions and consequently access to spring harvesting grounds. Travelers have been stranded on the land when their snow machines and kamotiks[2] have become stuck in melting conditions, or have had difficulty reaching harvesting grounds and/or traveling back to the community during an early melt.

A striking feature of the tidal waters in the area around Ulukhaktok is the long period of seasonal ice cover due to relatively shallow water. Freeze-up generally occurs in the community bays near the end of October and ice thickness increases over the winter until the ice reaches a thickness of around two meters (six to seven feet) in early spring (Condon 1987). During this time the sea ice is usually stable to travel on, supporting travel routes to harvesting grounds (e.g. ringed and bearded seal, polar bear, and King Eider ducks). The sea ice would historically break-up in late June, exposing open water which provides access to summer harvesting grounds via boat (e.g. Perry caribou, ringed and bearded seal, Arctic char). In recent years, however, community members and scientists have observed changes in sea ice conditions.

Satellite observations and historical records show that sea ice cover in the Arctic during the summer has significantly decreased over the last thirty-years and multi-year ice has declined at an even greater rate (Cavalieri et al. 1997). This reduction in sea ice cover is associated with increasing temperatures and length of the melt season in the Arctic (Loeng 2005). Community members in Ulukhaktok have also observed significant change in local sea ice conditions; specifically, community members identified changes in the timing of sea ice freeze-up

and break-up to be important variables affecting travel routes to harvesting grounds.

Sea ice freeze-up and break-up in Ulukhaktok is influenced by the speed and direction of the wind. Queen's Bay, where the community is located, faces south-west, and an easterly wind is necessary to initiate break-up and clear the bay of broken ice before people can travel on the water by boat. In the past, the community would receive strong east winds in the spring at a similar time each year; however, community members report that the wind no longer follows a regular pattern, and the timing, and nature of break-up has become unpredictable. In recent years, east winds have come on suddenly without warning, they are stronger than they used to be and are experienced more often in winter months. Strong east winds can cause an unpredictable, rapid break-up of the sea ice which creates risks for travelers, prevents access to harvesting grounds and blocks travel routes back to the community. There have been incidents when large open water leads have formed between the ice that harvesters are traveling on and the land-fast ice making it impossible to follow the same travel route back to the community.

Westerly winds are reported to now be more common in the spring. In spring 2005, shortly after east winds broke-up the ice, the direction of the wind changed to westerly winds which pushed the broken ice back into the community bays. Consequently, people were unable to travel on the sea ice by snow-machine or on the water by boat because the bay was choked with broken ice. These conditions prevented access to summer caribou harvesting grounds in Prince Albert Sound (Prince Albert Sound is located north of Ulukhaktok and extends East into Victoria Island. Transportation via the land between Ulukhaktok and Prince Albert Sound is difficult due to steep cliffs and rocky terrain).

> …it all depends on the ice conditions, like the caribou was probably right close to the shore in July and August. Now it's finally break-up but by the time there is a road (ice free passage on the water) to go get your caribou, they're all gone...ice conditions, late break-up, it can affect your hunting.
>
> *– Susie Malgokak, Ulukhaktok*

A third observed change in wind conditions is the occurrence of more south winds in the summer and increased frequency and magnitude of storms. Rough ocean conditions create additional dangers for travelers on the water and sometimes prevent travel by boat altogether.

Adaptive strategies

Despite climate change impacts on travel routes, community members in Ulukhaktok continue to participate in harvesting activities by employing adaptive strategies to cope with changing conditions. Adaptations include: traveling via alternative travel routes and modes of transportation, taking extra precautions before and during travel, sharing country foods and supplementing their diet with store-bought foods. Adaptations, however, are not without costs and community members have varying abilities to employ adaptive strategies, with some people better equipped to deal with change than others.

Access to mechanized transportation largely determines if, and when community members are able to travel to harvesting grounds. Specialized equipment is relied on for each harvesting season and not having the necessary equipment limits what harvesting grounds harvesters are able to access. Current climate impacts on travel routes have increased the variability of trail conditions requiring harvesters to often adjust their travel routes, which sometimes requires traveling via an alternative mode of transportation. For example, in the event of an early spring melt, when the snow and sea ice become unstable to travel on by snow machine, harvesters must wait for the land to dry before accessing inland harvesting grounds by ATV, or the sea ice to disperse before traveling by boat. In these cases, having access to an ATV and/or boat potentially enables a harvester to continue to participate in spring harvesting activities despite compromised trail conditions. This adaptive option, however, is not available to everyone as transportation equipment is expensive to purchase, operate and maintain, and employment and income are not equally distributed in the community.

Harvesters who are able to adapt to changing conditions and continue to travel on the land are exposed to increased risks. Travelers are adapting to increased risks by taking extra precautions before and during travel

including, leaving a travel itinerary with people in the community, using trails and harvesting grounds that are closer to the community when possible, taking extra supplies (e.g. food, fuel, tents, stove, etc.), traveling in groups, and in some cases avoiding potential risks by not traveling at certain times of the year such as in late spring.

Despite adaptation efforts, community members are spending less time on the land participating in harvesting activities. Community members are coping with having reduced access to harvesting resources by relying on the strength of traditional food sharing networks to receive country foods. Food sharing relationships have a long history in Inuvialuit culture and modern sharing networks continue to be an important social practice in Ulukhaktok (Condon et al. 1995; Collings et al. 1998). When the demand for country foods surpasses supply, community members supplement their diet with store bought foods. For some community members, who have the economic ability to purchase food from the stores, this is a viable adaptation option. However, community members indicate that store bought foods are less satisfying and not as desirable as country foods. The success of adaptive strategies such as buying store bought foods appears to be a matter of perspective, and whereas this adaptation may seem reasonable to a southern perspective, it is not consistent with local culture.

Determinants of Adaptation

In Ulukhaktok, some factors which determine the ability to adapt to changing trail conditions and reduced access to harvesting include, (1) access to income, (2) knowledge of land-based skills, and (3) community wellness. Determinants of adaptation provide strategic policy entry points for enhancing adaptive capacity; addressing conditions which are already problematic in the community inadvertently builds individual and household capacity to deal with exposures-sensitivities affecting access to harvesting grounds.

Access to income

In order to purchase mechanized modes of transportation, extra supplies and store bought foods, community members need access to a regular source of income. Community members identify significant challenges to obtaining regular income including, a limited number of job opportunities in the community, lack of necessary education and training qualifications, and nepotism. Only a quarter of Inuvialuit adults in the community between the ages of 18 and 64 years have full-time wage employment, another 25% have regular part-time jobs, and the remaining 50% are either dependent on another wage earner or derive their income from subsistence earnings, seasonal employment, casual work or social transfer payments (Stern 2001). The inability to gain employment limits access to personal income and thus to harvesting equipment which is key for adapting to changing trail conditions.

Youth

The erosion of land-based skills in youth has made younger generation harvesters more sensitive to increased traveling risks. Unlike most of their parents, youth have much less experience participating in traditional land-based activities beyond weekend outings and summer camps, but considerably more experience with southern education, cultures and technologies. Adult community members are concerned that youth are not taking the time to learn from their parents how to travel safely to harvesting grounds and be successful in harvesting activities. Younger generation harvesters are accustomed to traveling long distances in short periods of time; they plan their travels assuming that they will have access back to the community after only a short time on the land; and they often travel with minimal supplies. As a result, some young harvesters are not well prepared if they encounter changing conditions on the land.

Community wellness

Adaptive strategies including, the ability to acquire income and the strength of social networks (e.g. food sharing, knowledge sharing) are often autonomous to the individual or household unit. The health and wellbeing of individuals and households is therefore paramount in facilitating adaptation. An issue which community members identified as problematic, and was previously documented in the 1998 Community Wellness Plan, is drug and alcohol abuse (Kulbisky 1999). Drug and alcohol abuse is identified as a catalyst to other social problems including family violence, criminal activity and elder abuse. Subsistence abuse and lack of necessary

support services have left some community members with a diminished capacity to deal with risks associated with changing conditions.

Future Vulnerability

Changes which are already affecting trail conditions in Ulukhaktok are projected to continue with further implications for community access to harvesting grounds. The impacts of future climate change cannot be predicted with certainty, but we can gain some insight on the nature of future vulnerabilities by looking at current vulnerabilities in light of future climate change and socio-economic projections.

Future Exposures-Sensitivities

Based on future greenhouse gas emission scenarios, average autumn and winter temperatures are projected to rise by an additional 3 to 5oC over most Arctic land by the end of the 21st Century (Katsov and Kallen 2005). Rising temperatures are expected to cause a dramatic decrease in ice cover, which could result in an ice-free Arctic ocean during summer at the end of the century (Johannessen et al. 2004). These trends are consistent with observations made by community members who report that the sea ice around Ulukhaktok no longer completely freezes-over and sea ice extent and timing of break-up has become increasingly variable. This projected reduction in sea-ice cover would further affect travel routes on the sea ice and limit access to marine harvesting grounds. In addition, there could be an increased occurrence of open-water leads and thinner ice, creating increased hazards for travelers.

Rising temperatures also have implications for inland trails. Climate change scenarios predict that by the late 21st Century, precipitation could increase by as much as 35% in certain high Arctic locations (Kattsov and Kallen 2005). Like temperature, a projected increase in precipitation is expected to be the greatest in the fall and winter and smallest in the summer (Kattsov and Kallen 2005). Increased precipitation in the spring will affect the timing and rate of the spring melt, accelerating the melting of snow and further reducing access to inland harvesting grounds.

Future adaptive capacity

The ability of community members to manage risks associated with future climate change will be influenced by the nature of future socio-economic relationships. Concerns which are already present in the community will likely continue to condition adaptation to future climate change if they go unaddressed.

Determinants of current adaptive strategies in Ulukhaktok represent strategic policy entry points for strengthening the community's ability to deal with future climate change. Enhancing a harvester's ability to purchase alternative modes of transportation, fuel and supplies helps that harvester cope with changing trail conditions and continue to access harvesting grounds. Currently, Inuvialuit have a regional program, the Inuvialuit Harvester's Assistance Program (IHAP) which provides financial assistance to Inuvialuit individuals and groups to engage in renewable resource activities (IRC and IGC 2001). IHAP builds individual and household economic capacity to participate in harvesting activities by enabling harvesters to purchase necessary harvesting equipment. IHAP currently works at a very small scale; however, a potential way to strengthen community adaptive capacity to cope with changes in trail conditions is to expand the current IHAP to assist more harvesters in the community.

The health and well-being of individuals and/or household units is an important determinant of the ability to employ these adaptation options. Increasing incidences of alcohol and drug abuse are reported to affect the ability of some community members to participate in harvesting activities and/or obtain employment. Alcohol and drug programs outlined in the Community Wellness Plan are potential policy entry points that if implemented, could help improve the health and well-being of community members and enhance their ability to cope with changing conditions. A needed initiative to address alcohol and drug abuse in the community is to fill vacant community wellness positions (e.g. social worker, mental health worker, and alcohol and drug counselor) to ensure that community members have access to the necessary addiction and mental health support services.

Conclusions

The active engagement of stakeholders – community members, local leaders and decision makers – in the research helped identify risks that are relevant to the community and adaptations that are realistic. Some climate risks which community members identified as being important, wind patterns and timing and nature of the spring melt, are not captured in conventional climate models. Moreover, community members identified many non-climate risks that influence how they are affected by climate change and condition the ability to adapt. Climate change risks cannot be separated from risks, climate and non-climate-related, posed by existing conditions. Multiple drivers of cumulative change need to be acknowledged and addressed. Recognizing that youth will be the generation responsible for addressing future climate change, it is essential to address problems affecting youth including loss of land-based skills, drug and alcohol abuse and unemployment. This research shows that adaptations to climate change are unlikely to be undertaken for climate change alone but are more likely to be in response to conditions that are already problematic in the community.

Notes

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2. Kamotik: A traditional Inuit sled towed behind a snow machine or dog sled and used to haul harvesting equipment.

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Clusters and Networks – Tools for Northern Development

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This article discusses clusters and networks as tools for regional development. The issues are clarified by examples of the different types of networks – resource-based, skill-based, knowledge-based, administration-based. The main characteristics of these four types of networks are described and suggestions for regional policies that support the growth and evolution of networks are given.

Concepts

Prosperity in a region is created by competitiveness, which is based on the quality of its companies and industries. As the environment within which the firms operate strongly influences this competitiveness, the focus must be on improving the quality of a region's business environment.

The cluster theory proposed by Porter states that there are four basic attributes that affect regional productivity and innovation: 1) demand conditions, 2) context for firm strategy and rivalry, 3) factor conditions, 4) related and supporting industries. This structure has been called "Porter's diamond" (Porter 1998).

A cluster "is a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities". As the sum of its parts is of greater value than each individual company or institution, clusters create synergy.

A network is a collaborating group of companies. They don't necessarily compete but offer services and products that combined gain a stronger position on the market than if the companies did not collaborate.

Clusters lead to better efficiency. Networks do the same but in addition they create interdependencies and can lead to a reasonable division of markets. Networks and clusters are of the following main types based on the common feature they are based on: skill-based, knowledge-based, resource-based, administration-based. They are local or regional. On the local level "business parks" are often viewed as networks. That is not an inherent feature of a park. But in a business park the conditions for birth and growth of networks are favorable.

It is difficult to find pure clusters or networks in the real world. In most cases groups of companies compete and collaborate. That can easily lead to wrong interpretations of the dynamics within a group. In this article we will use both terms – cluster and network – to describe approximately the same types of business agglomerations.

Clusters bring several advantages to a regions economic strategy. According to Porter, clusters improve competitiveness in three ways:

First, clusters improve productivity through improved access to specialized suppliers, skills and information. Second, innovation is given more importance as the need for improvement in production is emphasized and firms working together can satisfy this need.
Third, once established, clusters will grow as a result of the creation of new firms and the entrance of new suppliers.

Cluster development has become an important tool for regional development. The main reasons are:

First, the growing number of people involved in economic development activities. The decentralization of decision-making processes to the regional level and the importance of international organizations have left many planners with the need to find new tools.
Second, use of traditional industry policies such as providing subsidies for uncompetitive industries, attempting to build new industries from scratch and trying to attract incompatible foreign investments is unproductive.
Third, the globalization of international markets. With the reduction in constraints on trade, companies can compete freely in any economy at the global level. Regions must compete internationally in the sectors in which they have an advantage. Clusters support this trend by building on local differences, seeking an endogenous growth of regional economies, and strengthening the assets already present in the local economies.

Initiatives to create a network usually come from the private sector and the public sector in the region responds, or the framework is created by the public sector in order to motivate companies to develop networks and clusters. Often a network is created by companies without any involvement of the public sector in this process. During later stages of the networks evolution it is in most cases in the interests of all stakeholders that the public sector gets involved.

Networks need a starting point – seed or root – that triggers the emergence of a network. Public sector support can act as a catalyst – fertilizer if you wish – to make a network grow and prosper. Public sector efforts to create networks are almost unavoidably doomed to fail if there is no starting point for entrepreneurial activities within the private sector. A core of business activities is needed. A possible diversification strategy is to create spin-offs within a sector using an existing cluster as a starting point.

Knowledge-Based Networks

At the core of a knowledge-based network is the ability to transform scientific and technological knowledge into products that form the base for industrial production (Formica). A long term trend has been to move from skill-based to knowledge-based production systems. Companies are able to separate between development, control and production. Complexity is added to product development and research while complexity is reduced in production. This separation makes it possible to move manufacturing to almost any part of the world while the core of the company's value – knowledge – is more strongly connected to a regional environment and to a knowledge base involving culture, education, universities and research centers. This separation between knowledge and production leads to one characteristic long term dynamic feature of knowledge-based networks. At the early stages production is taking place within the region where the knowledge-base is situated. When the activity matures, production is disconnected and moved to other regions and countries, while searching for the most favorable location measured by access to markets and production costs.

The information technology sector in the city of Oulu is a typical and well known example of a knowledge based network. Nokia was, of course, the trigger for this network. In 1972 Nokia started production of U.S. military radio equipment in the Oulu region (Ali-Yrkkö 2001). At the same time the department of electrical engineering was strengthened at the University of Oulu and the Technical Research Centre of Finland started activities in Oulu. A few years later the city of Oulu decided that one of its goals is to become a "city of technology". Part of this strategy was the creation of the first science park in the Nordic countries.

The positive feedbacks between industry, university, city, and region lead to the growth of one of the strongest IT clusters in the Nordic countries. Today the electronics sector's share of Oulu region's total employment is more than 10% while it is 2% for the whole country. This network has to rely on continuous innovation and development in order to survive. As mentioned above, assembly lines will be used in the core region only until it is feasible to move production to other countries. Management of this dynamic aspect of a knowledge-based network is a very complex activity involving all stakeholders in the region.

More information on the IT cluster in Oulu can be found, e.g., in a presentation by Pekka Hautala which is available on NRF's website (www.nrf.is/News/Oulu 2005/Oulu-Pekka Hautala.ppt).

Skill-Based Networks

As mentioned above, many skill-based networks have mutated into knowledge-based networks as knowledge matures and replaces the need for skilled workers. This general rule is not applicable to every type of production and networks. When a network operates in a market with heterogeneous customer demands and products that are not pure assembly line units, it is necessary to have a skilled workforce. These skills are in many cases based on a long tradition and a value system that holds these skills in high regard. A classical example is diamond-centered activities in Antwerp. More than 60% of the world's cut diamonds come from Antwerp although the diamond mines are thousands of kilometers away. The strong position of Antwerp is based on the strength of the network and the skills of the diamond cutters working in the industry. These skills have a long tradition. Already in the sixteenth century Antwerp played a determining role in the development of diamond-working techniques.

Skill-based networks are more stable than knowledge based networks as the skills of the workers are an important part of the competitiveness. One danger within this type of networks is stagnation. Companies rely too much on skills and are slow to follow innovative trends and technological changes that influence their competitiveness. It is necessary to keep a good knowledge-based background network alive so that new innovations and production technologies are developed and introduced as efficiently and soon as possible.

Entrepreneurial clusters do not have to be local. They can be spread over a broader region. One example of this is the skill-based network of boatyards in Ostrobothnia. Like in Antwerp, this region has a tradition in a specific skill. In the Ostrobothnian region this is boatbuilding skills that have been developed over hundreds of years. There are more than 70 boatyards and subcontractors in this network spread over a long coastal region with a length of more than 200 km. The biggest and most famous boatyard is Nautor – the builder of the Swan range of sailing yachts. Nautor was forty years ago the trigger for the currently operating network, although many boat builders had been working in the region for a long time. The total labor force in this network is approximately 1500 of which more than 400 work at Nautor. Each year 100 new jobs are created within the network. This might not sound as a big network compared to some of the global ones, or to the Oulu cluster. The impact on the regional economy is, however, important. More than 12% of the region's labor force works in this network.

Coordination and communication is supported by several public sector organizations which in some cases receive substantial funding from the European Union. A core characteristic of this boatbuilding cluster is that assembly line production is only part of the strategy. Most boats – big and small – are to a certain extent custom designs based on common standard elements and modules. Some companies aim at customizable standard production. This manufacturing strategy – custom designs based on common modules – means that direct customer contacts are very important. Every customer is individually taken care of and long term relationships are a high priority. There are cases where over the decades a customer has ordered five boats from the same builder. The marketing strategy used by the companies and their boat designs and sizes vary. Baltic Yachts, for instance, builds only big – over 50 ft - sailing yachts while some of the others concentrate on smaller boats. Nautor's strategy is to focus on big and expensive sailing boats with superior quality.

Resource-Based Networks

The main part of economic activities in northern regions has traditionally been based on natural resources. Typical examples are fisheries, oil and gas, forest industry, agriculture, mining, and tourism. Tourism is probably the sector with the highest potential for growth while creating jobs for local populations. Oil and gas has a natural potential for growth, but this will only to a limited extent benefit local populations and can have substantial negative environmental impacts harming the natural conditions supporting tourism. This is especially relevant as tourism can create jobs for both men and women and for all age groups. The other sectors tend to be dominated by jobs for men.

Two important problems concern 1) the management of these resources, and 2) conflicts between sectors that are based on the same resource. Management of fish stocks in international waters is a classical example of how the national and international political system is incapable of managing the sustainable use of a common

resource. Cod was almost fished to extinction outside Newfoundland. All signs indicate that the European Union is incapable of preventing similar collapses in European waters.

A related problem can be seen in the conflicting ways to harvest salmon. Is it more profitable for a community to catch salmon in a river or to catch tourists who catch the salmon? An obviously unsolvable problem concerns salmon in the Gulf of Bothnia. There are several issues involved. Where and when should fishing be allowed? What types of quotas should be used? What is the right balance between fishing at sea and in the rivers? How should one manage the balance between local fishing and use of salmon as a way to attract tourists? How should one deal with the interests of Sweden and Finland in this border region? I only mention these issues here. A review would go far beyond the topic of this article. The situation is not unique for this region. Where there is a salmon river there is a conflict.

Tourism is both a source for additional prosperity and a constraint on traditional resource based activities in northern regions. Tourism is an industry that is growing more than many other sectors. Global growth within this sector is 5%. Forest management is often the focal point of conflicts related to environmental protection and tourism. It is on one hand important to use forests as a resource base for industry, on the other hand environmental concerns and requirements of the tourism industry push for protection of forests. Another problem is related to mining – especially uranium mining – which is considered to spoil opportunities for tourism in the regions concerned. In the case of uranium mines it is a question both of objective destruction of environmental values and of the perceived risks and dangers of uranium and wastes created by the mines.

Due to the inherent characteristics of resource based economic activities, it is difficult to create collaborative networks except perhaps within the tourism industry. Clusters emerge for instance in the fishing industry. These clusters are in most cases pure competing systems without any network characteristics. This leads to resource depletion unless the fish stock is carefully managed. The competition, in which actors from almost any country can participate, will, however, lead to overexploitation and collapse unless the activities are controlled by the political system. The political system seems to be, as stated above, unable to handle this problem.

Administration-Based Networks

Administration-based networks will not as a rule lead to new growth and competitiveness in the private sector. Their main purpose is often to improve efficiency and access to services. Health care and education are two typical examples of services that can benefit from well developed administrative networks. These activities will, of course, improve the quality of the public sector's support for activities in the region. It can not, however, lead to new job opportunities and growth within the private sector unless there is an active strategy aiming at the creation of corporate networks.

The Bothnian Arc, which is a typical administration-based network, includes seven Swedish municipalities and five Finnish regional municipalities that in turn consist of 32 smaller municipal entities. 610,000 people live within the Bothnian Arc region, more than half the population of northern Sweden and northern Finland. This region has the EU's northernmost concentration of cutting-edge expertise in industry, and it is assuming an increasingly important role for development in both a European and global perspective. Not only does cooperation within the Bothnian Arc open new opportunities for creating a strong and competitive region, but it also contributes to the development of Europe's entire far north.

The Bothnian Arc is, at this stage, in reality an agreement to improve public sector collaboration and coordination within the region. The aim is to create a better environment for private companies working in the region. One key expectation is that the framework will lead to the emergence of networks and clusters that create new jobs and prosperity in the region. In order for this to happen it is important that trigger companies are identified and that initiatives are taken.

Singletons

This article deals mainly with clusters and networks. We should, however, not forget the importance of individual companies working and prospering in northern – sometimes improbable – environments. I call these companies "singletons". They prosper and grow, but

due to the inherent characteristics of their markets, technology, and products, they have not been triggers for networks or clusters. I can list several of these "singleton companies" in the northern regions of Finland. Similar lists can be made for all countries in the region. Four examples of Finnish northern singletons are: Pentik (www.pentik.fi), Rapala (www.rapala.com), Lappset (www.lappset.com), and Mirka (www.mirka.com). These are companies that most of you have never heard about and will never meet in the market. They are, however, often of decisive importance for the communities in which they operate and have a strong market presence in their niche. It is not easy to find common characteristics for this kind of business activities. The companies I have listed are all different. Pentik focuses on the Finnish market but sells its products in the other Nordic countries too, Rapala now has factories in five countries, Lappset has production in Finnish Lapland but sells its products on the global market. Mirka has production in two locations in Finland and sells its products on the global market. Pentik and Rapala manufacture consumer products. Lappset and Mirka sell to the public sector and to industry. One common feature of these companies is that they put high priority on innovation, design and quality. They do not try to be the cheapest but they do try to be the best.

As an example I will mention the main facts about Mirka. Mirka is a specialist in flexible abrasives and products that allow for dust-free surface finishing processes. It has become a forerunner in its area by placing a strong emphasis on product development. This development has been backed up by an effective production system and many decades of experience. The company's factories employ 650 workers and are located in two small rural communities in the Swedish speaking part of Ostrobothnia. The total population in the communities is 8000. Much of Mirka's international success is due to strong innovative activities within the company. The companies flagship product is "Abranet" which revolutionary new sanding material for dust-free sanding. More than 90% of Mirka's products are exported and sold in 70 countries.

Northern Clusters in a Global Context

The relationship between regional administrations and enterprises has changed considerably in the past decades as a result of globalization. This process is based on the concept of time-space compression, and a key element is the development of an integrated global economy. One of the central features of the current phase is the rise of information technology and the increase in mobility and liquidity of capital (Böckerman 2002).

In addition, global trade has increased at a far higher rate than the global national product. Consequently, the extent to which business activities in one part of the world are affecting societies and crisis areas in other regions is growing. Companies are now required to adjust to new markets and to develop strategies which extend beyond their local, regional and national markets. Small and medium-sized enterprises encounter problems accessing knowledge and information and obtaining financial resources. Every local company is under pressure to compete worldwide. At the same time, the range of general business activity is broadening and time scales are shrinking. This creates opportunities for individual companies, but also increases risks.

Two trends are of importance:

First, a new system of spatial order is emerging. For northern regions to survive politically, socially and economically, they must create an attractive environment for existing companies and potential investors. The chance for local municipalities lies in the fact that many resources necessary for global business activities have turned out to be rather stationary.
Second, responsibilities are shifting between the public and private sectors, between regional government and business. Institutional structures and decision-making processes play as great a role as participants' changing interests, objectives, and resources. This is a good argument to support the creation of administration-based networks.

The claim that regional systems are increasingly capable of self-governance is undermined by the fact that local communities are unable to adapt their population, infrastructure and environment to the changing demands of globalization. Companies have no option but to react quickly and flexibly to international compeis a tition, but the establishment and reorganization of business-friendly clusters and networks require time-consuming efforts from the public sector which requires substantial resources. These resources often come, in the case of Europe, from the European Union. Disagree-

ments between the public sector and the private sector are often very difficult to handle. This creates the impression that the worldwide expansion of capitalism is actually downgrading rather than upgrading regional structures. Some critics even argue that exploitation of local populations' social, economic and environmental quality of life in peripheral regions is more a rule than an exception.

Big companies in big markets tend to form oligopolistic clusters. In peripheral and northern regions the situation is different. These regions form a polypolistic environment. According to classical theory, if polypolistic structures are paired with equal rates of investment and equal access to technological knowledge, the growth of the regional economy is only determined through population growth and access to technological knowledge (Gruppe and Kusic 2005). Underdeveloped regions will then catch up to higher developed regions. This is only theory. In reality the situation is different. Northern regions have diminishing populations and slow access to technological innovations. Companies in the region are small and far away from each other. For this reason it is extremely important that network creation has high priority. It is a risky strategy to try to attract manufacturing plants of big companies with subsidies. These plants move around the globe with the speed of access to cheap capital and labor.

To what extent are current clusters and networks a phenomenon that is dependent on the national and international environment during the last decades? Trade liberalization, new communication technology, growing prosperity in the western world, access to financial resources, and other factors may have contributed to a situation which was – and perhaps is – favorable for the emergence of networks and clusters. How do we know that this situation will prevail? Networks and clusters prosper as long as they offer a comparative advantage to the participating companies. This advantage is real as long as all global competitors don't follow this strategy. When we arrive at a situation where in all relevant countries networks and clusters are developed to the same level, there is no comparative advantage any more. Those who don't follow this strategy will, of course, suffer from a comparative disadvantage.

Conclusions

First, a region's support for any entrepreneurial activityshould be in harmony with its relevance to the region's competitive advantages and the activity's success in export markets. This has to be at the core of every sustainable strategy. I quote a comment from an Australian study on the Tasmanian light shipbuilding cluster (Wickham 2005):

"We have had some examples, back in the '80s…, it attracted a number of growth businesses for a while, … and now most of them have moved to Fiji and elsewhere. It was totally unsustainable because the minute another government grants a greater subsidy, they packed up and left … they would have been mad not to. It was totally unsustainable. So, we are very careful not to financially support activities which haven't got reasons, independent of the government's financial support, to profit in business here".

Second, the public sector in northern regions has an important role to play. Larger regions have critical mass and it is really a choice of the public sector as to how much it gets involved. A small regional economy is different; the public sector has a key role in bringing people together, providing leadership, not in how to run companies but to provide leadership in terms of direction, vision and continuity.

Third, the role of the public sector in network development changes over the network's life cycle. As a result it needs to have the capability to identify and monitor industries that exist within the region, and their stage of development. It is also important to avoid the adoption of a standard policy regime for all industrial networks, as each will have its own requirements depending on their stage of development.

Fourth, the public sector must understand the nature of "chance events" as they occur. Chance events need to be managed in terms of their relevance to the natural advantages and social capital of the region.

Fifth an final, there is a need for regional governments to actively dilute the importance of dominant firms as the sophistication of the supplier firms advance, without creating disadvantages for these dominant firms. It

is necessary to safeguard the viability of the firms in the network and the region's entire set of industry members againstreliance upon one major entity for their growth and innovative capacity.

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Second Theme:

Borders, Barriers and Borderlands

The Resilience of Borders in the Circumpolar North: Canada and U.S. Policy Boundaries

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Canada and the U.S. have played important roles in contributing to the building of a new framework for cooperation, for example, through the Arctic Council initiative. But the process of how to construct northern policy, by whom, and for whom is not always unproblematic. Several issues complicate the process, including the fact that the Arctic region encompasses at least eight sovereign states which have signed the AEPS and the Arctic Council Agreements[1]. This means that there are very different, often competing, ideas about the place of the circumpolar north in national policy. It is against this backdrop that Canada's "northern dimension" foreign policy role needs to be articulated, and the U.S. approach to Arctic human security explored, since there remain significant questions about the future and the impact of such initiatives, as well as concerns about the existence of gaps in policy, efficacy and cooperation. This article looks at several significant gaps within northern dimension policy among North American nations, and argues that they are constitutive in reinforcing boundaries between Canada and the U.S. which will remain significant in the near future.

In the last two decades of the 20th century, new ways of thinking about the circumpolar north have redefined the significance of this region in political, environmental and cultural terms, particularly with respect to new ideas about human security in the post Cold War era. No longer functioning as a frontier defining the outer edges of a superpower stand-off, as it did during the Cold War, the circumpolar north has become more important in terms of its role as a 'homeland' for its many indigenous peoples. Yet, at the same time, its vulnerability to global environmental degradation has become increasingly obvious, and the need for cooperative action ever more pressing.

The question posed in this article is whether, under these changing economic, political and cultural conditions, the north is also becoming a common borderless space. The article suggests that this is really a question of perspective. If we address the north at the level of indigenous peoples, indigenous transnational flows and cross-border connections, like those of the Inuit Tapirit, or the Saami, then the answer may be most certainly, yes. On the other hand, approached from the perspective of the circumpolar north as a region in which the traditional unified or nation-state exerts a claim to exclusive territory, then the answer is no. Indeed, over the past decade many "northern dimension" policies have been developed by states such as Canada, or by the EU, which although opening up the possibility of cross-border cooperation, firmly proscribe the nature of the cooperation and its function and limitation. Canada's northern foreign policy and the role of northern borders in achieving its specific goals for example, can be understood in context of:

First, its place within a more general international movement to construct a 'northern dimension' among North American and European countries, as well as Russia; and second, the potential impact of an emerging consensus about, and approach to, 'circumpolar north' issues including environment, governance, traditional culture, sustainable development and 'north-south' relations among, and within, 'Arctic' nations.

Similar themes characterize the position of the U.S. In this sense, the circumpolar North as a new framework or new kind of region is itself an institutional and cultural creation which seeks to coordinate disparate political responses to specific issues such as environmental conservation, quality of life or economic development. The role of the Arctic Council as coordinating is both significant and limited in the sense that its authority does not extend to the level of making hard and fast policy which can be implemented outside of consensus and agreement by the Arctic Eight countries (Canada, the USA, Finland, Russia, Denmark, Norway, Iceland and Sweden). While the Arctic Council has expended its role from that envisioned in the mid-1990s, when it was originally formed, and indeed has sparked a number of initiatives which include a focus on health, information and communications, education and scientific research, it faces the problem that today, the North remains substantially divided into territorial segments. The EU, the U.S., Canada and the Russian Federation maintain significant claim to their national spaces, and administer policies in accordance with firm boundary lines, in ways which no amount of environmental cooperation will erase. For example, The EU has implemented a Northern Dimension Foreign Policy, and indeed is on the second iteration of this policy framework, while Canada has recently evaluated its own Northern Dimension Foreign Policy platform. The USA, on the other hand, treats its northern territories as an extension of the south, arguing that no state has the right to make policy, especially foreign policy, independent of the federal government context and in this sense there are limitations to the foreign policy cooperation interventions that Alaska can make as a state. At the same time, Russia has an interest in Northern Dimensions, although no specific policy in which to propose new kinds of cooperation across the region. It may well be that a new EU Northern Dimension relationship addresses this gap in the near future.

In this article we will explore the issue of division within the North American circumpolar North, with particular attention to the two major North American nations—Canada and the USA—and the potential for resolution of these divisions in the future. In disentangling these competing claims and visions of sovereignty and human security within the circumpolar north, it is clear that the issue highlights an even bigger problem than conventional versus comprehensive definitions of security—It highlights the intractable nature of certain international boundaries within a region where the potential promise of sustainable development based upon transnational cooperation has only recently been raised by circumpolar organizations such as the Arctic Council.

Theoretically, the article works from the assumption that there is a continuing relevance to borders in a global world (Nicol and Townsend-Gault 2005; Nicol and Minghi 2005), and that borders do indeed continue do "work", even under conditions of globalization. They are functional as well as symbolic, discursive as material entities. Indeed, in this sense borders in the North can be seen as points of reference for containing and authorizing narratives—whether these be cultural, political, economic or spatial of individual nation states, at the same time that they create points of connection for transnational institutional dialogues about specific subjects which remain state-centered discourses. This approach derives its justification from the fact that borders have proven to be enduring, if not enigmatical physical and symbolic constructs even under globalization, and as Megoran, Raballand and Bouyjou (2005) demonstrate are "at the skin of the state", at the same time that they are, literally and rhetorically "at its heart". This means that the new geopolitical structure of the internationalized circumpolar North (Heininen 2005) does not derive its legitimacy from lack of state, but indeed from state, as it is increasingly committed to the transnational forum. The fluorescence of actors, and the rise of new kinds of actors and new kinds of institutions are themselves a response to both the historical reluctance of traditional states—and/or the lack of institutional capacity of these states—to create borderlands with its neighbors in the North. Current patterns in regionalization, in the sense of a region-building process oriented from the top-down, focuses upon the common characteristics and challenges faced by all the circumpolar countries, and the resolution of these issues using a multilateral approach which requires appreciation of the limitations to which each state is prepared to act. While borderlands are classically defined as a zone or area of division characterized by cultural overlap and where national identities become blurred (Augelli 1980), this does not preclude interaction among states at the institutional or formal level. The current political and boundary structure of the circumpolar North, particularly in North America, is based upon coopera-

tion in a limited number of environmental fora. Indeed, even in creating borderlands, zones of common ground and transnational cooperation, like Haparanda/Tornio in North Europe, bridging borders rather than lack of borders, seems to be the order of the day.

This has clearly been the case in Canada, where new forms of indigenous governance mark the creation of new internal boundaries in areas such as Nunavut, and where the concept of an "indigenous North" has become a politically expedient tool in which to engage in Northern dimension dialogue and cooperation. In this way the common connections among peoples of the North American circumpolar North is relevant. But developing a common ground through the development of more sensitivity to the concerns of Northern populations has been accompanied by the development of policies which see the primary purpose of Canada's Northern Dimension Foreign Policy as a chance to build relations at an international scale, and these focus upon very traditional geopolitical or geostrategic concerns. These include relations with Russia, control of Canada's northern waterways, protecting the sovereignty of the Arctic and High Arctic, and advancing the cause for economic development of strategic natural resources within the north.

Indeed, there are a number of policy gaps or state-centered characteristics of both Canadian and American approaches to Northern policies which increase the propensity for northern solitudes, stemming from different political, cultural, ideological and economic positions. Today these clearly restrict the potential for a borderless North, and will probably continue to do so in the future. The major areas in which such gaps may preclude the development of a seamless or borderless northern region are environmental, programmatic, territorial, identity and regionally-based. They include an exclusive focus on environment along with lack of programs and policies which don't see "the north" as a special case (delivery of services like education, health, communications based upon national standards) (ICT in the U.S.); a lack of cooperative mechanisms—for new kinds of environmental conflicts (oil in the ANWR lands); and the problem of developing a consensus to identify the most important issues for cooperation.

We will examine each of these from the perspective of their impact upon transnational interactions in the North American North, and speculate about their continuing and perhaps increased impact in the future.

Expanding the Environmental Agenda

In many ways the great success story of the circumpolar north has been in its ability to unite Northern Europe and North America in a consensus about the need for transnational environmental policies adapted to the specific challenges which face the North. International agreement on the need to develop environmental protection mechanisms within the circumpolar region was generated in the 1980s, prior to efforts to build a more comprehensive approach to human sustainability through political venues. Many circumpolar countries, or those countries which contained portions of Arctic and sub-Arctic environments within their territory, participated in international discussions about environment. Most specifically, these efforts to build support and capacity for human sustainability included new models for regional governance. Nordic countries—especially Norway and Finland—were among the first to define their version of northern policies in the late 1980s and early 1990s. As a result of these and other broad initiatives, 1991 saw the signing of the Arctic Environmental Protection Strategy (AEPS) between the governments of Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden and the U.S., as the first non-governmental forum for Arctic issues covering the whole circumpolar North emerged. It included the Arctic Monitoring and Assessment Program (AMAP) to "monitor identified pollution risks and their impacts on the Arctic ecosystem"17 (AMAP 2004) as well as the initiative for protection of the Arctic Marine Environment (PAME), a program for Emergency Preparedness and Response (EPPR), and an agreement on the need for the conservation of Arctic Fauna and Flora. The AEPS was to meet regularly after this, with the view in mind of crafting policies which would increase the protection of the Arctic environment from environmental degradation through a process of coordinated cooperation. In 1996 the eight Arctic states together with Northern Indigenous peoples' organizations established the Arctic Council including two main activities, or pillars, environmental protection and sustainable development (e.g. Scrivener 1999).

In the U.S., for example, environmental security for human populations as expressed in terms of food security is a major concern, although clearly in terms of the political debate within the U.S. Senate, it is ranked at a lower rung on the scale than energy security for the southern population ecumenes of Arctic states. The problem with the existing environmental consensus is however, that it is inherently focused upon certain activities and not others. Young (2004) identifies the propensity for the North to be understood as "The scientific Arctic" and as such has been of great interest for its research potential to academics. In interviews with U.S. personnel involved in decision-making at the level of policy for the Arctic Council, the claim has often been made that the most proper area of concern for the federal government is the area of scientific research (presumably Western scholarship style) and data gathering, rather than upon less rigorous scientific themes issues such as quality of life or maintaining indigenous lifestyles. While the Arctic is indeed an important bellwether for the state of the planet, this focus on formal science has differentiated and at times devalued traditional knowledge.

This has meant, historically, that as far as the US approach to the North American circumpolar region is concerned, at the state level, there is a tenuous link between the promotion of civil society and human security beyond the context of environmental issues. Indeed, there is no region, and no geopolitical discourse which connects people and place outside of a fairly narrowly and empirically defined environmental agenda. State Department expertise consists of personnel previously assigned to border security and INS, and State Department interest and with respect to the work of the Council is limited to concern with scientific, environmental and technical issues which affect the state of Alaska. As such, Washington's failure to engage on the level of a circumpolar north has been criticised by Canadian and Europeans, but on the other hand, it has given Canada opportunity to navigate the Arctic Council to some extent freed from the confines of a formal and separate bilateral relationship with the US on indigenous issues—particularly in the area of initiatives to strengthen the role of indigenous peoples in regional government. This includes Canadian support of, and cooperation with trans-national NGOs such as the Inuit Circumpolar Conference, and the Inuit Tapirisat.

This has been an important point of division between Canada and the U.S., particularly in terms of 1995, the U.S. Senate voted in favor of drilling for oil in the Arctic National Wildlife Refuge (ANWR), proponents of this project claiming that "tapping the refuge would lessen dependence on foreign oil, help bring down energy prices, provide jobs and ease the country's growing trade imbalance. They also argued that modern technology would limit the area needed to drill in the arctic (sic)"[2]. But where the U.S. government claims that their indigenous populations are "on board". there may well be significant effects upon quality of life for Gwitch'in on the other side of the nearby Canadian boundary. They fear the decline of the Porcupine Caribou herd upon which they rely as a major food source.

While clearly there is tremendous room for improvement, the Canadian government has found itself more closely aligned with scientific research which supports indigenous knowledge and science which aligns with indigenous interests in certain strategic cases, such as that of the Gwitch'in in Old Crow.[3] A powerful ally, the Government of Canada, has fought for the interests of the Vuntut Gwitch'in in ways the U.S. Government would not. The Canadian Government has offered "oil" for "oil"— lucrative compensation for loss of oil revenues and supplies from ANWR lands will be made up in other areas of northern Canada. The offer has been rebuffed, suggesting that the very concept of comprehensive security in U.S. geopolitical discourse is at issue. Indeed, the government of Canada will fight for these people the way America has not fought for the residents of Kaktovik, Alaska, fundamentally, as we shall see shortly, because Canadians structure the importance of indigenous peoples and human security in a different way than do Americans.

This conflict suggests that while the concept of borderlessness may be true for caribou, there are firm borders in terms of the prioritization of comprehensive security for human populations of the north, and such borders matter substantially. They are borders which reflect different calculations concerning the role of quality of life and cultural preservation. For example, the Government of Canada has issued declarations voicing its disapproval of the ANWR oil projects, particularly the most recent proposal to drill in the ANWR coastal plains. Their resistance is based upon the fear that drilling will disrupt the Porcupine caribou calving grounds resulting in a

serious loss of Gwitch'in traditional food sources. But it is also contextualized within a Canadian security discourse in which sovereignty in the Arctic is increasingly important. This approach is consistent with the more general way in which the U.S. engages within the Arctic—it is clearly more interested in using the region as a means of maintaining its global position as an economic powerhouse, rather than considering the concept of comprehensive security for regional populations. The approach taken by US decision-makers, at least those in Washington, with respect to the circumpolar north is distinctively different from that of Canadians and Europeans, although there is overlap with the European Union's focus upon Eastern and Northern European states. At the state level, American policy-makers are less inclined to make policies which promote a formal relationship with the Arctic Circle. The US approach to participation in the Arctic Council, for example, is driven by a number of specific issues, rather than by a sense of geographical regionalism. Indeed, national security, economic development and scientific research are important U.S. interests in the region, and Alaska would not, for example, be able to make or participate independently in policy in this area—only Washington. According to the official political rhetoric a true U.S. Arctic policy "emphasizes environmental protection, sustainable development, human health and the role of indigenous people" but this emphasis is specific to US peoples and places, not Pan Arctic indigenous organizations nor transnational issues above and beyond environment. Consequently, it would be fair to say that theoretically, the US position towards the circumpolar region remains traditional, in the sense that it is based upon a state-centered agenda in which security and national interests are emphasized, although with recognition of the broader context of globalization.

Within the US, too, until recently, northern dimension foreign policy has meant, strictly speaking, the Baltic States and "security" issues. The development in 1997 of a North European Initiative was designed to address the issues of a new geopolitical order in the wake of the Cold War and dissolution of the USSR. Indeed, the US approach to the north can be understood as having two very separate sets of initiatives and policy directives, and is administered under two separate State Department programs. On the one hand, the NEI and ePINE are steered towards foreign relations in which more general US policy goals of building democratic and stable society and promoting free markets are met. In both, there has been a focus upon the sub-national level, with a broadening out to include actors such as NGOs, TNCs, multilateral organizations and others, as well as a broadening out of the definition of security interests to include a broad-based concept of human security including "economic deprivation, energy shortages, weakness of democratic institutions, communicable diseases, environmental degradation, crime, corruption and loss of cultural identity" (Sergounin 2002). On the other hand, a separate US State department program administers US participation in the Arctic Council, with virtually no overlap in personnel, program or policy development between the ePINE and Arctic Council programs. There is no single 'northern dimension' to US foreign policy.

Indeed, US consideration of the North American circumpolar north suffers from a lack of a more general or even geographical perspective as well as a lack of focus on human security. In counter distinction to its northern European approach, US state interests here are not multilateral, and are limited almost exclusively to environmental concerns, as evidenced by the nature of US participation in AEPS and the Arctic Council, and the structure of "science research" emanating from American foundations focusing on the north. Furthermore, the goals are strategic: directed toward the Baltic Sea region and Northwest Russia. In some respects, comprehensive northern foreign policy in the US has had, as its focus, the intent of developing a plan to include the Baltic States in NATO, to support their inclusion in the EU, and to engage Russia in new dialogues which would lessen the potential for a new east-west divide to form.

It remains difficult to see how a broad-based human security discourse emerged as part of the US northern initiative, or how borders are being bridged in recent years. There is no sense of a broad circumpolar region, nor did it promote efforts to engage with nations not located in North Europe. The US approach towards a general Arctic environment tends to remain, instead, compartmentalized in terms of sector by sector agreements within the framework of the AEPS and the Arctic Council. Moreover, because of the state-centred focused, conceptions of a US northern dimension do not, by definition, consider cooperation with Canada beyond a narrow set of initiatives based upon environ-

ment and health. In this sense, the USA cannot claim to have a northern dimension to its foreign policy, nor does it recognize the need for a geographical approach to northern environments. Its concept of northern dimension remains an issue-based approach in which traditional security and strategic concerns dominate.

The same is true at the state level. Alaskan participation in the circumpolar north is through institutions which have definition in traditional terms—that is to say as institutions of the state government, or as universities, research foundations, and indigenous peoples' organizations. But it seems that although there are venues for indigenous participation based upon regional-wide affiliation (i.e. the ICC) US and Alaskan decision-makers have pushed for inclusion of indigenous peoples on narrower terms, in context of their role within US national or sub-national institutions, with the intent of countering a more broad-based Pan Arctic definition. Arctic issues are more narrowly defined as well—mainly in the area of environment, health and education. Nonetheless, the Alaskan perspective is more highly regionalized and defines "northern dimension" of US foreign policy in which North America is featured than the Washington perspective.

Indeed, the sovereignty discourse becomes more acute as global warming proceeds, principally because of the potential changes in terms of the Arctic as a maritime transit route when shipping lanes become free of Arctic ice. Honderich argues that this is precisely because "for centuries the only thing strategic about Canada's Arctic was its impenetrability" which effectively served as a natural barrier and in the case of borders and maritime claims, made the delimitation let alone the demarcation of these all but a moot point. By all accounts, the problems of ownership, in terms of sovereignty conflicts, are looming larger in the circumpolar North. At the same time questions of ownership become increasingly important, in the sense of who has rights not just to access, but to decision-making concerning resource development and the allocation of natural resources. In the Canadian Arctic, for example, patrolling the borderline has become increasingly important—not only in terms of Canada's attempts to maintain sovereign claims in the face of pressure from the U.S., but also in terms of pressures from Denmark and Greenland. The result has seen renewed interest in "patrolling Canadian territory 'North of 60'." And indeed "In this Northern Area, the Canadian Forces maintains an impressive force of top Reservists called 'Rangers'…In the eastern Arctic, most Rangers are Inuit. They bring with them unique skills, rooted in their demanding ways of finding and killing prey in this tough land" (Arctic Viking 2005).

Such indigenization of border patrol seems to be a compelling example of the importance of borders even as the circumpolar North becomes increasingly internationalized and global. Indeed, the politics of the future are likely to be more confrontational and located clearly along the borderlines of the circumpolar north, not because of any intrinsic intractability of the region, but because of the nature of the disputes and the structure of formal problem-solving within the region. Discussions over Canada-U.S. maritime boundaries, for example, under conditions of global warming and heightened interest in U.S. energy security mean that some kind of integrated coastal cooperation model will not be suitable when determining the international boundaries of the Bering Sea in the future—between Canada and the United States. Global warming scenarios suggest that the North will become a more important transit region, meaning that the Northwest Passage, which Canada claims as its internal waters, will be under scrutiny. Sovereignty challenges here, and also in the area of the North Pole, which Denmark has recently laid claim to and in doing so challenged the Canadian Government's presumed sovereignty of the High Arctic, are all issues which will heighten, rather than eliminate, the currency of borders in the North.

Conclusions

It is clear that there are very significant foreign policy boundaries within the North American Arctic which will continue to reinforce national borders. For example, US interest in indigenous peoples is not particularly significant, and therefore a bone of contention when dealing with other circumpolar states, such as Canada, where indigenous issues are the motor behind a northern dimensions foreign policy. This means that the biggest challenge for Canadians, with respect to the US approach to a northern dimension, is perhaps that they must respond to two very different sets of policies which structure the US relationship with the north. One set is a shared AEPS program and Arctic Council, in which both Canadians and Americans (the latter most particularly at the sub-national, level which includes

the state of Alaska and various US NGOs), have played an important role. Many Canadian and American institutions have also been central to the process of region-building, contributing to linkages between academic institutions, indigenous people's fora, as well as exploring the possibilities for environmental cooperation and better health and education opportunities.

Such differences reinforce, rather than erase boundaries. It is difficult to see how formal cooperation will extend much beyond the institutional parameters which currently exist. The problem with circumpolar foreign policy, which sets the tone of the international regime and the geopolitics of security within the north, however, is that it remains cross-cut by competing national claims. One of the firmest lines dividing the north today is that between the U.S. and the rest in terms of issues which fall outside of the rubric of "Arctic science". That is to say that the U.S. has less interest in promoting civil society and political empowerment of indigenous peoples than other Arctic Council member states, than environmental treaties on broad principals which can be adopted with general consensus. This means that when there are competing claims in terms of domestic or national constituencies, the U.S. adopts a state-centered approach, and tends to chose sides based upon traditional security lines. This is clear in the case of the ANWR/Gwitch'in dispute.

It this sense, the circumpolar north suffers from an international regime which is strongly divided by geopolitical discourses which strongly reflect national interest. The geopolitics of oil exploitation is a particularly difficult issue to resolve. Competition between comprehensive security, at least in terms of a security rooted in meeting the basic needs of human populations within the Arctic region, and a more abstract and globalized concept of security, such as sustainable natural resource exploitation or even "energy security" has become increasingly obvious in recent decades. In northern areas, the use of the environment plays an important role in communities' survival and therefore local communities try to get their perspectives noticed in non-local decision making. At the same time the increasingly globalized scale of energy and resource extraction makes the likelihood of such perspectives being listened to, increasingly problematic. So the ANWR issue, although a significant flashpoint, is not likely to be the only clash between competing visions of security—but rather the tip of the iceberg.

Notes

1. See E.C.H. Keskitalo's Glossary in "Negotiating the Arctic: The Construction of an International Region" (London: Routeledge, 2004) for chronological index.
2. Ibid.
3. The Vuntut Gwitch'in first Nation, who live on the Canadian side fo the border. They have a longstanding culture and traditions concerning the land that has been passed down over many years, and they fear that their way of life, particularly the caribou hunting tradition, will be destroyed by the oil activities in the ANWR lands. The Vuntut Gwitch'in are very spiritually tied into their land as well as their traditions. In Old Crow, Village Chief Evon Peters has observed that, "the animals, the rivers - we're essentially a voice for things that cannot talk. We don't see ourselves as separate from those things. If the rivers and animals are poisoned, the poison will work their way into us, too." (Banarjee, 2004). The link between the welfare of the Porcupine Caribou herd and the Vuntut Gwitch'in is particularly intense—and so the Caribou themselves are yet another character in this scenario is the Porcupine Caribou, the main source of protein for many groups of both U.S. (Alaskan) and Canadian Indians. The Porcupine Caribou Herd has been important to the Gwitch'in for many generations and, if they have room to continue breeding, or calving, they can continue to be a part of this life process. Hunting these animals is not simply a sport, but a way of life that has endured through the increasing rise in urban destruction and population. Caribou have been described as the most important land-based species for people living in the arctic.

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Coastal State Sovereignity in the Arctic Offshore: Is it Compatible with the Concept of a Borderless North?

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The notion of a Borderless North is attractive, however its basic philosophy runs counter to prevailing attitudes concerning the inviolability of maritime boundaries. Being well entrenched within the current doctrine of customary state practice, these attitudes are unlikely to change in the foreseeable future. However, they needn't prevent Arctic coastal states from establishing a framework for consultation and collaboration that is designed to achieve meaningful objectives in fields where the national sovereignty of coastal states is not perceived to be under threat. Marine scientific research is suggested as such a field, with its emphasis on addressing transboundary issues for the greater benefit of all.

The UN Convention on the Law of the Sea (UNCLOS) provides a framework for coastal states to follow when establishing the zones where they may exercise national jurisdiction. In prescribing mechanisms for defining the outer limits of these zones, the Convention encourages states to cooperate in the construction of bilateral boundaries or borders that are shared with neighbour states, and in so doing to seek equitable solutions. The Convention also seeks to prevent 'creeping jurisdiction' of coastal states by stipulating where the individual rights of coastal states end, and where the collective rights of other states begin.

This article begins by describing the maritime zones that are defined by various limits and boundaries, and by outlining the inherent rights of coastal and other states in the zones so defined.[1] It then goes on to review the situation in the Arctic Ocean, and ends by proposing a collective approach for dealing with important regional issues while respecting the sovereign rights of the Arctic coastal states.

Maritime Sovereignty - A General Overview

From a juridical perspective, the ocean is divided into zones where states are entitled to exercise a range of rights and freedoms – see Figure 1. As a general rule, a coastal state enjoys privileged levels of authority in the zones adjacent to its territory, the authority diminishing progressively with increasing distance from the coastline. Conversely, other states must progressively relinquish freedoms as they penetrate deeper into the zones where a coastal state exercises jurisdiction.
This section provides an overview of the zones in which coastal and other states are entitled to exercise their respective rights and duties. It also touches upon the methodologies that may be called into play when partitioning these zones between neighbour states.

The territorial sea baseline (TSB)

While not a zone per se, the TSB is significant in that it marks the limit between a coastal state's land territory and the ocean which lies beyond that territory. There

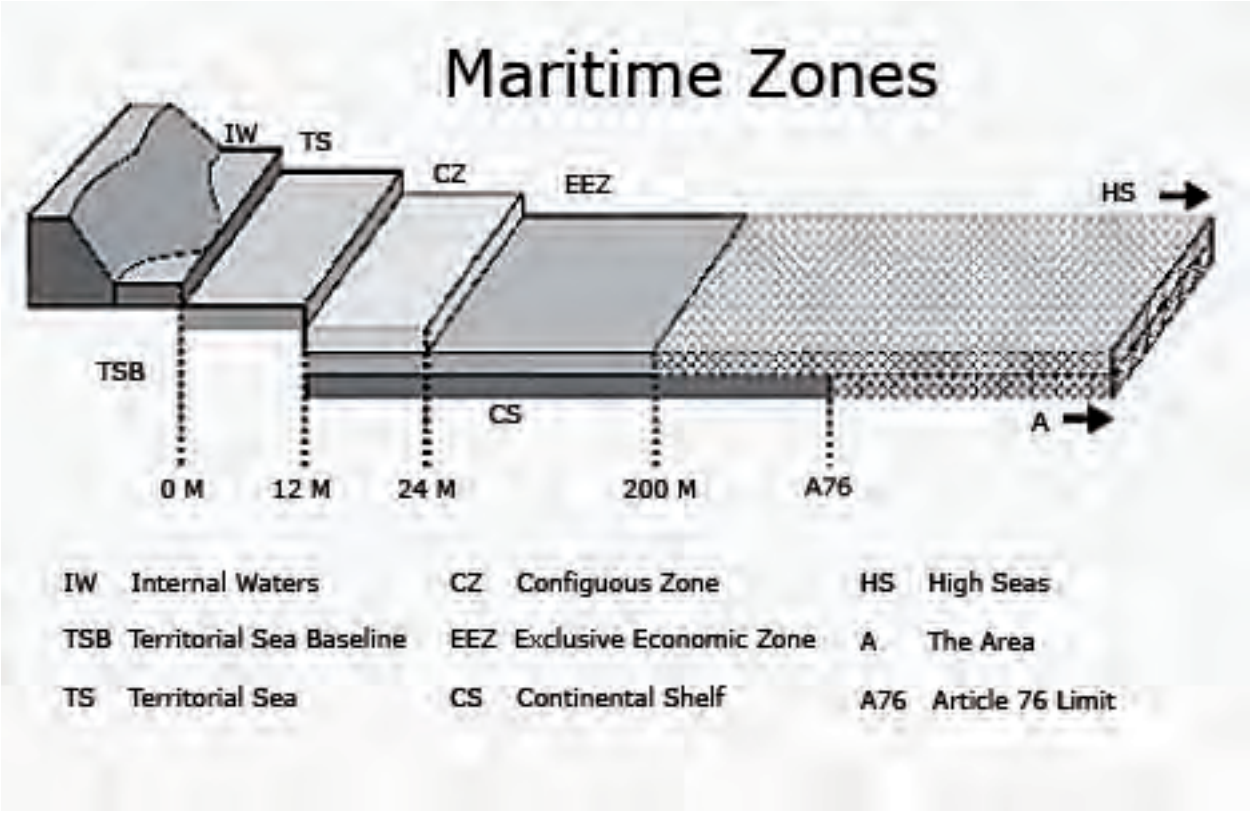

Figure 1. Maritime Zones [2]

are two types of baseline: normal and straight. By definition, the normal baseline is defined by the low water line shown on charts that are officially recognized by the coastal state.

The straight baseline is called into play when it would be impractical to define a normal baseline on a coast that is heavily indented or fringed with islands. Within certain limitations, it consists of a succession of straight lines that cross bay openings, river mouths, and channels lying between islands and the mainland.

A coastal state can define its TSB using any combination of normal and straight baselines. It is incumbent upon

a coastal state to publicize the location of its TSB through illustration on published charts or through promulgation of its geographic coordinates.

Internal waters

Internal Waters lie on the landward side of the TSB. The sovereignty of a coastal state extends to these waters, where to all intents and purposes its authority is the same as on dry land.

The territorial sea

The Territorial Sea extends seaward from the TSB for up to 12 nautical miles. The coastal state exercises sovereignty over this zone, however the right of innocent passage is open to ships of all states. In this context, 'passage' is defined generally as a simple traversal of the Territorial Sea, with or without a port call. A passage is 'innocent' as long as it is "not prejudicial to the peace, good order or security of the coastal state".

The delimitation of Territorial Seas between neighbouring states is usually determined by a median line which is everywhere equidistant from their respective TSBs, unless the parties agree otherwise, or unless there are special circumstances, such as historical entitlement.

The contiguous zone

The Contiguous Zone extends a maximum of 12 nautical miles beyond the Territorial Sea, or 24 miles from the TSB. Within the Contiguous Zone, a coastal state is authorized to prevent and to punish actions that infringe upon its laws and regulations pertaining to customs, fiscal, immigration, or sanitary matters within the Territorial Sea.

There are no specific provisions for delimiting the Contiguous Zone between neighbouring states. This zone is usually integral to the Exclusive Economic Zone (EEZ, discussed in the following section), and its bilateral boundaries could be expected to conform automatically to those of the EEZ.

The exclusive economic zone (EEZ)

The EEZ extends beyond the Territorial Sea to a maximum of 200 nautical miles from the Territorial Sea Baseline. Within its EEZ, a coastal state can exercise a broad range of powers relating to the management and exploitation of resources of the seabed and superjacent waters. It also has jurisdiction over such matters as:

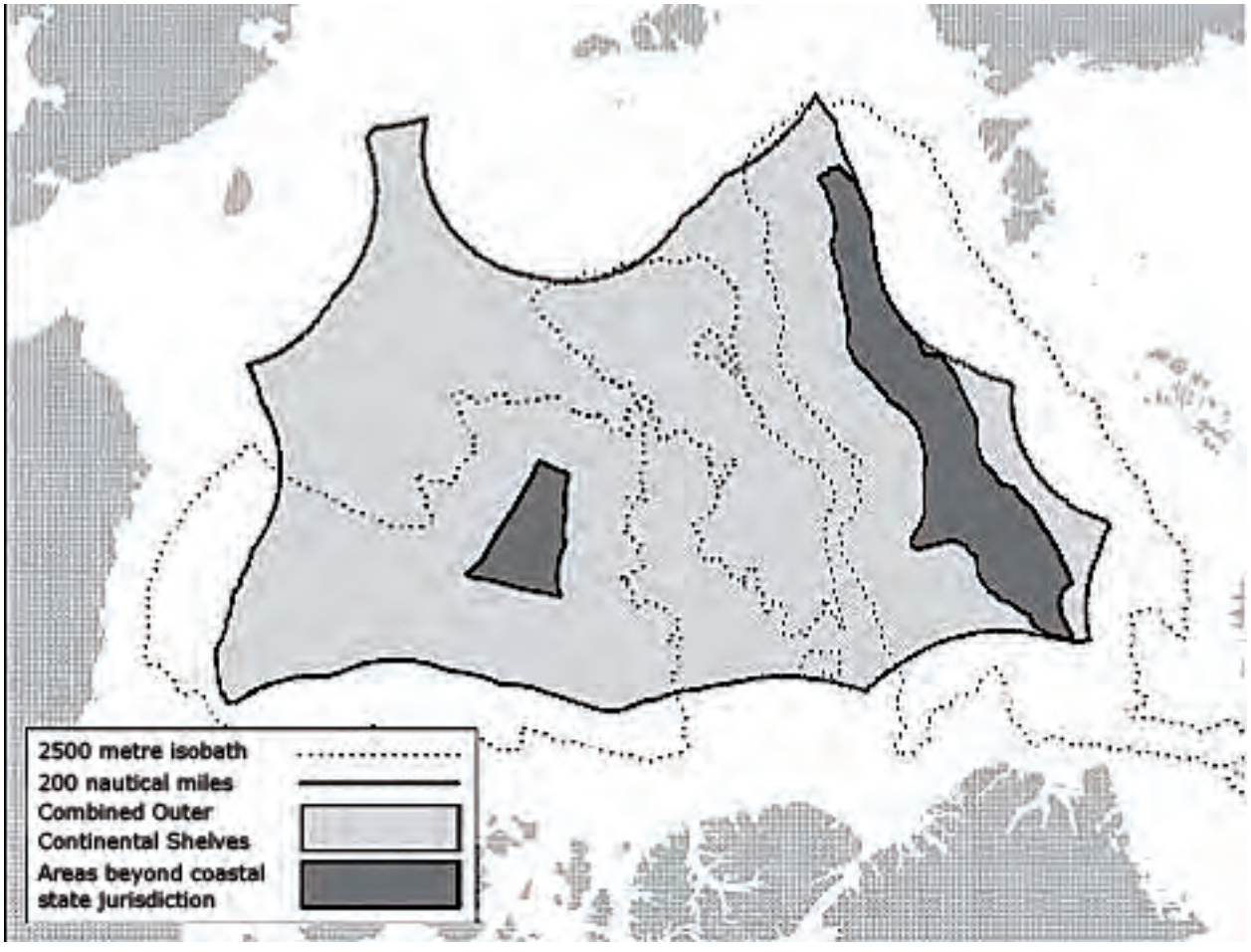

Figure 2. Outer Continental Shelves[3]

the establishment of artificial islands, installations, and structures; marine scientific research; and the protection and preservation of the marine environment.

All states retain certain rights within a coastal state's EEZ, e.g. freedom of navigation and overflight, and the laying of submarine cables and pipelines (as long as they respect the provisions of the Convention, and the rights and duties of the coastal state). Other states are also entitled to harvest living resources that are determined by the coastal state to be surplus to its needs, or to exceed its own harvesting capacity. Such harvesting rights extend to landlocked and geographically-disadvantaged states whose geographic situation makes them dependent upon the living resources of other states' EEZs in order to meet their nutritional requirements.

The delimitation of EEZs between neighbouring states is to be determined by agreement on the basis of international law and with a view to achieving an equitable partition. There is no set process for defining the bilateral boundaries of adjacent or overlapping EEZs: neighbouring states are expected to negotiate this matter in good faith, and if a mutually-satisfactory solution proves impossible to achieve, the Convention defines procedures that can be invoked for the settlement of disputes.

The outer continental shelf (OCS)

The OCS is a juridical construct and is not to be confused with the physiographic continental shelf (which is a shallow zone of indeterminate width adjacent to a given coastline, and where the seafloor is flat-lying). In general terms, the OCS consists of the seabed and subsoil of the submerged prolongation of a coastal state's land mass, where that prolongation extends beyond 200 nautical miles. The delimitation of the OCS is based upon geological and bathymetric criteria that are defined in Article 76 of UNCLOS. Not all coastal states are entitled to an OCS, only those with a continental margin that satisfies the criteria of Article 76.

Within its OCS, a coastal state is entitled to exercise a number of sovereign rights, notably the management and exploitation of living and non-living resources of the seabed and subsoil. In the case of non-living resources, the coastal state must pay to the International Seabed Authority a royalty that is based on the value of production, and which is distributed equitably to other states, taking into particular account the needs of developing states. Note that a coastal state has no jurisdiction over the living resources of the superjacent waters of its OCS, as it does in its EEZ. The coastal state's non-resource rights in the OCS are comparable to those it enjoys in its EEZ, whereas certain restrictions may be imposed upon other states – for instance, their scientific research must in general be constrained to the superjacent waters.

There has been very little state practice so far in this domain, but the question of OCS delimitation between neighbouring states is presumably subject to the same provisions as for EEZs: parties are encouraged to seek a negotiated solution, failing which they have recourse to standard mechanisms for dispute settlement.

The high seas

The High Seas consist of all parts of the world ocean that lie beyond coastal state EEZs, Territorial Seas, and Internal Waters, and outside the archipelagic waters of archipelagic states. The freedom of the High Seas is open to all states and entitles them to engage in: navigation, overflight, laying of submarine pipelines and cables, construction of artificial islands and other installations, fishing, and scientific research. No state is entitled to claim sovereignty over any part of the High Seas, so in principle boundary definition is not an issue.

The area

The Area is that part of the seabed which lies beyond all state jurisdiction. Mineral resources at or beneath the seabed are considered to be the 'common heritage of mankind.' The management and exploitation of these resources are the responsibility of the International Seabed Authority. Similar to the High Seas, no state is entitled to claim sovereignty over any part of the Area, so in principle boundary definition is not an issue.

Maritime Sovereignty in the Arctic Ocean

In many respects, the jurisdictional map of the Arctic Ocean remains a work in progress. This section offers a general overview of the limits and boundaries that per-

tain to the sovereignty of Canada, Denmark acting on behalf of Greenland, Norway, the Russian Federation, and the United States of America. In the remainder of this article, these five states will be referred to as 'Arctic coastal states'. Maritime boundaries in the Norwegian Sea are not included in the present discussion, although it is recognized that this region shares many of the boundary issues of the Arctic Ocean.

All Arctic coastal states have defined their Territorial Sea Baselines (TSB), and in consequence their Internal Waters. However, some problems remain in areas where coastlines are ice-covered or subject to seasonal changes, and where there is disagreement over what constitutes a proper straight baseline. The latter disagreements have risen to prominence in the matter of shipping rights through the Northern Sea Route which skirts the north coast of the Russian Federation, and through the Northwest Passage that traverses the Canadian Arctic Archipelago.

Of the five bilateral boundaries that separate the maritime zones of the Arctic coastal states, only two have a point of origin at the terminus of the land boundaries of the affected states: the boundary between Norway and the Russian Federation, and that between Canada and the United States of America. In principle, a well-defined land terminus should provide a solid point of departure for partitioning the Territorial Seas, the Contiguous Zones, and the Exclusive Economic Zones between adjacent states, but in practice some important topics need to be dealt with first, among them the designation of appropriate TSB basepoints, and the selection of mutually-acceptable procedures for constructing the boundary line.

The three remaining bilateral boundaries are all located in straits that separate the affected states: Bering Strait (between the Russian Federation and the United States of America); Nares Strait (between Canada and Greenland); and Fram Strait (between Greenland and the Norwegian Island of Spitsbergen). In all three cases, maritime zones are projected from opposite coasts and meet in the middle of the straits, necessitating negotiations to achieve partitions that are mutually satisfactory.

Each Arctic coastal state meets the criteria of Article 76 for the establishment of an Outer Continental Shelf (OCS) beyond 200 nautical miles. In 2001, the Russian Federation was the first Arctic state to present its case to the Commission on the Limits of the Continental Shelf, only to be informed that Commission members had reservations about their supporting information, and that it would be necessary to address these concerns in a revised submission. The remaining four states (including the United States of America, which has yet to ratify the Law of the Sea) are engaged in activities preparatory to the delimitation of their Outer Continental Shelves, with varying levels of cooperation between neighbour states. A provisional analysis suggests that the cumulative Outer Continental Shelves of the Arctic coastal states could encompass most of the central Arctic Ocean, leaving two zones where coastal states could not exercise sovereign rights – see Figure 3. These two zones form a part of the Area, which incorporates all components of the global seabed that lie beyond national jurisdiction, and where mineral resources on and below the seabed comprise the 'common heritage of mankind'.

The combined Exclusive Economic Zones of the Arctic coastal states form an unbroken belt that encircles the entire Ocean, leaving an enclave in the centre where all states may exercise the freedom of the High Seas.

Within this context, the ability to perform marine scientific research in the Arctic Ocean has emerged as an issue freighted with significant political overtones. With the prospect of seeing most of that ocean encompassed by the EEZs and OCSs of the Arctic coastal states, other states have been expressing concern about the potential loss of access to regions where important scientific questions remain to be answered. For example in one recent incident, two research icebreakers operated by non-Arctic coastal states were forced to cancel long-standing plans for scientific excursions through the EEZ of a coastal state, when local authorities attempted to impose substantial fees for access to those waters and for services which included icebreaker escort.

Discussion

The foregoing section has described some of the issues that Arctic coastal states must address in order to achieve equitable projections of national sovereignty and jurisdiction into the offshore. At present, all states are engaged in activities relating to the construction of the outer limits of their continental shelves, where they are entitled to exercise certain sovereign rights. At the same time, a number of neighbouring states need to ne-

gotiate bilateral limits in order to partition their sovereignty over the seabed and superjacent waters off their adjacent coasts.

When considering such issues in the Arctic Ocean, it is worth recalling that worldwide, unresolved maritime limits and boundaries are estimated to number in the hundreds – so the Arctic is hardly unusual in this respect. Nevertheless, this is no time for complacency. For all its environmental rigours, the Arctic Ocean remains unique and vulnerable: unique because it is the only large enclosed sea that alternates between polar night and day; in addition, it features a persistent ice cover that serves as an effective barrier to the sort of ocean-atmosphere exchanges that are commonplace in other parts of the world. These circumstances make for a marine environment that is very different from that of other oceans, and one that scientists are still trying to understand.

The Arctic Ocean is also vulnerable: with a deep central basin that is essentially cut off from the world ocean, it serves as a catch basin for the long-term retention of contaminants that originate locally from coastal states, from shipping and related industrial activities, or from remote sites after transportation via atmosphere and surface currents. Moreover, as one of the engines that drive world climate, the Arctic is impacted by global warming, with long-term consequences that cannot be predicted with any reliability at this time.

Many of the problems and challenges that are associated with the Arctic Ocean transcend national boundaries, and their satisfactory resolution can only proceed on the basis of cooperation among coastal states. This cooperation requires a pooling of interests, along with a willingness to engage in multiparty debate and decision-making with a view to initiating collective action that will lead to some greater good. Such action could imply a loss or reduction of certain sovereign rights in the offshore, which coastal states are reluctant to accept for valid reasons, e.g. defense and environmental concerns; ownership of living and non-living resources; cultural and historical perceptions that underlie a sense of national identity; etc.

It would appear therefore that the concept of a Borderless North could be difficult to realize in offshore areas, however nothing rules out cooperation among coastal states for the purpose of achieving a worthwhile collective goal. Indeed, Part IX of UNCLOS advocates cooperation among the coastal states that border enclosed or semi-enclosed seas such as the Arctic Ocean.

Specifically, Part IX encourages affected states to coordinate their actions in:

- the management, conservation, exploration, and exploitation of living resources;
- the protection and preservation of the marine environment;
- the development of policies and programs of scientific research;
- the constructive involvement by other interested states or organizations.

Thus there is a legal, if not a moral, incentive for Arctic coastal states to implement a regional framework of transboundary cooperation that would enable them to devise effective solutions for common problems. Such an arrangement might not match all the ideals of a truly Borderless North, but its effect would be to promote the development of a circumpolar community that shunned the pursuit of narrow national self-interest and sought instead to involve participating states in an ongoing process of communication, consultation, and collaboration.

Conclusions

The concept of the Borderless North is attractive, offering the prospect of free and unencumbered transfers of information, people, and goods among the region's states. Coastal states, however, tend to be vigilant concerning the threat (perceived or otherwise) of erosions to their sovereign rights in the offshore, and with good reason. In light of all the factors that impact upon activities in the Arctic Ocean and upon the relationships that prevail among the region's coastal states, it would be unrealistic to expect an early easing of this vigilance. Consequently, it cannot be anticipated that Arctic maritime borders, be they established or in progress, will become more porous in the foreseeable future, facilitating rather than hindering exchanges between neighbour states.

This is not to suggest that the situation cannot be ameliorated. On the contrary, arctic coastal states would benefit by maintaining an ongoing, wide-ranging dialogue with a view to harmonizing their values and percep-

tions, and to devising appropriate strategies for dealing collectively and effectively with common problems in the offshore.

Marine scientific research represents one field of endeavor that would no doubt benefit from a greater spirit of openness and cooperation in the Arctic: the outcome of such a collaborative activity would substantially increase our understanding of the region, and would contribute towards the establishment of a solid foundation for decisions that affected the social, economic, and environmental wellbeing of northern societies. With the upcoming International Polar Year relying heavily on multinational scientific cooperation, we are entering a propitious era for capitalizing and acting upon our common interests in the Arctic; the IPY could be a very effective springboard for launching a spate of ideas and activities that validated the concept of the Borderless North.

Notes

1. The ideas presented in this article have developed during numerous discussions with knowledgeable colleagues and associates, and their contributions are hereby acknowledged. Errors of fact or interpretation, however, are the author's alone. The opinions presented here do not represent the views of any ment or organization.
2. Diagrammatic representation of the seaward extents and overlaps of the maritime zones where a coastal state may exercise a range of sovereign rights and authorities. Figure 1 summarizes the rights of the coastal and other states throughout these zones. (adapted from an illustration posted on the website of Geoscience Australia)
3. Map (Figure 2) illustrates the potential extent of the cumulative Outer Continental Shelves (shown in light grey) of the five coastal states that surround the Arctic Ocean, and which will be entitled to exercise certain sovereign rights according to the provisions of Article 76 of UNCLOS. Also illustrated are zones (shown in dark grey) that do not meet the criteria of Article 76 and which therefore cannot be included within the Outer Continental Shelves; they form instead a part of the Area, which is managed by the International Seabed Authority and where seabed resources are treated as the 'common heritage of mankind.'

Does history work? Euregio Karelia on the EU-Russia border

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Euroregions are integrated sub-national cross-border structures with a political decision-making tier, based on some type of legal arrangement, having a common permanent secretariat, and commanding their own resources. The co-operation is based on a long-term development strategy and is pursued in all 'realms of life'.[1]

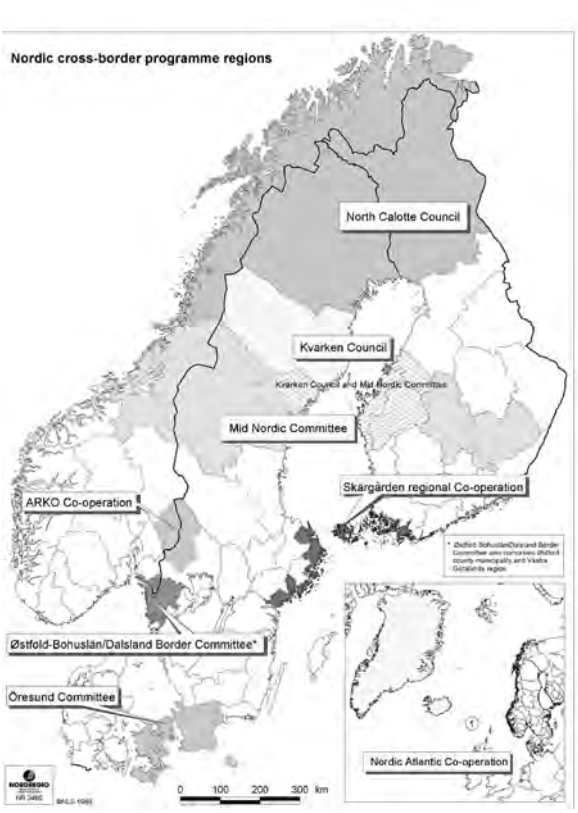
In this respect it is essential to mention that euroregions (also called 'euregios', e.g. Euregio 'Karelia' or 'regional councils', e.g. the North Calotte Council) constitute a special type of cross-border co-operation (CBC), which differs from other types of CBC (e.g. 'working communities', loosely integrated 'cross-border regions') by a higher level of integration in different spheres, ranging from economic to political. As mentioned above, euroregions have rather developed institutional structure, not only a common permanent secretariat, but other decision making and executive bodies, such as Executive Committee, joint Working Groups, in some cases even Parliamentary Assembly etc. In most cases euroregions consist of subnational political-administrative units, such as regions and local communities. Different euroregions have different aims and objectives, yet the common feature is striving for raising the intensity of co-operation and widening and deepening the degree of integration.

The first Euroregion, the EUREGIO, was established in 1958 on the Dutch-German border, in the area of Enschede (NL) and Gronau (DE).[2] Since then, Euroregions and other forms of cross-border co-operation have emerged throughout Europe. At present more than one hundred cross-border regions exist in Europe, and no less than fifty per cent are euroregions of different kinds.[3]

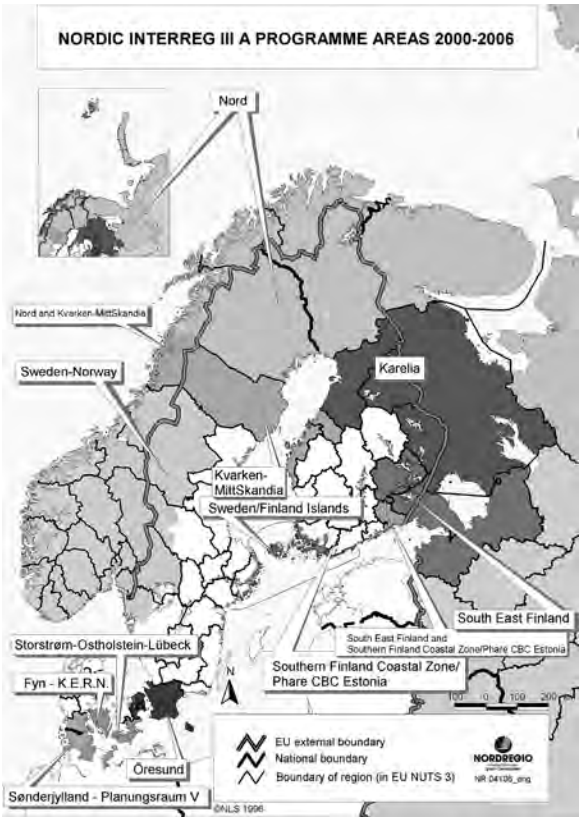
Needless to say in different parts of Europe the euroregional networks developed and are still developing with varied speed and success. In general, Southern Europe is less 'euroregionalised' than Western, Central and Eastern Europe, which have shown a higher level of euroregional density along state borders in recent years. At the same time, the system of CBC in the Nordic Countries is even more developed and institutionalised due to the long cooperation traditions.

Euroregions in the Northern Europe

The modern history of CBC in the European North is rather long; it dates back to the late 1950's in the Nordic countries and between Nordic and Western European countries. The first official cross-border contacts were established in the late 1950's in the Öresund region (DK/SE), but the first institutionalized cross-border region (CBR) was the North Calotte (FI/NO/SE), established in 1967. The system of CBC in Norden was finally formed in the early 1980's. Thus, in 1981 the last Nordic CBR, the West Nordic Region (Faroe/Iceland/Greenland) was established. And then, until the end of the Cold War, this system remained stable (it consists of eight regions, namely Öresund, North Calotte, Kvarken, Mid Nordic, ARKO, Archipelago, Østfold – Bohuslän, West Nordic Region). This system could be called 'a traditional system of trans-frontier cooperation in the Nordic



Map 1. Traditional Nordic CBRs. (Source: www.nordregio.se)



Map 2. Changes in the 'traditional' system. (Source: www.nordregio.se)

countries'. This system was rather unique, developing independently from Western European regionalisation processes in the framework of Nordic co-operation and integration. All of the above mentioned euroregions became institutional, as well as obtained limited financial support from the Nordic Council and the Nordic Council of Ministers, but the initiative to co-operate and dimensions of co-operation and integrations belonged to subnational authorities/administrations.

After the 1995 EU enlargement to Sweden and Finland, some new CBR's appeared, acting under the Community Initiative Interreg, aiming at the promotion of cross-border, inter-regional and trans-national co-operation in Europe. The existing 'traditional' system was changed by including some new CBR and re-organizing the old ones. These new CBR's, some of which are as highly integrated as traditional euroregions, are substantially dependent on the EU financial support, thus, loosing their ability to self-define the objectives and strategy of co-operation. This led some students of the Nordic CBC to the conclusion that the EU activities in this field have more destructive than positive consequences for the development of CBC network.[4]

On map 2 several 'external' CBR's are depicted. By 'external' euroregions I mean those created along the external border of the EU/NC, i.e. on the Finnish-Russian state border mostly, with the possible participation of subnational units from other Nordic countries. After the end of the Cold War, several 'external' cross-border regions were created. The first one was the BEAR (the Barents Euro-Arctic Region, referred to as 'Nord' on the map), established in 1992; Euregio "Baltic" (not on the map) was formed in 1995; then a CBR between Finland and the Leningrad region ('South-East Finland' on the map) followed; and finally Euregio "Karelia" ('Karelia' on a map) was created in the year 2000. The latter is the area formed by three Regional councils of Finland - Kainuu, Northern Karelia and Northern Ostrobothnia, and the Republic of Karelia of the Russian Federation.

Historical Background of Euregio 'Karelia'

Euregio 'Karelia' (EK) as a historical-geographical region is a large fragment of the historical area of Karelia/Kirjalaland,[5] the place of residence and cultural activity of Karelian ethnos during the Middle Ages. Since the Karelian Isthmus, once an important part of the historical Karelia is nowadays a part of the Leningrad region and thus is not included into the EK, the latter can not be regarded as an integral historical area.

At the same time, trade contacts on the territory of the present-day EK had been actively developing long before Finland was ceded to the Russian Empire (1809). Karelian, Finnish and Russian (Pomor) people were engaged in trade over the whole distance from Ostrobottnia to Novgorod, and the peak of commercial relations was reached in the 17th – 18th centuries.[6] This is the first historical precondition of further co-operation, which lead the Executive director of Regional Council of Northern Karelia T. Cronberg to a conclusion about institutionalisation of historical space through the creation of the euroregion.[7]

This euroregional space has its own political/-military history, concerned with the centuries-old rivalry between Sweden and Russia for the possession of the territory of historical Karelia. After 1329 (the peace of Noteborg) Karelia was divided several times, state affiliation was changing frequently, the ethnic mix of the border area population changed twice (in the 17th century orthodox Russians were replaced by Finns, and in 1940, after the repatriation of the Finnish population, Russians and Byelorussians were resettled). However it is hardly possible to associate the EK area with administrative system of Sweden or Russia until the beginning of the 19th century. After 1809, when Finland was ceded to Russia and became a Grand Duchy, the EK area became a part of Russian administrative-territorial system, which resulted in the intensification of trans-frontier relations between Finnish and Russian provinces. Some researchers maintain that trade contacts flourished until the end of the First World War, since the Grand Duchy was forced to increase its trade with the East as all the other land entries and gateways of Finland were closed.[8]

Russian market played an important part in the economic development of Finland since Russia held 30-50% of the Finnish trade turnovers.[9] Common banking system, common transport communications and labour market, connecting Ladoga's Karelia with Saint-Petersburg, promoted the incorporation of the Grand Duchy to the structure of the Russian Empire, encouraged economic co-operation and supported peaceful co-existence of social and political systems of the autonomous Duchy and the empire until the 1880s, when the violent autocratic policy of russification caused a deep crisis of Finnish-Russian relations.[10] In the 20th century this policy turns into the escalation of mutual territorial claims, wars and interventions, repatriation of population. The border became a wide zone of alienation of states and nations.

The same policy fostered anti-russian attitudes in the community and the authorities of the independent Finland, which lead to the policy of strengthening the Finnish identity in the border areas.[11] Later, the difference in social order (Finland was a capitalist country, the Soviet Union was a communist state) provoked several armed conflicts which resulted in the Winter War and the Continuation War, when Finland participated in the second World War on nationalist Germany's side against the Soviet Union. Nationalistic views on eastern (Russian) Karelians, who dominated the Finnish society, represented the former as a part of the Finnish nation, and induced the government to the military seizure of Russian Karelia[12] (in Soviet historiography this military expedition is known under the title "Karelian venture"). On the other hand, the Soviet government intended to attach violently the whole Finland to the USSR; in 1940 the 'puppet government abroad' was set up with this intent kept in view. Thus, the EK area was of a great geopolitical importance for both countries.

After the second World War and the Paris Treaty of 1947 (the treaty gave to the Soviet Union most of the Karelian Isthmus, the Petsamo region and the right to 50-year exploitation of the Porkkala base; it also reaffirmed the demilitarization of the Aland Islands and the limits on the Finnish military set in the armistice[13]) the Soviet government forced Finland to sign the Treaty of Friendship, Cooperation and Mutual Assistance. The subsequent Finnish diplomacy ('Paasikivi-Kekkonen tack') towards the Soviet Union during the Cold War era got the title 'finlandisation'. Historians debate on the context, substance and consequences of this policy. In order to avoid in-depth examination of the subject it is important to

note that to the end of the Cold War Finland became a prosperous country, a welfare state.

The next stage of bilateral relations started after the collapse of the Soviet Union. For Finland this had a twofold effect. On the one hand, Finnish economy suffered from a deep crisis, caused by the drastic reduction in trade relations and turnover with the Soviet Union/Russian Federation. On the other, a new format of co-operation was established. An important part of this was the 'Agreement between the Government of Russia and the Government of Finland on co-operation in the Murmansk region, the Republic of Karelia, the Saint-Petersburg and Leningrad region' signed in Helsinki in the very beginning of the year 1992. The agreement is aimed at the development of cross-border regional co-operation alongside the Finnish-Russian state border; in its preamble the two sides agreed that "the tradition of good neighbourhood and confidence between the two nations" exists. The Group on co-operation development in neighbouring regions was created. An important impetus for the promotion of CBC was the rather high level of the independence of Russian regions vis-à-vis the central government during the 1990s. As a consequence, as mentioned above, several CBRs were created during the last decade of the 20th century.

In 1995 Finland joined the European Union, which meant new possibilities of CBC development with the help of the instruments of the Commission, i.e. the Community Initiative Interreg, Tacis CBC program etc. In many respects Finland launched the Northern Dimension (ND) initiative in the late 1990s in order to use these opportunities. One of the main aims was to promote and develop the cross-border and inter-regional co-operation in Northern Europe from Iceland to the North-West of Russia. Since the idea of the ND was rather loose, it was essential to fill it with concrete content. Creation of the EK in the year 2000 served as one of the components of the realisation of the ND Action Plan.

Euregio 'Karelia' as a Security Community.

It is important to note that there are two main preconditions for the creation of the EK. The first one is 'panto-historical', i.e. the long history of (all types of) relations between Finland and the Russian Empire/the USSR/the Russian Federation. The second is 'concrete historical', i.e. the state of Finnish-Russian co-operation on the sub-national level in the context of the multilevel co-operation in the North at the end of the 20th century (e.g. the ND initiative). The first factor supposes taking into consideration the whole range of complex relations in the course of history when defining the framework and priorities of co-operation while the second one calls upon use of the (financial) possibilities of the EU to improve the functional co-operation. In practice the latter constitutes the shape of the EK while the former is charged with content. It means that the EK was created in order to build, according to Karl Deutsch, a (pluralistic) *security community* (SC), which is characterised by the absence of expectations of warfare or any serious tension,[14] and on the contrary, by growing societal transactions. Deutsch's theory of transactionalism referred to the restoration of confidence between the two nations as the main requirement for further successful co-operation in economic and political spheres.[15] The similar aims are set forth clearly not only in the official agreement on the Euroregion,[16] but also in the speeches of regional politicians[17] and academic articles[18] as well.

Why is the EK able to be a SC? On one hand, the negative factors such as the legacy of wars, including the Cold War, exist in the common 'euroregional' history. On the other, there are many positive factors such as a good will to stand against the legacy of misunderstandings, using the heritage of common history and common culture as well.

Here, a presence of interface minority(ies) should be taken into consideration. A considerable part of the population of Russian Karelia is of Finno-Ugric origin, such as Karelians (10% of population), Finns (2,3% of population) and Vepps (0,8% of the population).[19] A diaspora of Russian Finns (Ingrians) dwells in Southern and Eastern Finland . Ethnic Finns from the former Soviet Union now constitute the greatest part of Finland's foreign population.[20] Moreover the number of Russian-speaking emigrants to Finland is rising permanently and could reach the figure of 50 000 – 135 000 up to the year 2013.[21]

Consequently there is a common ground, such as language question. Keeping in mind the perspectives of cross-border co-operation between Finland and Karelia, one can observe that language could be an impetus to co-operation. At least, there is a need to support the

language(s) of the title nation of Karelia, Karelian and Finnish, as well as Vepps. It is especially important on the account of the role of worldwide well-known Finnish and Karelian Epos "Kalevala", which is an integral part of the common cultural heritage. One can mention other issues that are essential for mutual understanding and co-operation and creation of the euroregion in the form of security community, such as similar environmental conditions.

Then, the question arises as to whether security community type is sufficient for the development of dynamic co-operation between Russian Karelia and Finland? My answer to that is negative: SC-type is not sufficient.

Future of the EK: Something More than a SC.

Why should the co-operation in the EK be more intensive than the one within a security community? Let us review different theories of integration, e.g. transactionalism, functionalism and neofunctionalism. In Deutsch's theory of transactionalism the ultimate goal of integration is not a SC (the same is true for Mitrany's functionalism). Security community can only be the first step towards further development of co-operation into integration.

Thus, the next stage in our case should be something that one calls institutionalisation of the EK meaning, that in the Development strategy for the EK more attention should be paid to functional co-operation. According to David Mitrany, social trust (Deutsch's security community in a narrow sense) in the region is the first step towards functional co-operation and then to functional integration.[22] Basing upon the theory of functionalism, neofunctionalists Ernst Haas and Leon Lindberg stated that economic and political integration follows functional co-operation.[23]

Extending the core ideas of the above mentioned theories of integration to the case of the EK and its main goals – to bring the conditions of life and economic development of Russian Karelia closer to the Finnish (European) standards, to promote regional competency in the era of globalization – it is logical to think about the creation of a politically institutionalised and economically integrated euroregion. For this type of relations I use the notion of *trans-frontier regional integration*.

There are two main differences between cross-border co-operation and trans-frontier regional integration. The first one refers to the notion of border/frontier. The term *border* as used here can be defined as a more or less neutral phenomenon, as a result of political processes, based on the national interest, and, thus, artificial. *Fron-*

Actor	*Instrument of CBC*	*Effect on CBC*
the EU	**Regional Policy** **European Neighbourhood and Partnership Instrument** **Neighbourhood Programs**	**Funding,** **de- & re-territorialisation**
Russia	**CBC Concept and Federal Laws**	**Securing,** **re-territorialisation**[26]
Finland	**Strategy for Cooperation in the Neighbouring Areas**	**Funding,** **de- & re-territorialisation**
the Republic of Karelia *Finnish Regional Administrations*	**Programme 'Our Common Border'** **Neighbourhood Programme 'Euregio Karelia'**	**Co-operation,** **de-territorialisation,** **Harmonisation/Integration ?**

Table. 1. Different actors' strategies

tier in its turn could be defined through the concept of frontier space, which affects everything that penetrates it. It concerns the interpenetration of the interests of different actors and their mutual influence.

The second difference concerns the terms co-operation and integration. Here I refer to the term integration as the one denoting a greater degree of interaction than co-operation. It is reasonable to use here the typology of stages in transfrontier relations, proposed by one of the main European institutions promoting trans-frontier co-operation, i.e. the Council of Europe (CoE). In its *Handbook on trans-frontier co-operation* the five stages are mentioned: 1) total lack of relations, 2) the information exchange stage, 3) co-operation, 4) harmonisation, and 5) integration.[24] In this handbook the term "to co-operate" means to find *joint solutions* that "are the only effective response when communities and populations on each side of a frontier are facing similar problems". The stage of harmonisation refers to "a whole fabric of mutual understanding", which should become a real nexus of the future integration in the sphere of CBC. The last stage, integration, means the existence and implementation of the integrated regional development programmes, thus it is the "ultimate stage of transfrontier socio-economic co-operation". According to the CoE, the last two stages have not been reached by European cross-border regions. One can hardly agree with the last statement, which is very disputable in the case of the 'internal' (situated alongside the borders of the EU member-states) euroregions, which are the agents of the EU regional policy, especially in the context of Interreg programmes.[25] However it is true for the 'external' euroregions: there are many problems not only with the integration of development programmes at local or regional levels, or with the harmonization of policies with cross-border effect, but also with co-operation in finding joint solutions for a trans-frontier problem/issue. In the case of the EU-Russian euroregions it is especially true since the last decade saw little progress in harmonising policies at national/supranational level and finding the common denominator in the field of cross-border co-operation. At the same time there is understanding and even consensus concerning future development of CBC and a need for promoting the trans-frontier harmonisation/integration. Using the concept of Finnish researcher A. Paasi, regional authorities vote for *de-territorialisation*[27] of the Finnish-Russian border, but their national/supranational colleagues usually make little effort to help them. For this article it is sufficient to mention some instruments and to summarise the CBC strategies of different actors in a table in a sketchy way.

Conclusions

As shown above, there is a dissonance in CBC strategies across the Finnish-Russian border. Nevertheless Euregio 'Karelia' has a potential to make a step forward in cross-border co-operation. Even today one can consider the Euroregio ´Karelia´ as a security community with a rather high level of institutionalisation of relations. At the same time, especially if some visible efforts are made to promote CBC at Russian national level, 'Karelia' will evolve into a 'functional' euroregion, so that the relations will rise up to the level of trans-frontier regional integration. This does not mean total integration in the terminology of the CoE handbook, but rather that in different branches of regional economy many cross-border solutions can be found in order to integrate them into joint development strategies. In the case of Euregio 'Karelia' these could be, at least, the following ones, which are mentioned in different joint development programmes and projects: forestry, timber processing industry, woodworking industry, stone-working industry, tourism and transport infrastructure[28].

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The Internal Borders of the Borderless North - Local Practices of Globalization within the Reindeer-Herding Communities on the Kola Peninsula

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It always astonishes me to realize how many workers in a reindeer-herding farm acknowledge have never been out in the tundra. Based on long-term (1999-2006) field-work in reindeer-herding communities in North-West Russia, the proposed article focuses on some recent borderless-North tendencies in the tundra regions of the Kola Peninsula. More specifically, it looks into the local fulfilments of some global mechanisms that have distanced rural from tundra populations, and farm employees from reindeer herders.

With nearly 3.000 inhabitants, Lovozero is the most populated settlement on the Eastern part of the Kola Peninsula and the municipal centre of a huge and rarely populated area stretching from the centre of the peninsula to the Barents Sea. Lovozero has always been dependant on reindeer. Nowadays, the reindeer herding is the only profitable department in the village farm that, with some 300 employees, is the biggest enterprise in the whole area. Traditional Saami place, Lovozero has more than 430 years of history related to reindeer. Today, it is a multi-ethnic society with almost equal percentages of Saami and Komi residents, as well as ethnic Russians, Nenets, and Ukrainians. Occupying a traditional cross-road position in the heart of the Kola Peninsula, Lovozero is surrounded by antagonistic landscapes. The heavy industrialized urban West begins with the miner town of Revda, some 15km from the village, joins up the railroad industrial line Kandalaksha-Murmansk by administrative centers Kirovsk, Apatity (South-West), then by industrial Olenegorsk goes up to the regional center of Murmansk some 170km North-West, pass through the industrial towns of Zapoliarnyy, Nickel, and Pechenga, to reach Kirkenes, Finnmark, Norway, Finland, and Sweden. Located in the heart of the Lovozero village, the SKhPK Tundra Farm with its administrative offices (kontora) consists of the Farm's director, zootechnician, vetvrach administrators, economists, managers, accountants and secretaries. By contrast, the average reindeer-herding camp (brigada) is located eastward in the vast tundra region that stretches from Lovozero to the White Sea; it consists of eight herders, one or two vezdekhod drivers (vezdekhodchik and naparnik) and one, rarely two, tent workers (chum-rabotnitzy). The latter have traditionally been female workers, spouses of some brigade's herders. This is hardly any true today when one can count very few female workers within the brigades. The chance to have female tent workers still exists in the camps around Lovozero, then progressively decrease to the East.

In the twilight of the central subsidies redistribution, the physical relationship between the village-centred Farm administration and the reindeer-herding camps has been getting looser as the two parts of the local reindeer-herding economy have been reorienting themselves toward different kind of resources. One can identify two distancing forces within this tendency. The internal one lies in the Farm's machinery park out of Lovozero. Out of date radio stations, tracked vehicles and hand-made snowmobiles break down in the tundra making the connection with the village farm an unpredictable adven-

ture. Such weak infrastructure distances the tundra and the village as two distinctive geographical, economic, and cultural entities. Then, the political idea of a borderless North got materialized as an external force that gave the coup de grâce to the reindeer herding as a pillar of the tundra-village unity. Here below I propose an ethnographic account of these two tendencies in order to find out a methodological framework for policy-relevant projects within the circumpolar cooperation.

Horizons of Global Discourses

Seen from Kola Peninsula, the Borderless North is a top-down process. It means an easier penetration of political concepts and discourses from the West, assisted by a flow of funds through cultural tourism as well as through heritage and educational programs, and increasing participation of Lovozero Saami fellows in international projects and forums. Yet, from Lovozero perspective, the Borderless North is unidirectional: it points to the West. While opening new stimulating opportunities for cultural cooperation with the West and thus diversifying the village economy, the Borderless North decreases the importance of the reindeer herding in the tundra East. These new opportunities have contributed to the promotion of Lovozero as the "capital of Russian Lapland" and a "traditional Saami village" even though there have been at least as many ethnic Komi as ethnic Saami living there for the last century. Since 1991, quiet Lovozero residents could hardly get any break from zealous ethno-cultural emissaries from Norway, Canada, and more recently, from Denmark, as well as sporadically from Finland, Sweden, and the UK. The resources that such actors could offer relate not to the reindeer herding but rather to cultural programs, ethno-political activism, and related discourse-based economies. These resources open interesting professional opportunities for Lovozero residents, and especially for Lovozero Saami. As a good outcome, Russian Saami have established firm connections with their Saami neighbors to the West through numerous cultural and educational exchange programs and have joined the Saami Council (Saami delegates from Norway, Sweden, Finland and Russia) in 1992, shortly after the collapse of the Soviet Union. Nowadays, number of Lovozero Saami are actively involved in the urban cross-border political networks and ethnic activism. Other people related to reindeer-herding on the Kola Peninsula, such as Komi, Nenets, Russians or Ukrainians, have been granted by much less attention as the working concept of the ethno-cultural emissaries is an ethnic one and thus rely on political discourse and not on praxis. Reindeer herders from all ethnic backgrounds have hardly any access to such new resources, which are both out of reach and beyond their zones of agency. As elsewhere in the Barents (Beach 2000: 237), globalization in Lovozero means recognition of Saami rights solely on ethnic basis. While there is a long tradition in Norway and Sweden in administrating cultural economics on ethnic basis, this has never been the case in the Russian North and so remains a strange and certainly not an indigenous practice. It has to be reminded that the Soviet model, which product is the contemporary reindeer-herding system on the Kola Peninsula, was, despite all unsympathetic practices, one last attempt to look at homo sapiens as an universal being. It is the pathetic failure of this model that precipitated Western politics to the ethno-cultural particularism where the ethnic background becomes the most attractive resource for discourse-trained village residents. In regards to Sweden, Beach (2000: 234) points the 1993 legislation that, by granting the Saami "their much-desired Saami parliament", depossessed them from their hunting and fishing rights. This global trend makes new discursive resources such as "tradition", "culture", "identity", and all aspects of ethnic activism more attractive than traditional indigenous economies such as reindeer herding. Consequently, a great deal of the reindeer-herding employees in Lovozero looks to the urban West where their children study rather than to the tundra East where their reindeer graze.

Settlement of the nomadic indigenous populations was an integral part of the Soviet policy towards the North. The originality of these Northern politics comes from the effort to settle down a population not by agriculture but by reorganizing the traditional semi-nomadic reindeer herding. With the building of the collective and eventually the state farm, the main reindeer-herding body was "settled down" in the village while the herders were employed in the tundra camps as salaried workers. All herders though got apartments or houses in the village. While the herder has been spending more of the year out in the tundra, his wife and children have been staying in the village. Herder's wife was most likely to have a steady job (very often in the Sovkhoz' office) while children were going to school. Transmission of skills and knowledge between the generations and especially between father and son has been getting

weak. Unless the wife was employed as tent helper, she and children have been going to the tundra camp mostly, if not only, during short vacations in August for the cloudberry season.

This resettlement politics have built and improved logistics for the public services network: electricity, phone connections and heath, health care and education have been provided for all official settlements (but not in the tundra camps). This cultural policy on (re)settlement was completed by the building of boarding schools, hospitals, libraries and, above all, a farm administration in the village. In this context, the village quickly became synonym of "civilization", opposed to the open "tundra" that remained associated in public minds with "wilderness".

Image 1. Downtown Lovozero. More than a traditional reindeer-herding village, Lovozero is an important municipal and administrative center shaped by urban culture and concrete khrushchevki.

Permanent settlement, education and jobs in the village have alienated more than one generation from the tundra. In that

respect, traditional practical skills have been kept alive by those working in and around the tundra camps: herders, tent helpers, corral workers, drivers, field meteorologists, etc., while people employed in the village offices have developed appropriate communication and organizational skills mostly based on written knowledge. Lively voluble, socially extrovert and highly verbalized place, the Farm's office is also a set of written discourse. By definition, all working documents there are written ones. There is where all the reindeer-herding planning happens, so every month it produces an impressive amount of plans for every concerned unit. In this respect, the Farm continues to work in a somehow Soviet manner; this is, as a central planning and re-distributive body in close relationship with the municipal, regional and at some extend federal agencies. As all these agencies are located in urban centers West of the tundra, a reindeer-herding office worker looks for resources to the West. Even the fact that the current director is rather reluctant to engage in endless and, according to him, "fruitless" discussions with city-based political actors makes employees' personal quest for urban networks more vital as number of them do not regard the reindeer-herding farm as a sustainable financial shelter.

Local Adaptations to Ageing Infrastructure, or How to Travel in the Tundra

"Technology networks and connects us", said Mead Treadwell during the Borderless North NRF conference in Oulu. The material background for the progressive alienation between the village and the tundra lies in the deteriorating technology that once have ensured the good functioning of the Soviet reindeer management. During the years, the very distinct physical landscapes of the village Farm and the tundra camps have been building up different landscapes of the mind.

Lovozero is a traditional village fashioned by plain concrete blocks of socialist type commonly called "khrushchevki" (as they were built during Khrushchev's era), by some old wooden houses and fishing sheds, and by institutional buildings such as the Cultural House, the

Image 2. Herder's best friends: the Vezdekhod and the dogs. The mechanization of the Sovkhoz connection to the tundra camps was the beginning of this beautiful friendship.

Cultural Centre, the Municipality, the Farm Administration, the Saami museum, the public sauna (bania), the hospital, the kindergarten and the schools (image 1). Although the so-urbanized village shows explicit signs of modern designing, architecture and planning, everyday life in Lovozero is far from the urban material comfort. Heating and water supply are amongst the most difficult lasting problems. According to the Soviet planning, all khrushchevki have been connected to a central heating system. After the collapse of the Soviet economy though, systemic deficit in the municipal budget averts the energy supply. Furthermore, the centralized regional energy provider has to deal not only with its own debts but also with a significant number of unpaid residential and institutional accounts. As a result, all of the central-heating dependant buildings in the village keep cold until October. In this context, one can argue that heating is easier in the tundra bases as each of them has stoves and relatively good wood supply. It is not the material comfort that keeps young people away from the tundra but rather the infrastructure that can support their vectors of interest. The road to Murmansk, mail, phone and internet connections provide a valuable access to the urban network and resources. For number of Lovozero residents, permanent settlement means "culture" and "civilization" while tundra does exactly the opposite: tundra is "wilderness".

Transport connection

The tundra landscape secretes living resources such as reindeer, fish, berries, and game. In addition, the material equipment in the reindeer-herding camp provides a strongly distinctive environment that has inherited the Soviet infrastructure from the early 1970's when the state farm was created out from the ancient kolkhoz. As a result, the otherwise pastoral tundra camp has been equipped in a way more typical for the early industrial era. Made out of heavy materials, mostly wood and iron (as well as cast iron and lead), all baza equipment is physically hard, impact resistant and compulsory heavy. Since 1960s, heavy mechanical transportation has become essential for the maintaining of the traditional economy of reindeer herding. It often comes from the neighbouring military industry. The most important, the most representative, and the most valuable ele-

ment of the reindeer-herding material culture is, with no doubt, the Vezdekhod (image 2).

The Vezdekhod is an 11-tone all-terrain tracked vehicle perfectly adapted to Soviet reindeer-herding thanks to its specific carrying capacities: originally made to carry a basic infantry unit, nowadays it transports an entire reindeer-herding brigade, this is, eight herders, one driver, and one borderless-North field-anthropologist between the village and the tundra camp. Very often, there are even two brigades (16-18 persons) travelling by one Vezdekhod (image 2). In addition to this human cargo, the Vezdekhod has two-tone carrying capacity, which is of structural importance in maintaining the heavy tundra material culture. Vezdekhod is filled with cargo up to the limit, and often beyond, for every tundra trip. To the village, it is overloaded with all kind of tundra resources collected during the season: several tones of fish and reindeer in spring and autumn, and a full amount of cloudberries in August. Back to the tundra camp, the Vezdekhod is filled with basic products for 3-6 months such as salt, sugar, flour, potatoes, oatmeal, etc., barrels with gasoline, in addition to all personal belongings.

As reindeer herders rely on physical access to the local living resources (reindeer meat, game, furs, fish, berries, mushrooms), a non-mediated, direct tundra access is crucial for their economic and cultural survival. Such access relies, above all, on good and trustful means of transport. For ordinary herders, the Vezdekhod is the only mean of transport between the village and the tundra camp (usually within a distance of 150km). It can cross rivers, lakes, and tundra marshlands, thanks to its mammoth caterpillars worth one tone each. But the main cultural value of the Vezdekhod lies in its collective purpose: unlike the reindeer sled and the snowmobile, the Vezdekhod is a collective vehicle (image 3). Furthermore, it is provided by the farm. The collective both ownership and use make the Vezdekhod perfectly adapted to the post-Soviet tundra culture where individual entrepreneurship and individual economic responsibility are seen as alien and ominous things. Therefore a great deal of the tundra-village cultural communication relies on this tough Soviet machine. It makes the vital connection between the reindeer-herding camps and the village Farm, between the reindeer herder and its family in the village, as well as between the reindeer-herder and the reindeer herd. Paraphrasing Mead Treadwell, I would say that Vezdekhod "networks and connects us", urban and tundra people.

Image 3. Vezdekhods kaput. Out of date tracked vehicles and hand-made snowmobiles break down in the tundra making the connection with the village farm an unpredictable adventure. Such weak infrastructure distances the tundra and the village as two distinctive geographical, economic, and cultural entities.

For centuries, Saami reindeer-herders in the Kola have been on more or less constant travel, covering extensive territories woven by migratory routes. The "modern" Soviet village alienated reindeer from the village insofar that it would be surprising to see any reindeer in Lovozero apart from the annual Northern Festival (Prazdnik Severa). The vehicle park was built to resolve the problems introduced by distance. This heavy mechanical transportation has become essential for the maintaining of the traditional economy. The collapse of the subsidized reindeer husbandry dramatically limited people's ability to participate in any aspect of the tundra economy. There is no money to replace broken machines, and fuel is expensive. The heavy Vezdekhod breaks down on almost every trip out in the tundra, and especially on land-water transitions, where the old mechanics is particularly vulnerable. The Soviet Vezdekhod inexorably needs repair on the borderless North.

Working out in the tundra also means dealing with permanent unpredictability. The latter has dramatically increased after 1991. As the human control over the herds has become looser, the movement of the herd is now less monitored and much more unpredictable. Therefore, for every corral and herding campaign, herders have to be "ever ready" to leave the camp for locating

Image 4. Grinding the axe. "The axe is the all-purpose tool in the hands of the reindeer-herders".

and eventually corralling reindeer out in the tundra. In such a context, one must often be in a "fighting trim", ready for action. Furthermore, herders are dependant not only on natural forces and on animal migrations but also on the extremely unpredictable transport logistics in the tundra. A vezdekhod's departure is a major and highly anticipated event in the tundra camp. When exactly a vezdekhod should leave or arrive depends on various unpredictable factors such as weather conditions, orders from the Farm administration and definitely on the driver's own plans, mood and physical and mental condition. Therefore, a herder has to be ever ready to pack his goods and everything he wants to take with from the tundra: meat, fish, furs, berries etc. This nomadic-like readiness defines the herder's material facilities as he needs appropriate equipment in order to move quickly. All commodities go quickly in weather-resistant containers: a tarpaulin bag (meshok) for personal goods, some waterproof barrels (bochki) for fuel, salted fish, meat, berries, bread, foodstuffs and perishables, a hard wooden coffer for kitchen utensils and non-perishables, and a heavy fortified caisson (yashchik) for smoked fish. This hard and heavy inventory is perfect for long lasting vezdekhod's journeys where only highly resistant and shockproof equipment can survive.

Herders use various military designed items such as kitchen utensils and clothing. Although a lot of herders keep working in some traditional reindeer-herding clothes (malitza), all vezdekhod drivers, carpenter workers and number of herders use military clothes in the tundra. Military coats (kurtki) and trousers (brjuki) are of good use for spring and autumn reparation work in the camp, for fishing and everyday chores in the camp. Another military equipment of great value in the tundra is the so-called "chemical-defence complete set" (himzashtita). Designed in Soviet times in matt green tones for the purposes of a chemical war, the himzashtita consists of chemically resistant coat, gloves and boots. The coat is the most frequently used of them out in the tundra. Being totally waterproof, it is wore during the frequent rainy days and nights, during vezdekhod trips, in the barks while fishing or lake-crossings, it covers temporary tents, warehouses, storage yards and sled's loads…

Among the most common technical tools in a tundra camp, happens, with no doubt, the sledgehammer. Beyond its everyday utility in the tundra camp, it is a mandatory tool for every vezdekhod ride. Only a sledgehammer can fix a broken caterpillar. Crucial element of the local reindeer-herding culture, the sledgehammer is indispensable for the functioning of the collective vehicle. The gas saw and the axe are used to cut down birch trees for heating. According to a recent Russian manual on reindeer-herding, "the axe is the all-purpose tool in the hands of the reindeer-herders" (Syrovatskiy 2000: 341) .[1] It is also used for reindeer carcass dismemberment, woodcutting, and carpentry (image 4).

The central piece of a tundra camp is a big-sized iron stove. Serving the most essential needs in a tundra camp life such as heating and cooking, the iron stove also define a symbolic place of gathering.[2] As reindeer-herders' discourse is very much praxis-based, there are few discussions in normal everyday situations. This "tacit" local knowledge on tundra and reindeer is the valued knowledge in all tundra communities, and both indigenous and Russian tundra actors share this value. As for the language skills, the emphasis is put on local languages that are, Saami, Komi and the vernacu-

lar Russian language. "Most of us we speak three languages!" tells proudly one Komi herders. In that sense, the tundra provides not only all necessary natural resources but also all social values, which is quite different from the more and more world-connected Lovozero village. In this respect, the typical mistrust on foreigners ("I call them all fascists!" proclaims solemnly one senior reindeer-herder) is rather one on urban people that are not connected to the tundra on a subsistence basis. This mistrust gets especially increased towards the "educated people" as it is expected that one who carries a pen could hardly operate a sledgehammer.

The daily work on a tundra camp is broken by regular tea halts around the iron stove. There can be six to eight such tea gatherings in a usual brigada's day. The iron kettle practically never leaves the stove's hot spot. Herders usually use army-style pewter or tin tankards; tea is strong and takes more than three spoons of sugar that is transported in bulk in everyone's meshok. In opposition to the active periods full of go out on the tundra, the camp days around the iron stove are rather static and settled down. The tea gathering is never noisy but rather contemplative with sporadic discussions suddenly arising between long sequences of quiet silence.

There are at least three breaks in a usual Farm's office day: one for lunch (at 1 p.m.) and two for tea/coffee (at 11 a.m. and 4 p.m.). In special occasions, when a visitor arrives from the town (the municipal and regional administrations, from Murmansk or, rarely, from some federal agency), they can be an extended additional one. Unlike the tundra camp, the Farm culture does pay respect to the coffee although half of the employees still prefer the traditional tea. It comes in simple but elegant tea sets served on a light tea tray. It goes with cookies, chocolate or candies bought in the neighbouring shop. There is no general tea gathering like in the tundra camp but rather every department manages its own breaks. Three to four offices gather around the white electrical kettle and the tea tray. This takes an average of eight employees per kettle, a number comparable of the one in the tundra camp; however, the iron kettle on the hot stove there is definitely bigger than the electric one in the office. These meetings are voluble, lively, joyful and noisy; the discussion's continuum hardly knows any break. The break is extremely dynamic there, with a permanent movement inside and outside the office. Everyone fussing around in an energetic hustle and bustle, the door frequently opens welcoming and greeting neighbours and visitors from other offices. Some departments, like the accounting one, are free from men, so a sudden male appearance increases even more the level of animation, enlivening and laughs.

This radically different gathering around the kettle from the one we know in the tundra camp is supported by the different material culture around. A Farm office is equipped with desks and chairs, a great deal of document folders as well as with a computer, a printer and sometimes with photocopy and fax machines. Although the four latter are far from being brand new and sometimes are out of order, they are nevertheless products of high modernity and so have an unambiguous role in defining the village Farm as a place of "civilization". Compared to the reindeer-herding camp, they shape a "soft" environment made by light polymeric materials. All offices have also telephones and some of them (the economic and accounts departments) have recently been connected to Internet through the dial-up system. Although the Internet connection runs extremely slow and with a lot of difficulties, it provides, through the worldwide web, the so important link to the neighbouring towns. While the office's phones, faxes and Internet-connected computers enable the direct relationship with the other so connected administrative places (the urban centres), the everyday tie with the other part of the reindeer-herding system (the tundra brigades) is possible only by the central radio stationary which occupies a special office on the second floor. This radio stationary plays a crucial role for the relationship between the village Farm and the tundra camps. Yet its exclusivity enhances even more the fact that the material and technical facilities proper to the administrative office enable relationships rather with other urban centres than with the hardly connected tundra camps. The radically different physical environment in the two poles of the reindeer-herding economy defines different cultural understandings, agendas, social networks, practices and discourses. Consequently, this also conditions somewhat opposite cultural affinities and geographical vectors of interest. The material "soft" culture in the Farm ties valuable relationship with the urban world on the West while the harsh and "hard" environment in the tundra camps shifts the reindeer-herding brigada closer to other tundra actors in the Eastern part of the Peninsula such as hunters, military, carpenters, meteorologists ...[3]

Radio connection

Meteorologists play an instrumental role in the radio communication between the village Farm and tundra camps No. 1 and 8. While office's phones, faxes, and computers, connect the Farm employees with the urban centres, the everyday tie with the tundra camps is only possible by the central radio stationary which occupies a special office on the second floor. It is even worse on the tundra side where number of brigade's radiophones do not work. This is the case of tundra camp No. 8 which connection to the outside world entirely relies on the WW-II-style radiophone of the neighbouring meteorological station.

Kolm'avr is the most remote hydro-meteorological station on the Kola Peninsula. It literally faces the reindeer-herding camp No. 8 overhanging it some 100m up on the vezdekhod's track that links the camp with the winter corral of Porosozero, the brigade No. 1 and, ultimately, the village of Lovozero. The staff lives and work in a 6-room wooden house similar to the ones of the reindeer-herding camp nearby. There are three bedrooms, one kitchen, one study and then, the room with the radio station. A small potato garden goes along the house. Then, of course, several warehouses sheltering the wood and the gas supplies, housing the two most valuable items: the chief's snowmobile and the electricity generator. The latter is nearly one-ton heavy installation dating back from the late 1950's. It takes around two hours to get it started in a complex algorithm. But even if it does not work on a regular basis, the generator happens to bring light and joy to the neighbouring reindeer herders in the dark winter days. Indeed, a more animated atmosphere in the reindeer-herding camp is easily perceptible in an "electric generator's day". Playing cards, domino and even checks provides the background for some energetic discussions and so livens up the otherwise quiet tundra community.

This small station needs five permanent workers but as far as no qualified meteorologist expresses his wish to live and work 11 months a year in the tundra there are now only three people working there. This reduced staff does not imply reducing the amount of work though. In the summer of 2004, the youngest worker stayed completely alone for almost two months in the station! This is quite unbelievable considering the round-the-clock rhythm of tasks one must do in order to keep the station working and to keep oneself alive. Thus, for 50 days in a row he had to not only do all measurements but particularly assure every four hours radio-connections while repairing the frequent bugs in the desperately obsolete equipment, supplying fresh water to the station and, above all, hunting to survive[4].And here is the point: the institutional affiliation and job-related movements in the tundra are peripheral to survival but play a central role in the resource redistribution and the building up of one's social capital in the tundra.

On the one hand, the job provides the formal framework in which one makes ones own agenda. For all tundra workers, fishing, hunting, and all subsistence activities are the fundamental ones. Their genuine attachment is to the environment and not to the institution. This brings all tundra actors closer to each other as economic and social networks are built up on geographical and environmental closeness. Working in the tundra means living on the tundra, this is, sharing the tundra's cultural values. Considering the great deal of time, effort and passion that the young meteorologist puts on fishing, it is worth to point out that, because of his allergy, he can not eat any fish. Although fish does not play any role in his physical survival, it is extremely important in terms of social inclusion. First of all, the guy's extensive knowledge on fishing enables him to work closely with the reindeer-herders for whom fish is a resource at least as important as reindeer is. Therefore, he often coordinates his fishing trips with the herders. Then, the great amount of fish that the meteorologist is able to gather is thoroughly distributed through his network: a barrel for Lovozero, a box for the vezdekhod's driver, a full backpack for his boss and his colleague in the station. These are the key actors in his closest village/tundra network. In return, he receives some goods and mostly services from all this people, according of their own domains of agency: fuel and vezdekhod transportation in the tundra, mailing and administrative cares in the village. Sharing goods and services through barter are essential local values. Far more than a working place, the tundra is a way of life for this young Russian who, moreover, was born in Siberia, faraway from the Kola Peninsula. What makes the meteorologist a legitimate actor in the tundra is not the fact that he gives the forecast but his high capacity to repair snowmobiles, operate the gas saw, to hunt, fish, gather wood and so to actively participate in the tundra subsistence economy and social network.

On the other hand, the central institution provides resources susceptible to empower the one who operates them (Verdery 1996). Hence, what furthermore makes the meteorologist a key tundra actor is not simply his involvement in the above-mentioned everyday activities but, above all, his unique capacity to make electricity and achieve some vital radio-connections. In fact, his formal duty is to transmit regular whether information to the central institution in Murmansk. But aside this job-related responsibility, he carries out a great deal of the coordination of the whole tundra activity in the region. He makes everyday connections between the reindeer-herding camp and the village Farm as well as between the tundra camps No. 1, 8, and 9. Herders asking for connection come often in the station. Brigadiers coordinate the reindeer outrun and eventual corral from there. Every important reindeer campaign (slaughter corrals in winter, capturing male deer as draft animals for herder's sleds (upriazhki) in summer and autumn, as well as every search for reindeer has to be coordinated between these three neighbouring brigades. In such occasions, the meteo-station acts as coordinating and dispatcher centre between the reindeer-herding camps so its technical infrastructure takes an active part in the reindeer-herding logistics. In August and September 2004, brigades No. 1 and 8 carried out a difficult search for draft animals among the parts of herds migrating back from the summer pastures. After several unfruitful attempts to outrun such parts, all reindeer-herders but their brigadier and his wife left the camp No. 8 for a massive action on the tundra. It is the radiophone in the meteo-station that assured the communication between the brigadier and his herders.

Looking for Policy Relevant Projects

Within a context of smooth globalization, the reindeer-herding cultural industry gets torn between the discourse-based resources of the urban West and the pastures of the tundra East. Consequently, its village and the tundra parts decrease their interdependency and eventually become quasi-autonomous units. The valued social relations are no more primarily institution-centred but rather environment-based: they are lined up with particular material and environmental culture and so are more likely to happen within communities sharing similar environments. The material environment conditions the cultural patterns. Therefore a shift in the material environment is able to shift the social environment and could be used as a major instrument of cultural change. Since the 1990s, a number of Western projects have brought new resources to Lovozero. As a result, this well-known "reindeer-herding village" has been progressively equipped for global connection while reindeer-herders have tightened their tundra network around the Vezdekhods and the meteo-station in order to maintain the shipment of tundra products to their relatives in Lovozero. These different resource features and locations imply opposite vectors of interests. Consequently, village and tundra have pointed to opposite vectors of migration through the borderless North. Scholarized people tend to go westward in town where they can achieve higher education, professional career, cultural activism, marriage… Tundra actors get low status in village; tend to get closer/mobile access to the tundra resources eastward. Their main cultural tools are mobile ones: snowmobile, all-terrain vehicles, vezdekods. The borderless-North cultural boundaries are geographical ones: they divide different environment-related zones of agency. All tundra actors have similar values, knowledge systems, and worldviews, which have been built through their life-time relationship with the tundra: reindeer, fish, game, pastures, rivers, and the whole eco-system whose resources they are dependant on, as well as all social networks and relations with neighbouring military, hunters, geologists, etc. This is the tundra culture, and reindeer herding is part of it. It contrasts with the village culture built in the farm's offices, reindeer-herding management boards, schools, administrations, etc, which depends on political networks. Yet, it is far much easier to get funding for projects based on ethno-cultural discourses than for infrastructural projects able to improve the economic vitality of the reindeer-herding culture.

New discourse-based resources are likely to happen in cultural landscapes where infrastructure for discourse production do exist (international networks, transport, phone and internet connection). From village perspective, the North has become more "borderless", thanks to international cooperation. From tundra vantage point, though, it has become more remote and isolated than in Soviet times, due to out-of-date material infrastructure.

The "Borderless North" starts with local, regional, mobility and communication capacity. There is a structural need for tundra-based investments starting with the transport and communication: tundra-friendly ATV,

snowmobiles; reliable radio connection. As always and everywhere in the world, the vitality of tradition depends on modern innovative techniques and technologies.

Slowly but surely, the village of Lovozero is becoming part of the "global village" and looks forward to meeting the world. Politicians and cultural fund dealers have now interest to pay attention also to the material side of the "culture", the one that starts with building the infrastructure that enables efficient communication between village and tundra. Their main resource – the discourse on "tradition" – depends on it. Failure to do so risks to empty the signifiers (Saussure 1922) on which their discourse is built from their real-life referents.

Notes

1. In the original text: "topor - universal'noe sredstvo v ruki olenevodov".
2. See the poetic, yet structural description of the stove in the Komi reindeer-herding camp in Habeck (2005: 11-14).
3. For an ethnographic account of the relationship between herders and hunters on Kola (see Sabev 2002: 19-24).
4. In theory, the station is supplied with foodstuffs from the center but as the supply heavily depends on the transport traffic, in reality the staff have to secure their food, especially for fresh products as fish and meat.

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Borders and Land: Ideal Perceptions and Real Practices of Evenk Hunters and Herders

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Russia

Evenks represent one of the nomadic reindeer herding and hunting indigenous peoples widely scattered across Siberia and the Far East. Their communities, presently living in the north of Chitinskaya Province[1] have also been known for their reindeer hunting and herding tradition, which determined their lifestyle, adaptation and strategy of exploitation of natural resources. It was the combination of hunting elks, deer and fur animals, on the one hand, with small-scale transportation type of reindeer herding and subsidiary fishing, on the other, that was underlying the unique economic model, nomadic patterns and land use practices of Chita Evenks (Vasilevich 1969). Thus, diversified subsistence economy and nature management based on ecologically reasonable exploitation standards of hunting ground and pasture, along with the constant migrations constrained rather by natural than other kinds of borders, ensured the survival of the most of Evenk communities back in the beginning of the XX century.

While sustainable use of renewable natural resources provided for economic success of Evenk herders and hunters, the complex system of customary law, moral and ethical norms and values regulated their everyday life and land use and guaranteed continuity of economic organization. These elements forming a unique indigenous worldview and expressed in the traditional ecological knowledge, with both concepts profoundly described by researchers[2], were also characteristic of nomadic Evenks. Many researchers stress the fact that Evenks, like many other indigenous peoples, have never had a concept of private property to land. Although the nomadic groups or clans could have some conditional and more or less visible boundaries of the territories they used, they were far from being the real owners, especially in the contemporary juridical meaning of the word (Suslov 2002; Pekarskiy and Tsvetkov 2002). Instead, the land, as well as any other natural resources, were believed to belong to the supreme deity and the master of the land/place called Barelakha by Chita Evenks (Vasilevich 1969; author's field records 1999-2000), and could be temporary used by any person or group of people. New territories, thus, were gained by people according to the "pioneer" or "exploration" principle.

Several categories of land existed, or, rather, the territory itself could have a particular, yet flexible and shifting, status. For instance, it could have been perceived as temporarily occupied in the case of nomadic routes crossing it or a settlement being based there at the moment. Personal things, household utensils, tools and hunting traps, left in the vicinities of abandoned settlements, as well as special signs, including cuts and notches, intentionally made on the trees along migration routes, could help define the status of a certain territory. Yet, the lands exploited by one Evenk nomadic group, be it clan, family or other group, if needed could also be used by others, provided that they were on friendly terms with the current "users" of the territory and had good intentions (Uvachan 2001).

Sacred lands constituted a special category of territories which could be used for no other human activities, except for occasional religious rituals and sacrifices. For Evenks, as well as for instance, Nenets people, those

lands include ancestors' and shamans' graves, "poor" places associated with interclan conflicts and epidemics, as well as "places of power" and places inhabited by spirits, often materialized in different natural objects, such as mountains, lakes, islands, rivers and trees of extraordinary form, color or geographical position (Kharyuchi 2003). Among Evenks trees obo devoted to deity of the land Barelakha are quite common and noticeable. At the same time the information on other sacral territories itself is rather scarce and fragmented due to its sacral nature and restricted access to it by the uninitiated or outsiders to the group (Author's field records 1998-1999).

Among different categories of territories, existing among Evenks, the notion of "one's own land"/"ancestral land"/"clan territory" is outstanding. In brief, this concept implies a land with no strict borders, on which one's ancestors and kinsmen have migrated while herding and hunting deer. Or, in the universal indigenous worldview, it may also be the center of one's or one group's familiar well-known world in contrast to hostile unknown world extending beyond its borders (Spodina 2001). The perception of the environment as "home" has also been core to Evenks' every day land use practices and organization of occupied space (Fondahl 1998). Such territory has been associated with a certain, truly, traditional nomadic pattern and economic organization of a certain clan, on the one hand, and psychologically comfortable environment and spiritual connection with the ancestors, on the other (Suslov 2000; Sirina 2002). Today, the concept of "ancestral land" still has a symbolic value even among sedentary Evenks, living in villages (Author's field records 2002).

New administrative borders, established at the dawn of the Soviet era, re-established during the whole Soviet period and still being negotiated, have had a strong impact on the socio-economic and cultural development and ethnic identity of Evenks through the 20th century. The example of Chita Evenks demonstrates how in the early twentieth century they could be consecutively included in different kinds of territorial administrative units. In 1922 northern districts, traditionally occupied by a number of Evenk clans and presently included in the administrative borders of Chitinskaya Province, were annexed to Yakutia. Two years later the ongoing territorial reform resulted in division of these territories between the neighboring Irkutskaya Province and then existent Far Eastern Region. However, shortly, in 1930 Vitimo-Olekminskiy National District, established by the governmental decree on the national autonomous territorial units, embraced reunited and renamed clan territories of Chita Evenks.

During the six year period that Vitimo-Olekminskiy District existed, its population was growing, the organization of herding and hunting kolkhozes and cooperatives was underway, while the economy based on traditional industries remained unprofitable. In that period the fact of formation of Evenk autonomy itself strengthened the ethnic identity of aboriginal population, but officially declared un-profitability of the local economy lead to the abolition of the district as an autonomous territorial unit in the final end. This immediately resulted in another re-establishment of administrative borders and the northern districts with Evenk population passed on to the newly created Chitinskya Province (Traditsionnoe prirodopolzovanie evenkov… 1995).

In most cases these administrative borders transected ancestral lands and split clan communities. According to the national Polar Census and field records of individual researchers, about 1500 (fifteen hundred) Evenks occupying the lands within the borders of northern districts of the contemporary Chitinskaya Province in the 1920s - early 1930s belonged to the clans of Ngangagir, Chakigir, Ingolagir, Laks(h)ikagir, Lalygir, Bukochar, Tamingankur, Bullyatyr, Ogdyrenkur, Yakotkar, Dongoil (Terletskiy 1932; Vasilevich 1930). Thus, these and other "traditional" clans were divided by the artificial, in the aboriginal worldview, boundaries and substituted with new so called "administrative" clans (Dolgikh 1960), demonstrating general process of indigenous clan transformation which started much earlier, with the annexation of Siberia to the Russian Empire.

However, newly established divisions served rather as an efficient administrative tool used by the Soviet government than as an integral part of the indigenous perception of space and kinship. Nomadic Evenks, for instance, still had a notion of the ancestral lands as a whole territory where their traditional hunting and herding roots laid, regardless of the administrative borders. Usually, it was mostly natural objects such as rivers, lakes and mountain ranges which served both as territorial markers and borderlines dividing, at least, symbolically the lands occupied by different clans or

nomadic groups. For instance, the nomadic routes of Turuyagir Evenks stretched along Kalakan, Amalat, Vitim, Kalar, Karenga rivers, while Lakshikagir Evenks moved with their reindeer along the right bank of Vitim River (Titov 1926).

However, the policy or sedentarization of nomadic indigenous peoples of the North, initiated in the early Soviet period, was gradually leading to the establishment of reindeer herding and hunting kolkhozes with a different land use and allocation system. The concept of nomadism, the land and the border also transformed, especially, among many recently settled Evenks, while semi-nomadic and nomadic families were following old "traditional" nomadic patterns and reindeer herding and hunting methods. Thus, among Evenks of northern Chitinskaya Province, as well as among other Evenk communities, kolkhoz-based land use and state legislation have co-existed with the notion of borderless land and customary law, regula-ting the use of this land, its special sacral status and the general solicitous attitude to the environment, through all Soviet time (Anderson 2000; Vitebskiy 2005).

Evenks, presently living in the northern districts of Chitinskaya Province, are descendants of such widely scattered clans as Inelas, Metakar, Yakotkar, Nyamagir, Kindigir, Lakshikigir, among others. Many of the informants can still remember their clan affiliation and draw the symbolic borders of their ancestral lands on the map. Although, in fact, a clear distinction between the "administrative" and "original" clan to which their forefathers belonged and these two overlapping notions have blurred, with the generations of Evenk people who lived through the Soviet kolkhoz system (Author's field records 2002-2003). However, I would like to stress that even among Evenk village dwellers, let alone nomadic hunters and herders, clan identity and the concept of the ancestral land are important cultural resources which are often mobilized or, at least, referred to during the cultural revitalization and struggle for participation in the decision making and resource management processes (Fondahl 1998).

Traditional aboriginal and modern perceptions of the borders, land and nature management can be illustrated by the case study of an Evenk obschina[3]. Obschina G. is a reindeer herding and hunting enterprise owning the largest herd of over 300 reindeer in the district (Field records 2003, 2004). It was legally registered in 2002 according to then recently enforced federal law[4]. The enterprise includes over 20 members, both Evenks and non-Evenks, and many more candidates put on the "waiting" list. The obschina's economic cycle and its participants' way of life are determined by reindeer herding and hunting demands, although other non-traditional activities like fishing, herb and mushroom gathering and tourism are registered in the charter of the organization. In every day life, land use practices of obschina members are still regulated by the system of traditional knowledge, customary norms and moral and ethic standards. This system, underlying their worldview, prescribes them solicitous attitude to natural resources, including the land and animals, obedience to the rules of exploitation of different categories of territories, as well as inherent affiliation to "one's own land" or "ancestral land" with quite flexible borders, stretching from Chitinskaya Province to the neighboring Republic of Yakutia (Author's field records 2003-2004). Such perception of the land and the border, existing on the "unofficial" level, is core not only to the successful carrying out of basic economic activities of obschina, but to the mentality and ethnic identity of its members as well:

I was born in that region [Yakutia]. I am local to there. Evenks were not used to have any borders. Only later, when they were divided….In the early times our kinsmen used to move from here to there with the reindeer…We are migrating on territories where our ancestors lived and where we must live.[5]

The official setting of the obschina appears in a different light. Paradoxically, as noted by many researchers, the above-mentioned federal law on obschinas underscored their clan-based character and type of membership, while, in practice, obschinas often include friends, neighbors and other members who are not sure about their clan affiliation at all. Moreover, the notion of obschina itself, deriving from Russian peasant community, is not inherently indigenous (F. Stammler 2005). This situation is characteristic of G. as well. Another federal law[6] provides a definition of "traditional land use territory" and sets standards of allocations of such lands among obschinas (Status korennykh malochislennykh narodov Rossii…, 2005). According to this law obschina G. was also allotted a plot of land for reindeer herding, hunting and fishing activities. However, on the one

hand, this territory is encapsulated within the administrative borders leading dissecting traditional migration routes of obschina members. And on the other, it is partially unproductive for traditional activities, especially reindeer herding, in terms of ecological conditions and vegetation. Therefore, the obschina still has to exploit their ancestral lands, extending beyond the borders of Chitinskaya Province to make their herding and hunting activities more efficient. Every time they cross the border between Chitinskaya Province and Yakutia on their migration to the pastures, they violate the provincial border, and every time they pursue the game on the ancestral lands in Yakutia they commit an illegal action, at least, according to a juridical non-indigenous point of view (Author's field records 2004).

In this situation the obschina had to initiate a land claim in order to gain more land from other non-indigenous land users, including commercial fur-selling enterprises, competing for the same territory. The federal legislation, including but not limited to the above-mentioned laws, protects the rights of indigenous populations to prioritized traditional use of the land involving the application of their traditions and customs in every day activities. However, the long-awaited law on traditional land use territories turned out to be inapplicable both on a federal and provincial level. One of the commonly cited reasons is the lack of enforcement mechanisms, especially, on the provincial and local level. Another one is connected to internal contradictions inherent to the federal legislation. In practice, though, more fundamental reason is unwillingness of the local administration to give the land for free to indigenous users instead of putting it up for auction among entrepreneurs who will pay for it, as well as the lack of experience in settling land claims on a win-win basis. Due to these reasons the negotiation process between the obschina and the local administration were postponed and the proceedings of the case of obschina G. delayed for an uncertain time.

Thus, obschina G., striving for its land, is only one example of how ideal notions of land and existing land use practices of indigenous peoples of northern Russia can turn the borders penetrable and fluid when interpreted according to nomadic tradition. Though, the same obschina, claiming the land from the state and other non-indigenous users, presents a case in which the territory for traditional use is limited and administrative borders of the province and the districts are strict and solid as re-interpreted or mis-interpreted by officials and non-indigenous population (Field records 2002-2004). Besides these conflicting interpretations of the land and the border, this example also shows that Russia's indigenous peoples are just starting in resuming control over their lands and developing resource management strategies that incorporate their cultural values and traditional knowledge, thus, helping to articulate a new concept of territoriality and border[7]

Notes

1. Chita Province (Chitinskaya Oblast) is one of the Eastern Siberian federal subjects of Russian Federation, with the administrative center of Chita City. Indigenous Evenk population resides, mostly, in three northern districts of the province.
2. For instance, see the reflections of T. Mustonen and F. Trudel on this matter published in their position papers for the 4-th NRF Meeting.
3. Obschina abbreviated from rodovaya obschina (Russ.) is literally translated as "(clan) community" but actually stands for a form of an indigenous enterprise based on "traditional activities" such as hunting, reindeer herding, etc.
4. Federal Law "On the principles of organization of obschinas of indigenous numerically small peoples of the North, Siberia and the Far East" (2000)
5. Head of the obschina, Evenk S.N. G. (Author's field records 2002-2003)
6. Federal Law "On the territories of traditional land use of indigenous numerically small peoples of the North, Siberia and the Far East " (2001)
7. Also see G. Fondahl's position paper written for 4-th NRF Meeting.

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Collaboration Between University, Industry and Society in a Borderless Context - Experiences from the Eastern Norrbotten Research Station

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Prologue

This article discusses the collaborative experiences between a university and the surrounding society in a regional context – four municipalities in eastern Norrbotten. The Eastern Norrbotten Research Station (FÖN) was established in January 2002 as a collaborative project between Luleå University of Technology (LTU) and The Swedish University of Agricultural Sciences (SLU) in Umeå. With the newly established research school as a starting point, the idea was to satisfy the need for knowledge as defined by the two universities as well as companies, organisations and governments in the area of interest. Another fundamental thought of the research station has been that the development of knowledge in the research school should occur in close collaboration with representatives of the region. The article considers the research station's experiences from the first three years with a focus on the collaborative aspect of the Eastern Norrbotten Research Station project, and is organised as follows. A short description of the origins and present situation of the research station are presented, followed by the station's experiences of working with collaboration between the university and society, while focusing on the task of collaboration from the participating Ph.D. students' perspective. A number of conclusions and possible lessons of interest to other regions with similar ambitions to develop a locally coupled knowledge production are also summarised. The concluding section attempts to set the Eastern Norrbotten Research Station in a broader research context relating to the development project as well as the political research based discussion about knowledge education and its conditions.

Eastern Norrbotten Research Station

At the end of the last century, political leaders from four municipalities in eastern Norrbotten decided to collaborate within higher education and research by establishing a common municipal association. Comprising the municipalities of Haparanda, Kalix, Överkalix and Övertorneå, the municipal association was officially named the Eastern Norrbotten Association for Higher Education and became formally operational around 1998/1999. Activities for the Association are lead by an education director, who also coordinates the activities of the research station and research school together with a research leader from Luleå University of Technology. Furthermore, the respective municipalities have well functioning learning centres lead by specially chosen local education leaders.

The municipal association was established because municipal leaders realised that their municipalities were individually too small to make themselves fully heard through contacts with universities and colleges. By joining together, a larger population base to operate from is attained, meaning that it becomes significantly more interesting for the university as a collaborator for higher education and research. The particular association was

Area	Aim	Univ.	Start
Tourism	Collaboration between tourism companies in a network economy	LTU	Jan 2002
	Quality development of tourism	LTU	Jan 2002
Tourism + IT	Internet and e-commerce within the tourism industry	LTU	Feb 2002
Wood products	Industrial design in wood manufacturing companies	LTU	May 2002
Food	Developing the cultivation of perch in a closed system	SLU	Oct 2002
	Domestication of Vaccinium species, substance content	SLU	Nov 2003

Table 1: Ph.D. projects within the Eastern Norrbotten Research Station

also a way for political leaders to emphasise the importance of making higher education and research available to more remote regions. By establishing a higher education and research that considers the needs of the municipalities as a starting point and builds on a closer collaboration between research / research and development, industry and the public sector in the region, the Eastern Norrbotten Research Station is seen as an important tool to strengthening the long-term competitiveness of the region.

After the education director received the assignment to develop a proposal that would later become the Eastern Norrbotten Research Station project, Luleå University of Technology and The Swedish University of Agricultural Sciences were contacted and concrete collaboration began. With the region's own formulated need for knowledge, the aim was to develop new ways to transfer research and knowledge from universities and colleges collaborating with industry and the public sector in eastern Norrbotten, thereby improving the contributing of academic competence to companies and inhabitants of the region. With leadership and coordination from the management of the municipal associations and Luleå University of Technology, groups of politicians, education leaders, industry and business leaders became active in their respective municipalities. A number of research areas requiring contributions were identified. Eventually, the following four principal areas were identified: Food, Tourism, IT/electronics and Wood. With support from EU-funds Goal 6, the pre-work was conducted during 2000 and the Eastern Norrbotten Research Station was inaugurated January 2002.[1]

Today, six Ph.D. candidates tied to the research departments at either Luleå University of Technology or The Swedish University of Agricultural Sciences, are active in the research station:

Except for the six Ph.D. students included in the FÖN and its research school, a seventh research candidate is also associated with the project. Part of the thesis work conducted by this research student, who is connected to LTU's Department of Political Science, History and Geoography, is to follow the development of the FÖN project and use it as an empirical base in the student's upcoming doctoral thesis.

The work situation for the FÖN Ph.D. students is similar to "normal research students" with three important exceptions:

First, the candidate's research project has been defined and developed in close collaboration with "orderers" in the region of interest,
Second, research education courses being offered within our own research school have, in a meaningful way, occurred in close collaboration with the region.
Third, the candidate's so-called "institution responsibi-

lity", which for regular Ph.D. students usually includes campus-based teaching at the undergraduate level, now instead comprises work in or for the region of Eastern Norrbotten.

As of today, five candidates have passed the licentiate level (including the associated Ph.D. candidate), and three are getting close to the doctor degree. The first candidate will defend her doctoral dissertation in December 2006, while one research student is in his final stages of working on his licentiate thesis.

Some Experiences Focusing on the Collaboration Aspect

As stated above, the research students within FÖN have a particular form of "institution responsibility", meaning that they are expected to work in or for the good of the region. The idea was that the students with the exception of their research projects – defined in close collaboration with the representative from the region in question – would in their various activities also function as collaborators in different types of projects: teaching at upper secondary school, taking part in different types of investigations and development projects, participating in meetings and seminars of the region, etc. From the beginning, a great level of freedom was already noticed concerning what "institution responsibility" de facto would include; the idea here (e.g. regarding the research project) was that the needs of the region would guide the aim of the work being contributed. Nevertheless, the openness created irresolution amongst the candidates and their supervisors and in the region. Against this background, the research station developed a working model after its first year with an obligatory part ("must aspect") and a more open part that could be adapted to the needs of the regions as well as those of the candidate's own requirements and areas of interest ("can aspect"). Translated into hours, 20% of the collaborative part corresponds to about 300 annual work hours, which together with the "home" institution responsibility at their own research department of about 30 hours per year, were divided as follows:

"Must aspect"

Knowledge and result dissemination connected to their project: 70 hours

Research project:
Pilot study of the region's tourism companies
Meetings with "advisory board" / reference group
Video seminar + composition of foreign report
Dialogue with individual companies
Pilot study of design needs in a wood company
Project presentations outside the region
Research Education:
Research education courses in and with the region
Assignment work in research education made available to the region
Open seminars in connection to (in time) doctoral courses
Study trip with regional actors
Others:
Participation in network and concrete development projects
Teaching upper secondary school
Teaching within the new tourism education (LTU)
"FÖN on tour"
Seminars and workshops
Mapping municipal design education
Individual contacts (companies, private individuals)

Table 2: Collaboration activities of FÖN's Ph.D. candidates

Other information meetings, seminars, meeting places, etc. : 70 hours

"Can aspect"

Participation in development projects / groups &
Individual assignments (e.g. investigations) &
Teach upper secondary school or regionally located university courses : 130 hours

During a halfway follow up, i.e. after approximately 2.5 years of operation at the research school, stock was taken of how the candidates' work responsibilities within this part of the operation were divided. The result for the six students is summarised below, divided by activi-

ty within the frame of their research project, the activity within the research school's research education activities and other activities (see Table 2).

It is evident from the compilation in Table 2 that the Ph.D. students have shared their collaboration activities between their own research project, the region's research school research education, and operational activities connected to other contexts (upper secondary information, general seminars, participation in concrete development or investigation projects, etc.). For the first-mentioned group of activities, it is noticed that several candidates began their project with a pilot study of the circumstances within the regional companies' respective areas, i.e. tourism and design. In several cases, formal company reference groups more or less joined up with the candidates, one person or a group, with the goal to function as a sounding board and advisor throughout the research process. A few students have research studies consisting of "going out into the world" and collecting new knowledge of the region and its economy. Activities in research education have greatly emanated from doctoral courses developed and conducted under the direction of the research school. In two courses (about the regions' culture and history as well as the regions and regional development) the connection to the Eastern Norrbotten region has been particularly strong, both with a content focus and doctoral seminars held in the region. Here, FÖN tested a model mixing research students (who have received credits in doctoral courses) with "regular university students" (who have received credits in university courses). In conjunction with these regional seminars, public seminars were also arranged, all in all involving many different types of meeting places and occasions for interaction between the research school's students and the region's representatives. Finally, a third group consisted of a variety of different activities such as teaching at upper secondary and university levels, different types of seminars or workshops, individual assignments for the region, participation in concrete development projects in the region, contacts with the media, etc. Also included, for example, was a weeklong tour in the region ("FÖN on Tour") sprinkled with activities such as meeting with companies and the general public, and visiting community upper secondary schools – an activity largely planned and conducted by the research candidates themselves.

The division of time between each candidate varies, and has not in any case implied the maximum limit of 300 hours per year being exceeded. Rather, during the research station's first year of operation, it has been more about the research station and the region searching and developing useful and appropriate forms of collaboration. That this learning process has not always been uncomplicated is shown, for example, by the following quotes from some of the students:

- "There is a degree of difficulty about the locals not knowing what we do and what we can arrange. It creates disappointment when we cannot take part of all the proposals."
- "People telephone and ask about things that are not part of my work. Or they don't know what they want."
- "I think it's because in general people don't know what research means and what I can do and help them with."
- "Our 20% has been really instructive the entire way and of course has provided that extra to my research project, but this has also cost a lot energy and time that sometimes felt a little wasted – a little too much fiddling and searching to test different approaches and a little unclear of what people really want to get out of our work."

The fact that the Ph.D. candidates were not experts in the conventional sense at the beginning of their research education, but actually participated in a research education programme, explains why they have felt insufficient in the contacts with industry, government and private individuals from the region. Combined with the fact that the region itself lacks experience from research and research education and has therefore had difficulty in knowing what research candidates can really deliver, we can thus see the first year of operation in FÖN as something of a mutual learning process where knowledge, instinct and expectations are successively conveyed to a better conformity. The research school students have in certain cases also tried to satisfy the need for knowledge by acting as links to other competences at their own universities. This "broker function" has developed from the students themselves and has not been deliberately supported through, for example, education contributions to effectively broker the need for knowledge with the right competence at the university.

A further important aspect in this context is how the Ph.D. candidates are distributed among different knowledge areas. Table 1 thus indicates the FÖN Ph.D. candidates to represent in principle three different areas: tourism, food as well as design and wood production. The choice of theme area originates, as previously stated, in the need as formulated by representative of the region itself, but the division of the candidates was finally steered by the number of interested and qualified applicants to the three different theme areas. For the Eastern Norrbotten Research Station, this meant that three Ph.D. students have worked with the tourism industry (one with also a connection to IT), two with knowledge development within the food sector, while a single student has worked with the wood branch (in this case with a focus on design in smaller wood manufacturing companies). This division has meant different conditions in running a practical operation with the region. Likewise, it has been, for example, clearly easier to collaborate project work, organise an "advisory board" / reference group with industry representatives in the region, or arrange various types of seminars or meeting places in the region within the tourism industry with their three students compared to within the wood manufacturing side (which has only had access to one research candidate). Having other Ph.D. students within the same area is a given advantage for their individual research projects, when planning and conducting research education contributions, and when concerned with cooperation to external partners.

From the above, four important experiences of the FÖN project with a focus on a developed collaboration in region connected knowledge production can be formulated as follows:

First, establishing a research and research education environment in a region previously lacking experience with this type of operation means a mutual learning process where knowledge, insights and expectations are successively calibrated to a better agreement.
Second, when an operation of the FÖN type is established in a region their representatives (here foremost the research school's students), are considered both as sources of knowledge and as agents to the "knowledge company" (university) they represent. It is important to also reasonably prepare the "agents" for this broker function, e.g. through easier education contributions as well as the students being electronically connected to the university's units for external contacts.
Third, to say that the Ph.D. candidates in a regionally connected research school should not "be consumed by campus teaching", but instead operate "in and for the region" is simple, but to fill the time with meaningful assignments at the right level is much more difficult. In the FÖN's case, the time-based model for collaborative information was developed after approximately one year experience and learning. Of course it is obviously an advantage if such a model is in place already from the start.
Fourth,One should aim for a "critical mass" of research students (at least three) within the same or similar areas, since this, amongst others, facilitates collaboration with external partners.

Discussion - The FÖN Example in a Wider Context

The Eastern Norrbotten Research Station (FÖN) can be seen as an empirical example in the search for new forms of collaboration between higher education / research and the surrounding society. This search implies many different choices and involves a continuous learning regarding both possibilities and problems with choosing a new and unconventional approach for academic education and knowledge development. The choice is, furthermore, often not uncontroversial whether in the political debate or the discussion within academia. We will attempt to discuss this in the final section

Collaboration with universities or colleges, industry and society is considered to be a prerequisite to develop a competitive industry- and working life in an evermore knowledge-based economy. In Sweden, this understanding has been strongly accentuated through the work with regional growth programs, as well as at a central level manifested through a governmental department (VINNOVA), which has this idea in its fundamental business concept. A joint publication for NUTEK, ITPS and VINNOVA, entitled "A little book about growth" (Hallin et al. 2002) emphasizes how large city regions and more peripheral regions can and should develop regional competitiveness. This can be done through regional specialisation, and where competence development (e.g. education at higher educational institutions) and knowledge development (research and R&D) that support this type of "critical mass" development is emphasized in the publication.

That an evermore knowledge-based economy demands in part new contributions and strategies to develop enterprise-based regional and national competitiveness should today be agreed upon by most people.

A key concept in this context – coined by Michael Porter (1998), though in existing different variations since Marshall's study of industrial districts since the 1930s – is the cluster concept: how a gathering (or critical mass) of companies in the same or related branches, supported by collaborative partners within knowledge production and society, develop unique competitive advantages through collaboration and internal competitiveness. Together with a political ambition to create conditions for growth in the whole (or at least various parts of) the country, two political strategies were developed during the 1990s: (1) work with regional growth agreements, which in partnership assumed to develop regional growth niches or specializations, (2) establishment of a series of regional institutions for higher education outside of the established university centres.

The view of the importance of "critical mass" has however uncovered once again an almost classic debate within the academic world: to what extent can and should higher education and, in particular, academic research be decentralised. Sverker Sörlin and Gunnar Törnqvist thus claimed in their book "Knowledge for Prosperity; Universities and transformation of Sweden" (originally entitled in Swedish, "Kunskap för välstånd; Universiteten och omvandlingen av Sverige", 2000) that research and education "are dependent on excellence as well as size" (p. 257) and give the greatest industrial effects when development occurs in cities with more than one million inhabitants. As a consequence of this, it can be stated that "only two city regions in Sweden and the immediate surroundings come up to this level: the region of Stockholm and the future region of Öresund with close collaboration between Copenhagen, Malmö and Lund" (ibid p. 259). Nevertheless, this understanding has hardly received acceptance in national and regional development politics: several new institutions for higher education have been established during the 1990s, while some have received university status relatively quickly, i.e. the right to run their own research and research education. Regional initiatives in the form of community federations for higher education and projects like The Bergslagen Research Station (von Otter 2001) and The Eastern Norrbotten Research Station have taken further steps towards a more decentralised

	"Model 1",	*"Model 2"*
Relations	Hierarchical	Equal
Steering	(The academic) field	Problem based, joint handling
Aim	Theoretical understanding	Usefulness
Form	Institutionalised	Flexible
Time perspective	Long-term	Short-term
Behaviour	Distance	Interactive
Responsibility	Against the scientific community	A wider local, social liability
Actors	Researcher	Researcher – practitioner
Type of knowledge	General	Specific, context bound
Focus	Theory development	Development, usefulness
Planning	Previously determined	Dynamic
Availability	End	Open
Work manner	Discover – change	Simultaneous discover – change
Authorisation	Professional rules	Internal scientific and external societal

Table 3: Two models for knowledge education as per Gibbons et al. (1994)2

education and research structure. A fundamental question still remains, namely if the continuing development of research and higher education can be combined with institutions for research and higher education through the scattered localisation that makes it accessible for more people.

The localisation of higher education and research also overlaps another current issue: Whether higher education and research through the scattered localisation that makes it accessible for more people (individuals, companies as well as governments and organisations) is also capable, in the best way, of hampering that which is considered to be the universities' main purpose: research and education of the workforce / competence of the highest possible quality. In an increasingly knowledge-based economy where competitiveness in industry is increasingly deciding which knowledge advantage a company succeeds in incorporating into its products and services, competences represented by universities, institutions for higher education and research institutes have generally come to be considered more important, possibly very clearly manifested in a number of government investigations (e.g. SOU 1989:50 or SOU 1996:70). According to a recently presented study (Lööf 2005), collaboration also works very well between specific larger Swedish companies and institutions for higher education / universities: here, for example, 80% of companies use collaboration with universities / institutions for higher education in their innovation work. The frequency of collaboration diminishes with reduced company size: amongst companies with 10-199 employees with regular innovation operations, 6 of 10 lack collaboration with the academic research (ibid), while amongst the smallest companies – especially those without regular innovation operations – this share is considerably larger. The fact that geographical proximity has significance for the development of different interaction patterns is fairly well documented. Geographical proximity and access to research resources are important, particularly within applied research (Mansfield and Lee 1996), where a distance of 150 km is perceived as somewhat of a pain threshold for a company with its own R&D to find it attractive to develop collaboration with academic researchers.

Within the academic world, however, the opinion is sometimes expressed that scattered localisation of higher education and research as well as too user-focused and applied research risks jeopardizing the scientific quality within academia and the competitiveness within the scientific community. Sörlin and Törnqvist (2000, p. 120) provide the following formulation:

"How should you deal with the conflicts of objectives that – at least in the short term – exist between criteria for success within academia and specialization within the disciplines, and problem-solving and synthesis formulation, which often occurs easier in multidisciplinary and applied research environments?"

The example of The Association for Higher Education and the Eastern Norrbotten Research Station is composed in this context of only an empirical example of activities that have attempted to find their own suitable solutions as needed to meet the above challenges:

- The need for higher education closer to one's domicile has to a significant degree been satisfied through decentralized education programmes and distance spanning techniques, and through a close collaboration between university and local study /education leaders. This has resulted in the needs of local education being satisfied along with the university expanding its recruiting base in a state of decreasing yearly batches of new students. A more decentralised higher education has consequently been beneficial for the affected regions as well as those universities that deliver different types of education.

- The needs for new knowledge in companies and industry have to a larger extent been met via a regional connection to research education in the form of a research school closely linked to the region's own development needs. The fact that research students have their domicile in a research department at the university also means that the risk for scientific superficiality and short-term problem solutions is avoided. Today, no sign exists that Ph.D. candidates in the FÖN are producing "inferior research" or have lower research productivity compared to the candidates' colleagues who fulfil their research education according to a more traditional model on campus.

In this regard, decentralised academic education and research are perhaps something that has paved the way for the development of academic knowledge education. In the often cited book, "The New Production of Know-

ledge", Gibbons et al. (1994) thus describe a continuous development against an evermore knowledge-oriented society where knowledge education (e.g. research) to a significant extent occurs in interaction with collaborative partners outside of the academic setting. From an ideal model of academic knowledge education, characterised by a hierarchical and closed structure and a search for objective, theoretical and generalizable knowledge within traditional subject boundaries that evaluate and grade through a loyal examination process (Model 1), we proceed further according to these authors in another type of knowledge education model: a model characterised by interactive learning, dialogue and complicity where people, organisations and companies collaborating in the societal practice are no longer seen as "incompetent outsiders" and as pure reception stations for the academic acquiring of wisdom (model 2, compare even Brulin 1998; Novotny et al. 2001 and Svensson et al. 2002) (see table 3)

A way to conduct oneself to the development described above, especially in the academic community, is to see this as a sign of a trend or fashion that will soon "blow over", if we just have the staying power to endure an expected collapse of an increasingly amateurish and applied research. A completely different way to conduct oneself is to see the development as a natural process in the progressively more knowledge-based society that is characterised by unknown complexity and unpredictability that mainly occurs outside the academic system.[3] This creates, as Svensson et al. (2005, p. 5) states, "entirely different conditions for a more equal cooperation between institutions for higher education and society", where different types of competences are taken care of in a joint creation of new knowledge.[4]

While dichotomy as an analytical technique is often clarifying by stimulating reflection and developed argumentation, this often used technique consists of, according to our understanding, a mind trap that we are up against a choice between each other's exclusive alternative models, i.e. that the choice (here applied to the development of research education and regionally connected to knowledge production) stands between "model 1" *or* "model 2". In reality the empirical example that we have described in this article could be seen as an illustration of a search for a knowledge education model comprised of elements from *both* models 1 and 2. Thus, the research station and research school are run from the traditional academic quality demands as well as the desire that knowledge education will have practical relevance for the region and industry. The projects that are part of the research school will thus produce "usefulness" (specific and context bound knowledge) for the region over the long- and short-terms, as well as contribute to the academic knowledge within the respective areas (i.e. knowledge that has importance outside the regional context). Via their domiciles in a research department at a university, the Ph.D. candidates have the same connection to the national and global scientific community as any other research students, but have also access via a connection to practitioners in a specific region to obvious purchasers / orderers / customers and agreement partners for the knowledge being produced by the project. Also, by replacing the "institution responsibility" on campus with a "cooperation responsibility" connected to a specific region the importance of cooperation with the practice of the knowledge building is emphasised without the research projects being differently judged than other "normal" research candidates'.

Epilogue

Some of the experiences from The Eastern Norrbotten Research Station show that this desire of "having your cake and eating it" is not trivial and uncomplicated. It is also about a learning process where mutual expectations are successively being calibrated, with better working forms being developed from the experiences and learning experiences described in this article.

Finally some words about the future of Research Station Eastern Norrbotten. As of today, all partners in the Triple Helix-based constellation behind FÖN seem to agree on a continuation and further development of this specific kind of experiment. The routes for this continuation are however several: (1) to develop the cooperation on a national and regional basis, primarily relying on the four local communities that today are members of the consortia; (2) to cross the border to neighbouring Finland and develop cooperation on a cross-national basis; (3) to develop a more network-based structure of cooperation involving different partners in Europe. Which route will finally be chosen is today however not decided.

Notes

1. More on the Eastern Norrbotten Research School and its previous development can be found in Ylinenpää & Strömbäck (2003), Carlsson, Lundgren & Sandström (2003), and Sandström (2004).
2. Taken from Svensson et al. (2005), p. 5
3. 78% of research and development that has a bearing on industry and companies occurs today within industry, while universities account for 19% (SCB statistical information, research and development within the company sector 2003; see also Lööf, 2005.
4. This view has, amongst other starting points in the so-called triple helix concept (Etzkowitz & Leydesdorff, 1977), strongly characterised by, e.g., VINNOVA's view of how future innovation systems in Sweden can and should be designed.

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Mathematical Thoughts Within the Sámi Culture

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Law on education in Sweden stipulates that Sámi children are allowed to receive their compulsory education in the Sámi School, and the Compulsory school comprise grade 1-6. There are Sámi Schools in Karesuando, Lannavaara, Kiruna, Gällivare, Jokkmokk and Tärnaby. Fundamental regulations for the Sámi Schools are expressed in the law on education and in the Sámi School ordinance, the Sámi Schools follow the national regulations, but the Sámi pupils also have to achieve familiarity with the Sámi cultural inheritance and be able to speak, read and write Sámi. In accordance with the Sámi School ordinance, teaching is carried out in both Sámi and Swedish languages, and Sámi and Swedish languages and Sámi subjects are included in all the grades. The curriculum that is defined for elementary education shall also be initiated in Sámi schools. The Swedish National Agency of education has determined a curriculum in the Sámi language. These goals to be fulfilled in the Sámi language are separate for pupils who have Sámi as their first language and for those who have Sámi as second language (Utbildningsväsendets författningsböcker 2004; Utbildningsdepartementet 1998; Skolverket 2000/2003).

In accordance with the Sámi School ordinance there is a need for an education that is aware of and has a base in the Sámi culture (Utbildningsväsendets författningsböcker 2004). Teaching and learning from a Sámi point of view is an important issue according to the regulation. In the latest Sámi School regulation, the Sámi School Board pointed out the importance of an education from a Sámi point of view to make it possible for every pupil to reach the goal of being familiar with the Sámi cultural inheritance (Sameskolstyrelsen 2007). The Swedish National Agency for Education inspected the Sámi School (Skolverket 2002) and there the teaching in mathematics the Swedish national curriculum supports another form of teaching[1] described as directed by the textbook, although the teachers expressed their wish to connect the education in mathematics with the pupils' every-day life. The inspection raised the following questions:

Hur kan barnens informella lärande användas som en resurs i matematiklärandet?

/.../Finns det, eller har det funnits, en speciell matematik inom den samiska kulturen?

(How can the Sámi pupils' informal learning be used in the learning in mathematics?

/…/Is there, or has it been, a special mathematics within the Sámi culture?) (Skolverket 2002:15)

These questions function as an introduction to my research area and led to a study of mathematical cultural knowledge within the sámi culture. The purpose of the research was to describe and analyze how sámi handicrafters and reindeer herders[2] express their mathematical thinking, and how they express the learning of the mathematical cultural knowledge. The mathematical cultural knowledge was highlighted by the concepts of *counting, locating, measuring, designing, playing* and *explaining*[3]. The learning was analyzed from the point of learning within a cultural context with focus on the

mathematical knowledge, and knowledge transforming through generations. Results of the research were published as a licentiate thesis.

The empirical material for the research-project was collected through interviews and literature study. The material was based on ten interviews with Sámi handicrafters and Sámi reindeer herders. The handicrafters and the reindeer herders were from the communities of Kiruna, Gällivare and Jokkmokk in the Swedish part of Sápmi. The interviews were recorded with recorder, videotape or by notes. The interviews were conducted according to two different strategies. Strategy one focused on the persons´ life story. There the persons were asked to tell about her/his life from a yearly base. The second strategy was based on a question form with more direct guiding questions.

The final aim of the research-project is to focus on possibilities and problems with the development of a multicultural education in mathematics in the Sámi Schools. This article is an attempt to discuss the mathematical thoughts within the sámi culture, and an attempt to start to discuss a multi-cultural education in mathematics in the Sámi Schools. To be able to view a multi-cultural education in mathematics and mathematics as a Sámi cultural knowledge, it is necessary to show some theoretical grounds for a multi-cultural view of mathematics or mathematical ideas.

A Multi-Cultural View of Mathematics or Mathematical Ideas

Mathematics, as we generally understand it today, has emerged in a distinctive form in Europe, but every culture generates something equivalent to mathematics that works satisfactoraly within its own context. In contrast to mathematics taught and learned in schools, Ubiratan D´Ambrosio defined the ethnomathematic. The ethnomathematic is the mathematics practiced among identifiable cultural groups with their jargons, codes, symbols, myths, and even specific ways of reasoning and inferring (D´Ambrosio 1985; 2000). According to Marcia Ascher (1991) ethnomathematics is: "… the study and presentation of mathematical ideas of traditional peoples." (1991:188). Mathematics as a cultural knowledge, according to Alan Bishop (1988), derives from humans engaging in the following six universal activities:

First, counting. The use of a systematic way to compare and order discrete phenomena. It may involve tallying, or using objects or string to record, or special number words or names. Second, locating. Exploring one's spatial environment and conceptualising and symbolising that environment, with models, diagrams, drawings, words or other means.
Third, measuring. Quantifying qualities for the purposes of comparison and ordering, using objects or tokens as measuring devices with associated units or "measure-words".
Fourth, designing. Creating a shape or design for an object or for any part of one's spatial environment. It may involve making the object, as a "mental template", or symbolising it in some conventionalised way.
Fifth, playing. Devising, and engaging in, games, and pastimes, with more or less formalised rules that all players must abide by.
Sixth, explaining. Finding ways to account for the existence of phenomena be they religious, animistic or scientific. (Bishop 1988:182)

The concept renders possible a broader interpretation of mathematics. Therefore, the six key activities serve as the theoretical framework for the empirical study. The activities were used as a cluster for the intention to study mathematics as a Sámi cultural knowledge. To be able to discuss mathematics as a Sámi cultural knowledge it is also necessary to define the concept of culture.

The Concept of Culture

According to Thomas Hylland Eriksen (2001), there are two different approaches to the concept of culture. The first approach pointed out the importance of history and traditions. It defined culture as traditions, values and habits, which are passed on, in a slightly changed form, from one generation to another. The other approach defined culture as that which makes communication possible, the present time is central in this definition. From a pedagogical point of view, Elisabet Jernström and Henning Johansson (1997) defined culture as "… ett helt folks sätt att leva…" (… a whole peoples way of living…)(1997:43). The concept of culture includes three dimensions:

- den materiella, som är synlig genom produkter av teknologi och hantverk. (the material, which is visible trough products and handicraft.)
- den mentala, som omfattar föreställningar, kunska-

per, attityder och värderingar. (the mental, which comprises conceptions, knowledge, attitudes and values.)
• den sociala, som inbegriper mer eller mindre fasta relationer mellan människor och hur man umgås med varandra. (the social, which includes more or less fixed relations between peoples and how peoples see each other.)(Jernström & Johansson 1997:43)

The three dimensions allow making combination of the present, the past and the future, and combination of the material and the immaterial part of the culture. This theoretical ground functions as a frame for my view of culture. However, culture is not static. There are symbols, or aspects, within the Sámi culture that function as important marks for Sámi identity, but the symbols and the meaning of the symbols, vary both for the single person and also for groups of Sámi peoples. Therefore, it is important to study culture with a flexible view. Earlier research about Sámi upbringing and the Sámi School deals with different aspects of the Sámi culture. To be able to connect the mathematical thoughts within the Sámi culture with the education in mathematics in the Sámi schools it is necessary to present research about the Sámi upbringing and the Sámi School.

Earlier Research

Asta Balto (1997:a;b) studied the Sámi upbringing and a central factor in the upbringing is the children's training for independency. However, according to a parent in the study neither the pre-school nor the school believed the children to be independent. This is in direct opposition to the family; there Sámi children had their own responsibilities and chores. This gave adults the opportunity to teach the children problem-solving, independence and the view of learning was:" Gal dat oahppá, go stuorrula" (She/He learns when she/he gets older) (Balto 1997:b:122), therefore it was important not to criticize the children.

Another research is an evaluation study of the realization of the Sámi School in Norway by Vuokko Hirvonen (2004). The aim of the study was to evaluate how the regulations (O97S), contained in the Sámi curriculum have been implemented in Sámi schools. The O97S curriculum is a result of the fact that Sámi parents, teachers and educational administrators were not satisfied with education of the Sámi. The separate Sámi curriculum is nevertheless an adaptation of the Norwegian curriculum, according to Hirvonen. The planning has been based on the Norwegian school environment and on the views of the majority population. The Sámi views and conceptions of learning and teaching have mainly been left in the background or have been considered as secondary. The evaluation study takes the perspective of indigenous peoples, minorities, and multiculturalism as its starting point. One of the primary questions of the evaluation is how a curriculum helps minorities, indigenous teachers and pupils to maintain and strengthen their own identity and culture. Despite this the Sámi views have been treated as secondary in the curriculum; the teachers and the schools have to have multicultural competence and to be familiar with Sámi history, traditions and cultural concepts in order to fulfil the demands in the Sámi curriculum. They also need to take the Sámi pupils' special characteristics and needs as a starting-point, and to make the status of the Sámi people as an indigenous people visible in the teaching. The study pointed out the need of teacher-education:" Teachers need additional education and training; they need to learn new skills and ways of thinking." (Hirvonen 2004:129). The evaluation also promoted the development of new activities, new ways of teaching and new visions in the schools to make it possible to realize the Sámi School. The view of mathematics as a cultural knowledge is a new vision, which demands new activities and a new way of teaching.

Education with Culturally Based Curriculum

Jerry Lipka with others (1998; 2005) worked collaboratively with Yup'ik Eskimo elders, teachers, mathematicians and mathematics educators in Alaska to transform the curriculum by incorporating local knowledge into culturally based mathematics lessons. The work embedded mathematics within the everyday Yup'ik experience, culture and language and brings to light Yup'ik conceptions of numeration, measuring, geometry, and problem solving. The study by Jerry Lipka represents a concrete way to transform curriculum and pedagogy. The learning within this work emanates from a shared context that exists within the classroom and within the community. Starting from this common ground, the teachers are able to provide opportunities for extended learning from the familiar into the less familiar areas. The students' everyday knowledge is used in the class-

room situation, both academically and socially. Today the collaborative research by Lipka has developed a supplement elementary school math curriculum, Math in a Cultural Context (MCC). The math curriculum brings the local knowledge into a core of academic curriculum. A theoretical model, MCC's Theoretical Model, was designed. The model includes math content knowledge, which is informed by both Western schooling and the Yup'ik elders, pedagogical knowledge, which is informed by both school-based practices and ways of teaching, communicating, and learning in Yup'ik communities, and a contextual knowledge, ways of connecting schooling to students' prior knowledge and everyday knowledge of the community. This was designed to be an adaptive curriculum to make it possible to fit all teachers, students, and circumstances. My research's aim has a lot in common with this study. The licentiate research-project indicates that there are for example conceptions within the Sámi culture, which express the mathematical thinking within the Sámi culture.

An earlier research-project by Henning Johansson (1985) was intended to connect education with culture. The purpose of the project was to develop an education with a base in the pupils' cultural background. The results of the project showed that when education was based on the pupils' cultural background it impacted both the teaching methods and the content in school. The pupils in the project obtained better results compared to other pupils in the same area. Johansson meant that when there is a difference between the culture in school and the culture at home, the school becomes too abstract for the pupils. According to Roger Säljö (2000) education based on the children's perspective is an appealing thought, but it is important to remember that teaching and learning in school sometimes means being confronted with knowledge which does not necessarily have a clear ground in a persons everyday-life. The everyday-life thinking belongs to the every-day context and the scientific thinking belongs to the scientific-context. The school is situated, according to Aadu Ott (2000), in a context between the everyday-context and the scientific-context. The problem is whether the school should take its start from the scientific-context and the scientific-concepts or if the pupils should learn for the everyday-life. The solution, according to Ott connected to social constructivism, is perhaps to take the base from the pupil's everyday-life and its concepts and to aim for the pre-scientific concepts. There are obviously both possibilities and problems attached to the wish to connect education with the pupils' everyday-lives and culture. In this article, I intend to start the discussion of multi-cultural education in mathematics in the Sámi Schools based on results of the research-project (Jannok Nutti 2007).

Mathematical Thoughts and the View of Learning

The purpose of the research-project (Jannok Nutti 2007) was to describe and analyze mathematical thought within the Sámi culture. The results show that there are several conceptions, for example different names of reindeer herds according to the approximate number of reindeer in the herd. Special reindeer is used as an aid for counting or approximation, and as an aid for the localisation of reindeer. The numbers of marked reindeer calves are counted by making marks on a wood-stick, by saving the parts from the ear of the marked calves', or by making notes on a paper. Locating occurs through well-known objects in the nature, by the wind, or by the rivers. The cardinal points are based on the landscape, the rivers or lakes, and the valleys around them. The measurements and measure methods are based on the body, example of measure units; *lavkas*, *salla, goartil, čuovddegoartil, suorpma guovddu,* g*iehta govddu,* and *čuovdemihttu.* Depth of snow and water was measured with a stick or a rope and the measuring unit; *goartil* or *salla,* or by the body. Distance was measured with the time it took to walk a distance, sound (a distance measure unit is; *beanagullan*) or sight. Time was regulated by heat, light and/or by seasonal activity. The eight seasons were used to divide the year, and the perspective of time could be expressed by a circular spiral towards the future. Designing involves the Sámi buildings, the goahte and different store buildings and the Sámi handicrafts. The designing is visible in both the design of the shape and the design of the pattern. The manufacture of clothes demands knowledge in for example straight angles, parallel lines, area, symmetry and the knowledge of changing two dimensions to three dimensions. The reindeer marks make visible the characteristic shapes with special terminology. Learning is based on encouragement and involvement in the work. Stories are important in learning as are explaining or instructing. It is important to develop close relationships to for example the nature and the reindeer. It is also important to let

the children feel that their help is needed, for example with chores. It does not matter if the children make mistakes while learning, but it is important to try to do the chores orderly. In summary, the view of knowledge and learning is one of tradition and creativity; because the handicrafters and the reindeer herders expressed both a traditional and a flexible view of the culture and the knowledge.

Conclusions

Today, mathematical education is often directed by books (Skolverket, 2002)**;** although the Swedish national curriculum supports another form of teaching. The aim of my research was to describe and analyze the mathematical knowledge and view to learning within the Sámi culture expressed by Sámi handicrafters and Sámi reindeer herders, and to connect this to the education in mathematics in the Sámi Schools. My research already indicates that there are different conceptions within the Sámi culture according to Bishop's six activities, which could be used in the transformation of both the curriculum and pedagogy in the school, similar to the research of Lipka. Nevertheless, the objective of developing a culturally based education in mathematics in the Sámi Schools is a source of both possibilities and problems (Säljö 2000; Ott 2000) and there is need for further research.

Notes

1. The curriculum in mathematics (Skolverket 2000) defined mathematics as: "Matematik är en levande mänsklig konstruktion som omfattar skapande, utforskande verksamhet och intuition." (Mathematics is a living human construction which includes activities which are creative, investigate and intuitive.) (2000:27). Problem solving has always had an important role in the mathematics education. Moreover, has mathematics a close connection to other school subjects. A goal for year 5 is that the pupils should have so much mathematical knowledge so that they are able to solve concrete problems from the pupils' surroundings.
2. The Sámi reindeer herders and Sámi handicrafters were chosen as informants from the results from an earlier study (Jannok Nutti, 2003). Both the Sámi reindeer herding and the Sámi handicraft were pointed out as important carriers of premathematical thinking within in the Sámi culture.
3. Bishop 1988

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Third Theme:

Legal Challenges in the North

Legal Challenges in the Arctic[1]

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Over the course of the last decades, the challenges posed to the existence of human, economic, sustainable development and multi-level governance systems in the Arctic have prompted a renewed inquiry into the concrete forms of legal arrangements, new legislation and other legal measures that secure the basis for effective and resilient adaptation and evolution of the Northern lands. This development in the legal field takes place in international and trans-national areas, national and regional levels within the eight Arctic States and forms a constructive aspect of the general processes of globalization, institutionalization and cultural, social, economic political and other changes happening in the North. By drawing on some Canadian developments, this article outlines general perspectives on understanding existing legal challenges and the role of law in dealing with Arctic matters.

Common Legal Challenges and the Role of Law

Recent initiatives involving various legal experts in addressing legal matters in the Arctic (e.g. Chapter on "Legal Systems" within the Arctic Human Development Report, 2004[2], and ongoing cooperation among Nordic legal institutions via several networks, such as the Nordic Research Network for Saami and Environmental Law and the Nordic Human Rights Network), show an increasing importance of legal thinking in various areas of Arctic and global developments. These trends also point to the question of the existence or necessity of developments of an "Arctic law," a comprehensive legal regime which would embrace the legislative practices of the eight Arctic States and international law relevant to the Arctic region, or could lead to the development of some documents common to the Arctic States (e.g. an Arctic Constitution or Arctic Charter, or an Arctic Treaty system. Ideas of creating of some comprehensive regime in the Arctic[3] or as O. Young puts it: "[…] a constitutional contract, for the Arctic treated as a distinct region in international society" [4] are not new. The possibilities and limitations of the establishment of a binding legal regime in the Arctic has been one of the discussion topics of the 7th Conference of Parliamentarians of the Arctic region, 2006 [5] and several other workshops/seminars, e.g. seminar on Multilateral Environmental Agreements and their relevance to the Arctic, 2006[6]. Thus, in its statement,[7] the 7th Conference suggested the legal regimes that impact the Arctic be audited and proposed that the UN conduct the Annual 2007 Treaty Event with the focus on UN treaties relevant to the Arctic.

Despite many discussions, "Arctic law" terminology is confusing and requires further analysis. There are other relevant terms, such as, for example: Nordic law, which usually covers legislative practices of Nordic countries. Clearly, development of "Arctic law" is hampered by divergences in the domestic legal systems which are becoming more integrated and gradually nullify differences between a Common law, "Aboriginal law" and the Civil/Continental (Pandect) systems of law (e.g. Canada). There are obstacles in differing approaches within each Arctic state towards the place of the North in the national policies and consequent priorities in developing various legal regulations regarding Northern issues. Often there is no coherence between federal/central framework legislation and immediate

needs that Northern legislators address locally. Local performers often mimic existing national rules, policies, and agenda due to the lack of financial and scientific/ manpower capacity to introduce a unique northern vision at the level of regional legislation. There are some notable exceptions, for instance, the Nunavut Wildlife Act, which came into force in July 2005, includes about 13 Inuit Qaujimajatuqangit (IQ- traditional knowledge) principles and concepts. It can be argued, however, that the legislative process itself is rooted in the mainstream legal system and enforcement without a real connection to the Inuit legal traditions[8]. Further challenge in defining "Arctic law" is connected with processes of legal globalization and developments in international law, which, on the one hand, is becoming more "universal" and points to the integration with domestic legal systems. On the other hand, there is an overlap within various areas of international law itself. The new notion of "transnational public law" has emerged. According to H. Koh, it "[…] is neither fully international, nor is it based only on one domestic law or another. It is both" [9]. Growing inter-dependence between national and international legal practices is relevant to the Arctic. Thus, common legal challenges to the Arctic countries often point to the need for international legal guidance. In the meantime, developments in international law reveal that its jurisprudence relies on examples from domestic legal practices.

Common legal challenges to the Arctic states include, for example:

- Illegal immigration, fishing and hunting activities
- Drugs, possible human trafficking
- Cross-border crime and security against potential terrorist threats
- Efficiency of judicial systems
- Environmental, health, educational, trade, economic, human resources regulations
- Affirmative action/positive discrimination rules, employment equity rules
- Traveling and visa policies/regulations
- The need for more comprehensive international regulations due to technological developments and increasing capability of commercial and other shipping activities
- High energy prices, improving economic feasibility of mineral exploration and exploitation in the Arctic, increase in tourism activities require cohe-rent mining, tourism, economic, etc. policies and call for corresponding legislative measures e.g. pollution, undersea mining regulations etc.
- The impact of colonialism on indigenous peoples, the place of indigenous knowledge, cultures and concepts in decision-making/legislative policies and the administration of justice.

Further, debates over the benefits of soft-law instruments in the Arctic, as opposed to the necessity of legally binding agreements, also question the need for the development of "Arctic law." Despite the fact that soft-law often provides a basis for hard law developments, these debates raise the question of the importance of hard–law commitments in the Arctic. Already existing web of soft-law declarations, informal arrangements, and growing institutional cooperation in the Arctic, show that these measures often prove to be quite efficient in addressing existing challenges. Activities of various Arctic forums, e.g. the Arctic Council, the Nordic Council, the Nordic Council of Ministers, many bodies of environmental co-operation, University of the Arctic etc. also point to the benefits of employing informal practices. Increased intergovernmental cooperation among various levels of governance in the North also results in a growing amount of inter-governmental arrangements which are often efficient. For instance, concluded in 2003 by 3 Canadian Northern territories the Northern Co-operation Accord (NCA)[10] which had the aim of collaborative work to achieve goals common to Yukon, the N.W.T. and Nunavut agenda has paid off. Although it is questionable whether the NCA has any real impact on the northern legal landscape, the territories received substantial additional funding from the Federal government. This success of the territorial leadership was also conditioned by the ability and willingness of Northern premiers to work together.

Further, activities of indigenous NGO, like the Inuit Circumpolar Council, which represents more than 155,000 Inuit of Alaska, four regions in Canada, Greenland and Chukotka, show that this non-governmental organization despite, limitations of its mandate, is often ahead of national governments of the USA, Canada, Denmark and the Russian Federation in tackling the most urgent issues for Northern communities, e.g. POPs or climate change. For instance, the ICC's petition to the Inter American Commission on Human Rights Seeking Relief from Violations Resulting from Global Warming

Caused by Acts and Omissions of the United States, submitted December 7, 2005[11], despite its outcome, is already breaking new ground in international environmental law and environmental rights of indigenous peoples.

Should international law, domestic law of Arctic states, trans-national law or developing practice of soft-law measures determine the direction of dealing with legal challenges in the North? Or in the future shall we work with the concept of "Arctic law" which may embrace elements and practices of several legal regimes and branches of law?

Currently, we witness some success and gaps in international law and national legal systems in dealing with Northern matters. For instance, the UN Convention Concerning the Protection of the World Cultural and Natural Heritage (November 16, 1972) helps to protect several thousand rock cravings created by the ancestors of Saami in Alta, Norway. These carvings have been on the World Heritage List since 1985. Canada ratified this Convention in 1976. However, the fossil forest on Axel Heiberg Island (Nunavut) and the ancient rock carvings near Kangiqsujuaq (Nunavik) are still top candidates for World heritage sites status[12]. Sadly in August 2006 Canada's only major 1,500 year old Arctic petroglyph site at Qajartalik Island near Kangiqsujuaq was vandalized[13].

Existing international and domestic legal regimes which somehow deal with Arctic matters show that there is no unanimous solution to the question of which legal measures are most efficient in dealing with current and future legal challenges in the North, as it will depend on the circumstances of each case. Even though today, the efficiency of hard law in solving Arctic matters is debatable, and "Arctic law" as a distinct area of law has a long way to be defined or developed, there is no disagreement that law, in fact, does matter in addressing Northern challenges in the Arctic as a whole, and in the legislative practices of Arctic and other states with interests in the Circumpolar region. However, it is still a challenge for many Arctic states how to enforce existing legislation. Further, I'll look at some Canadian examples to show the role of law in addressing challenges in the Arctic.

Ownership Claims: Hans Island

An ongoing dispute between Canada and Denmark over Hans Island exemplifies the challenge of application of national legislation and other local practices to support claims for ownership over the island by each side, because of the partial insufficiency of existing international arrangements.

Due to the sovereignty dispute over Hans Island, the Island which is located between Ellesmere Island (Nunavut) and Greenland was excluded from a 1973 agreement between Canada and Denmark on the delimitation of the continental shelf between Greenland and Canada. The continental shelf line was drawn up with exclusion of the Island which consequently does not have an exclusive economic zone or a territorial sea. The current dispute includes the Island only. The Danes strengthened their claim over the Island by means of "effective occupation"- raising the Danish flag over the Island for several years and repeated visits to the Island. Canada contests this claim and has shown similar activities on the Island. There is speculation that the Island is of interest to both sides because of probable natural resources, e.g. oil which may be located on or near the Island. The argument on both sides is that the Inuit of Canada and Greenland have been using this Island for centuries as an area for polar bear hunt. Some Inuit in Nunavut state that Canada can claim the Island on the basis of historic use by Canadian Inuit of lands on the Queen Elizabeth Islands which include Hans Island. In September 2005, Denmark and Canada agreed to develop a protocol for managing Hans Island, revealing that both countries continue to pursue their claim and have agreed to disagree about the Island's ownership[14]. The dispute may be settled through the UN. Interestingly, despite this dispute, in February 2006 Canada issued to geologist Mr. J. Robins a five year prospector's permit with exclusive right to explore the entire Island[15].

Sovereignty Claims Over the Northwest Passage

An ongoing disagreement mostly among the EU, the USA and Canada over the Northwest Passage (claims to the waters of the Arctic Archipelago) is another example of a legal challenge. The melting of the Northwest Passage and increasing transportation in the Arctic Ocean reveal the need for Canada and the USA to resolve the

unresolved matter: who controls the Passage? This dispute is also bolstered by an expected future boom in resource exploration including offshore and the question of environmental control in the area.

The U.S. does not recognize Canada's sovereignty over the Passage and considers it as "international waters." There have been incidents of foreign ships and submarines sailing through Canada's Arctic waters without the consent or even the knowledge of the Canadian Government (e.g. U.S. super tanker the SS Manhattan sailed the passage escorted by a Canadian icebreaker in 1969, and in 1970; the U.S. icebreaker Polar Sea crossed the passage in 1986; in 2005 a U.S. nuclear submarine traveled to the North Pole, possibly via the Northwest Passage).

Canada refers to the Passage as "internal waters." To assert its sovereignty Canada needs to provide all year-round military presence in the air, sea and on the ground. Commitments made by the current Conservative government to build a deep water sea port in Nunavut, to create a new military training centre, to improve undersea and aerial surveillance, to increase the number of Canadian rangers and to purchase three naval ice breakers should help to achieving this goal. Further, to support its claim, within the last few years, Canada started extensive military exercises in the North. For instance, in August 2006 Operation Lancaster which included navy, army and air force exercises in the Passage was one such undertaking in an attempt to show the international community Canadian capability to defend its North. Furthermore, the Inuit who live in this area also support Canada's efforts to establish control in the Passage. According to Malachi Arreak of Pond Inlet, which is the nearest community to the Passage, "Lancaster Sound is our grocery store, so stop saying it's an international waterway…This is our home and native land"[16]. This is also supported by the Nunavut Land Claims Agreement (NLCA) 1993 which affirms Canada's sovereignty over the waters of the Arctic Archipelago on the basis of Inuit use and occupancy (Art. 15.1.1). Prime Minister Harper emphasized during his August 2006 trip to the North, that "Canada intends to enforce its rights under the law of the sea" convention (Art.234 of the UN Convention on the Law of the Sea (UNCLOS) allows Canada as a costal state to exercise environmental protection of the Passage by means of adoption and enforcement of environmental laws and regulations within 200 nautical mile limit exclusive economic zone). Mr. Harper said: "We must be certain that everyone who enters our waters respects our laws and regulations, particularly those that protect the fragile Arctic environment"[17].

The existing array of legal arguments [18,19] show that it is not clear which legislation is better to use, for example, in order to protect the Passage from consequences of global security threats. Some authorities argue that compared to international law Canadian legislation presents a stronger case in protecting defence interests within the disputed area[20]. If the Northwest Passage is an international strait - "international waters," as the U.S. and some other countries claim then it is possible for various states to send their ships, submarines, including possible "terrorist" warships, or vessels carrying toxic cargo to sail through the Passage without notification. This may have serious implications for global security, Canadian claims of control over the area, environment and social disruptions.

Existing legal debate also reveal weaknesses in the legal position of Canada as a coastal state and potential user states, insufficiency of Canada's Arctic Waters Pollution Prevention Act (AWPPA) and Canada/USA 1988 agreement on "Arctic Cooperation" to resolve this matter. G. MacNeil suggests that rather than conforming to the arguments of the both sides, the development of an emerging unique Arctic regime may help to deal with this issue[21]. Although legal arguments of Canada and the USA to support claims over the Passage has not changed, the global war on terror after the events of September 11, 2001 suggest that it is not helpful for purposes of global security to claim the Northwest Passage as "international waters." Further, as D. Pharand notes, "[…] because of the remoteness of the region and the difficulties of navigation, comparatively little use for international navigation might be sufficient to make the passage an international strait"[22]. The legal challenge remains, but the tendency may be towards improved Canadian–U.S. cooperation in this area. For instance, in April 2006 the North American Aerospace Defense Command (NORAD) agreement was renewed and now it includes maritime surveillance[23].

These disputes are relevant to the matters of control over potential resource areas and exploration licenses in Canada-U.S. disagreements over maritime boundary in the Beaufort Sea (which has a potential of substantial

oil and gas reserves), and the border at the bottom of the Alaska panhandle. Questions of border delineation across Arctic waters are becoming of utmost importance because of increasing accessibility to the last frontier. They also bring to the agenda political and legal issues of ownership rights and the supremacy of application of legislation of Arctic states in the disputed areas (e.g. who can fish, who can drill, what permits to ask for etc). Furthermore, legal claims in the Arctic may extend beyond the eight Arctic states and include other countries with interests in the region. There are, however, some developments which may bring a challenge to existing international and domestic legal regimes.

Icebergs

In 2004 two proposals by British entrepreneurs to steer icebergs from Canada's East Coast to Europe (e.g. Spain and Portugal) raised the question of ownership and pointed to a potential conflict between Canada and Greenland in that regard. According to some estimates, a 50-million-tonne iceberg can provide about $3 million worth of fresh water. Greenland produces the largest amount of icebergs in the world. Most icebergs originate in Greenland and drift along the coasts of the Canadian province of Newfoundland and Labrador. If in the future iceberg-trade becomes a reality than it will need further legal clarification as to who owns icebergs and should control this trade, including some regulations on resource sharing (for example, Canada sells to the EU icebergs that drifted from Greenland)[24].

Claims over the North Pole

Canada and Denmark disagree with the Russian Federation over the seabed jurisdictions on the underwater mountain Lomonosov Ridge. In accordance with the UNCLOS, which covers seabed claims, Canada has by December 7, 2013 to submit evidence which will help to determine the extent of its continental shelf over which it exercises exclusive sovereign rights, including potential underwater reserves of oil, gas and minerals. Canada now conducts surveys and mapping in the area to identify the limits and boundary of its undersea continental shelf that lie beyond the 200-nautical mile EEZ. Denmark ratified UNCLOS in 2004 and has to put forward its claims towards potential areas and provide data for a submission to the UN by November 16, 2014. The Russian Federation ratified UNCLOS in 1997 and has to prove by 2007 that the Lomonosov Ridge is a continuation of the Siberian continental shelf. On June 27, 2005 Canada and Denmark signed a MOU (representatives from Natural resources Canada and the geological survey of Denmark and Greenland). They agreed to collaborate on an undersea data collection project and conduct surveys in areas north of Ellsemere Island and Greenland[25].The MOU helps both countries to improve their understanding of this area while reducing research costs. In 2006 a joint Canadian-Danish expedition started to conduct such geological surveys.

Governance Arrangements in the Canadian North

Nunavut ("our land") was carved out of the N.W.T. in 1999. The system of public government (mirroring the mainstream system) with an indigenous majority (about 85% of the population are Inuit) was put in place. Increased jurisdictions over land management and resources, housing, economic development etc. show that the territory is often unable to assume liability and exercise existing jurisdiction without substantial funding from the Federal Government. This is a challenge in implementation of many land claim agreements in Canada's North, including challenges connected with the Federal Government's inability to meet its obligations under the Land Claims. Existing LCAs reflect inadequate mechanism for their implementation. They have been criticized for a weak protection of socio-economic rights, women rights etc. That is why it is not accidental that three Canadian Northern territories negotiated devolution agreements with the federal government (Yukon 2003, the N.W.T. 2006, and Nunavut is expected to do so by 2008). The goal of each territory is to achieve fiscal and economic sustainability. These pose challenges to local legislative practices and regulations. For instance, for Nunavut, this devolution agreement and transfer from Ottawa of responsibility for the management of oil, gas and mineral extraction on Crown lands and offshore, is of particular significance for the territory's economic independence and self-sustainable future[26].

Devolution processes can be observed in recent constitutional developments regarding Inuit within the province of Quebec and the province of Newfoundland and

Labrador. For instance, the Nunavik ("place to live") project in Northern Quebec embraces about 10,000 Inuit living in 14 coastal communities. In June 2003 the Inuit birthright corporation (Makivik) signed a framework agreement with the Province of Quebec establishing a formal process for signing a final agreement dealing with the merging of the main institutions of Nunavik, created under the James Bay and Northern Quebec Agreement (JBNQA) of 1975, into a single entity. Thus, a unified public governmental structure will be composed of: the Nunavik government and a Nunavik Assembly. Negotiations of the Agreement in Principle have now been completed by the Makivik Corporation, Quebec and Federal governments. In addition to this development, since the Inuit claims to offshore areas were excluded from the negotiations of the JBNQA, the Nunavik Inuit Land Claims Agreement will resolve the outstanding aboriginal claims of Inuit in the Nunavik Marine region - the area of offshore Quebec and an area offshore of Labrador[27].

In January 2005, the 5,300 member Labrador Inuit Association, the Federal Government and the Government of the province of Newfoundland and Labrador signed a comprehensive land claims agreement. On December 1, 2005 Nunatsiavut ("Our beautiful land") and the Nunatsiavut government, (which will consist of an Inuit self-governing regional authority and five Inuit community governments) became a legal and constitutional reality. Compared to Nunavut and Nunavik, the Nunatsiavut Land Claims agreement provides for a form of explicit Inuit self-government, rather than public government with "an indigenous face"[28].

These developments in the Canadian North show that existing Land Claims, so-called modern treaties with indigenous groups, are undergoing the process of re-evaluation and further constitutional and political evolution. These processes are partially driven by aspirations among indigenous groups to take more responsibility for their lands and regain control over their lives by realization of their right to self-determination. Another major factor is the focus on economic self-sustainability and need for less dependency on Federal funding, as well as the necessity to become more flexible in addressing local and global challenges. Within the existing constitutional framework, the challenge is how to make different developing governance arrangements more efficient and sustainable in practice while contributing to sustenance and protection of indigenous cultures. The scope and variety of land claims negotiations and existing agreements in the Canadian North do not solve the core issue of "legal sustainability."

Conclusions

This article attempted to show that there is no simple solution on the issue of the definition what "Arctic law" is and whether we need a comprehensive legal regime for the Arctic as a distinct region. Further developments in the national legislation of the Arctic States and international law and the strengthening of jurisdiction of institutions of Arctic ordering may point to the necessity of negotiation of legal arrangements via an Arctic treaty system / Constitution etc. Considering current developments, there is a need to enhance cooperation and establish a better dialogue among legal scholars dealing with Arctic matters and with representatives of other social sciences and policy makers in addressing legal challenges in the North.

Notes

1. I am grateful to Mr. Pierre Rousseau for comments on this article.
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Minority Policy and Postmodern Ethnopolitical Mobilisation at the North Calotte

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An important aspect of democracy concerns the treatment of national minorities and their position in society. It raises questions about their citizenship, influence in society, right to be treaten in the same way, positive kind of favourism and legal security, all examples of basic democratic values. The rights of minorities, as part of basic democratic values, is quite new issues as to which there are no political agreement; nor about the pricipal issue of minority policy, neither about its implementation (Rawls 1971 & 1993; Dworkin 1977; Walzer 1983; Taylor 1985 & 1999; Kymlicka 1998).

The counterpart of minority policy from above is ethno policy from below. A new feature in ethnopolicy at the North Calotte is, what could be called, the coming of "new tribalism". It is represented by some new ethnopolitical movements were Finnish speakers from the northern part of Sweden, Norway and Finland participate. They demand equal rights to land and waters resources as the indigenous Sámi people. In this article will be discussed the way this kind of ethnopolitical organisation shall be interpreted in the context of post-colonial minority policy at the North Calotte for the legitimating of cultural, political and economical demands, especially in relation to the Sámi people. In this article a closer look will be done at the Swedish case in this matter.

The North Calotte was created in the 1950s to manifest the northernmost dimension of the Nordic community. It has been known as a peace region, but actually the North Calotte has not been as peaceful as stated. In the end of WW2 one of the biggest battles of the war took place at the North Calotte. After WW2, during the cold war, the Kola Peninsula became a strategic area of the nuclear marine of the Soviet Union.

With the dissolution of the Soviet Union, and the creation of the Barents Region, a new era has begun. The north west of Russia is more open to access for Western people, and vice versa. In the same time new kind of conflicts have increased between different ethnic groups at the North Calotte.[1] They are new kind of conflicts, which do not follow the borders of the nation state and do not follow class lines. These conflicts are the result of the global de-colonisation process with the new status of indigenous people in focus. At the North Calotte the Sámi people is in focus.

The conflicts, with Sámi involved, are especially sharp in counties were the reindeer herding industry are using areas for reindeer breeding. In those areas the conflicts between reindeer owners and land owners have increased during the last decades, but in a post-colonial context the conflict is even wider (Rautio 2007). It is a general conflict about the right to use land and nature resources. A legal cornerstone of the issue is the International Labour Union convention 169 (ILO 169) within the UN. The ILO 169 convention states that indigenous people have special rights to land and water resources in the area were they earn their living.[2]

The Change of Minority Policy in Sweden

From the middle of the 70s there was a radical change in the minority policy of Sweden, which followed in

the wake of corresponding international changes.This change did influence the ethnic minorities in different ways. The main change was the introduction of immigrant language teaching and the recognition of the Sámi people as an indigenous people. [3] A similar course did occur in Norway and Finland.

There are five ethnic minorities in Sweden, which after the year 2000 were regarded as national minorities within the legal framework of the European Council. It is the Sámi people, Sweden-Finns, Torne Valley people, Jews and Romany (Hyltenstam 1997; Elenius 2006). The Sámi, Finnish and Swedish speakers have been living side by side in the county of Norrbotten since at least the 14th century, and in the case of the Sámi and Finns considerably longer. The Finno-Ugric minorities had a similar socio-economic status and have been dealing with the same kind of and linguistic problems concerning contacts with authorities. The change in their minority status has caused a new kind of culture among authorities to develop. Another result is that the culture of the minorities have exploded in postmodern expressions were old and new elements is mixed.

Map1. Förvaltningsområdena för samiska, finska och meänkili efter minoritetsspråkslagarnas genomförande 2000.(Administrative district of Sámi, Finnish and Meänkieli after the realization of the legislation relating to minority languages in 2000.) (Elenius, Lars, Nationalstat och minoritetspolitik, Studentlitteratur 2006, p 317.)

Minority	Estimated pop.
Territorial minorities	
Sami people	17 000–20 000
Sweden-Finns	450 000
Torne Valley people	50 000
Non-territorial minorities	
Jews	15 000–20 000
Romanies	15 000–20 000

Table 1. The national minorities of Sweden
(Source: KU 2004/05:RFR3. Nationella minoriteter och minoritetsspråk. Stockholm. (Rapport från Riksdagen)

The immigrants from Finland, the Sweden-Finns, is the outstanding group in size, followed by the Torne Valley people, see Tabel 1. This is a matter which also reflect their different minority background in the nation state project of Sweden. In this article the Swedish case of implementation of the European minority language legislation will be investigated. This will be done by a closer look at the influence by the Swedish minority policy on the implementation of the minority legislation.

The five national minorities have different minority status. The Sámi people, Sweden-Finns and Torne Valley people all belongs to the Finno-Ugric language group. They have a common history from the time in the 13th century when the Swedish nation state was created as a centralised power. In the Swedish minority convention from the year 2000 they are categorised as "territorial minorities", and the Jews and Romany as "non-territorial minorities".

The territorial minorites have a better protection for their languages than the non-territorial minorites. Since the year 2000 two national laws concerning the use of Sámi, Finnish and Meänkieli[4] minority language are valid in Sweden. They are national laws, but are only valid in some selected municipalities in the northernmost county of Norrbotten, see Map 1. The Finno-Ugric part of the population has always been very large in the county. They still occupies three fourths of the County of Norrbotten, as appears from the map, even if the Swedes are in majority.

It is important to put the present minority policy into a post-colonial context. We are today living in a post-colonial world which is obviously globalised. The other side of the coin is that the power of the nation state has weakend and the national minorities have strengthened their positions within the nation state. The implementation of the European minority legislation is part of this context.

The Application of the Swedish Minority Language Legislation

The new kind of protection for minority language, which was launched at the 1st of April 2000, changed the ethnic map of Sweden in a profound way. First of all the Swedish Parliament ratified the Framework Convention for the Protection of National Minorities, and also the European Charter for Regional or Minority Languages. Secondly two new national laws took effect in order to support, maintain and make easier to use Sámi, Finnish and Meänkieli as minority languages in the society.

The two laws are national laws, but with explicit regional application in the county of Norrbotten. The law considering the use of Sámi is valid in the municipality of Arjeplog, Jokkmokk, Gällivare and Kiruna. The law considering the use of Finnish and Meänkieli is valid in the municipality of Pajala, Övertorneå, Haparanda, Gällivare and Kiruna. The laws gives the right to every invidual, in those local municipalities, to use Sámi, Finnish and Meänkieli orally in the contact with courts and administrative authorities, and also the right to have written resolutions interpreted to their mother tongue. The minorities can also use their minority language in contact with any regional and national court or administrative authority, if the routine has a connection to the administrative district were the laws are valid. The matter in question must concern the exercise of the authority, not all aspects of activity.The laws also admit the minorities to achieve preschool activities and old-age care on the mentioned lanuages in the actual areas.

The 1990s was a breakthrough for the national minorities in Sweden also in cultural matters. A strong cultural development has ocurred among the minorities. This development is especially visible among the Sámi and Torne Valley people within cultural activities like theatre, literature, music, film, media and art.

The carrying through of the new legislations have been evaluated in three different investigations. The first investigation was done by the county administrative board of Norrbotten in the year 2000, the same year as the legislation was launched. A great amount of authorities did answer questions about how the minority languages had been used before the legisalation, compared with after its launching. The outcome of the investigation showed that the minority languages were used quite often in the lower Torne Valley, but lesser in the upper mining district and the Sámi area (Finska, meänkieli etc 2000). The point of view of the language users' did no appear in the invistigation, only the authorities view.

Therefore the county administrative board in 2002 ordered a new investigation from Luleå University of Technology. The aim was to examine how the minority language users, themselves, had experienced the realisation of the two laws. The investigation was done in the form of interviews and inquiries. It showed that a high share of the interviewed used their minority language in the home environment and in different official contexts. In connection with authoritites, however, only a full third used their minority language (Elenius & Ekenberg 2002).

The third investigation was done by Luleå University of Technology in 2004, this time at the request of the Swedish Parliament's standing committee on the constitution. The aim was to do a comprehensive investigation about the realisation of the language legislation in the county of Norrbotten, from a citizen and authority perspective. Out of the three criterions identity, effectiveness and participation the encounter between citizens and authorities was analysed.[5]

Obstacles for the realisation

In the 2004 investigation a both general survey and a special survey was done to find out how the authorities had implemented the legislation. Supplementary interviews were done with the users of minority languages. Out of the investigations some conclusions could be done about the authorities' attitudes to the minority languages and the use of the new legislation, and also how the minority language speakers imagined the use of the legislation.

It appeared that among the 103 inteviewed Sámi, Sweden-Finns and Torne Valley people 87 percent used their mother tongue at home and 85 percent used it in the community. In the communication with authorities only 30 percent used their mother tongue. The most mentioned obstacle for the realisation of the legislation was different kind of linguistic obstacles, especially among the Sámi and Torne Valley people. About one fifth within all three language groups mentioned psycological reasons as obstacles for the realisation of the legislation.

An important explanation to the low degree of use of the statutory rights in the legislation is the fact that the Swedish language for so long time has dominated in the public sphere. It has created a split language identity among the Sámi and Torne Valley people. On one hand there has been a private minority language identity, on the other hand a civic identity in Swedish. The split identity, in it's turn, has speeded up the regression of the use of minority languages, since there has been no civic incitaments for developing one's minority language. The splitted identity seems to be associated with a likewise splitted authority policy.

Many Sámi people witnessed about the frustration they felt when realising that the legislation could not be used in reality, because they knew there were only few persons in service who could speak Sámi. They also felt that the Sámi langauge was subordinated in an authority context, and also that many Sámi people could not in a satisfying way speak their mother tongue. The situation in this matter was quite better for Finnish and Meänkieli.

Minority language competense

It is of great importance, for the realisation of minority language legislations, that the authorities's staff have a mastery of the minority languages in question. In the administration area of the minority language legislation in Norrbotten, the language competence, however, differ substantially between the three minority languages.

In the investigation 15 percent of the regional/national authorities mentioned that they had a Sámi speaking personell. The similar share for Finnish was 73 percent and for Meänkieli 53 percent. Among local authorities 25-50 percent of the authorites mentioned that they had a personell who spoke Sámi. For Finnish and Meänkieli

60-100 percent of the personell mention that they could speak the minority language.

Both local and regional/national authorities seems to have encouraged the employees' to improve their minority language through courses etc. In this regard the pattern of the local and regional/national authorities does not differ. Between 15 and 18 percent of the authorities mentioned that there was a possibility for language improvements within the service.

The judgment of the language competence among the employees seems to have varied between different administrations and municipalities. Generally speaking the competence was judged as lower for Sámi and higher for Finnish and Meänkieli. In Haparanda, Övertorneå and Pajala, located in the Torne Valley, quite a big share of the employees seems to master Finnish and Meänkieli. The competence is strengthened by the fact that the two languages are very near related.

In this matter it seems like the minority language legislation has not influenced the use of language in any higher degree. The legislation seems rather to have confirmed a previous language pattern within preschool activities and old-age care. In the mentioned three municipalities the administration likes to talk about the activities on minority languages as integrated in the ordinary acitivites. The staff told that Finnish and Meänkieli was used contextually after individual needs.

The Sámi language as the most marginalised

The authorities' relatively positive valuation of the own competence is partly contradicted by the result from the individual survay among the emploees in the municipality of Jokkmokk and Haparanda. Jokkmokk is situated in the Sámi mountain area about 200 km from the coast. It's area is the second biggest of the municipalities in Sweden, but half of the area is a bare mountain area. In 2003 there were 5 633 inhabitants, among them many Sámi people, in Jokkmokk. In the municipality the legislation for Sámi language is in use.

Haparanda is situated at the border between Sweden and Finland. The town was established in 1842 as a result of the treaty in 1809, when Sweden lost the former Swedish town Torneå to Russia. As a compensation a new town, Haparanda, was established at the Swedish side. During the 1990s, and onwards, big efforts have been done to strengthen the co-operation between Torneå and Haparanda, and also to turn them into one single town crossing the nation border. Haparanda has a mixed population of Swedes, Finns, Sweden-Finns and Torne Valley people. In 2003 there were 10 346 inhabitants. In the municipality the legislation for Finnish and Meänkieli languages is in use.

In the investigation of 2004 the implementation of the minority legislation, in the administration of theses two municipalities, was compared. From the answers by 126 randomly selected employees it appeard that only about 6 percent of the employees in Jokkmokk spoke and understood the Sámi language quite good. In Haparanda the corresponding share was 60 percent for Finnish and 40 percent for Meänkieli. The lower language competence in Sámi among the personell in Jokkmokk leads to the conclusion that Sámi speakers to a lower degree tries to use their mother tounge in the contact with the aouthorities.

Both regarding service degree and efficiency in communication the Finnish language is highest in rank, compared to the other minority languages, followed by Meänkieli. The Sámi language is marginalised in all realms within the local administration. When adressed in Sámi language only about 20 percent of the asked civil servants in the municipality of Jokkmokk could communicate in Sámi. For the Finnish part the corresponding share was more than 70 percent in Haparanda, and for Meänkieli nearly 50 percent.

The comparsion between the two municipalities shows that Finnish and Meänkieli has a very strong position in the municipality of Haparanda. In Jokkmokk the Sámi language has a corresponding weak position. Low language competence among the personell, and a frustration among the Sámi speakers to use their mother tounge, leads to a vicious circle which bring about the Sámi language in Jokkmokk to be invisible. In that way the lack of competence in Sámi is transformed to an imagined non-need to use the language among the employees. In Haparanda the situation is different. The nearness to Finland, the similarity between Finnish and Meänkieli and the big share of Sweden-Finns and Torne Valley people in the municipality makes the two minority languages support each other.

Child- and elderly care offered in minority languages

All of the municipalities, affected by the the minority legislation, state that they have managed to offer child care activities in minority languages. In the case of Hapararanda the demand of child care in Finnish is solved by buying the service from Torneå in Finland. In many cases there have been day care activities at the minority language already before the coming into existence of the minority legislation.

In the area of mining production in Gällivare and Kiruna there was already before the legislation a child care activity in the Sámi language. In this area the biggest achievments seems to have been done for the Finnish speaking children. Considering Meänkieli there is a certain integrated acitivity on the minority languages in preschool acitivites, especially in the northernmost village Karesuando. But the demands for service in Meänkieli in Gällivare and Kiruna seems to have been low, and also the commitment of the municipalities to develop activities in Meänkieli. This is illustrated by the fact that neiher Gällivare, nor Kiruna, thinks there has been any extra cost because of the minority language legislation.

In all of the municpalities the demands within elderly care have been met by minority speaking personell. In the Sámi administration area there is a certain elderly care which is only aimed at the Sámi language. This is the matter for the residents at Kaitumgården in Jokkmokk.[6] Within the administration area for Finnish and Meänkieli integrated solutions is applied, which means that the personell adress single individuals on their minority language. One of the problems has been that, when lacking rooms, elderly people with different lanugages, have been forced to live together in the same room (Elenius 2004).

Influences by Swedish Minority Policy

The implementation of the minority legislation in Sweden after 2000 must be regarded in the context of the minority policy of the state. The use of minority languages in different administrations are dependent on the status of the languages in different periods. A deliberate language policy, regarding the Sámi and Torne Valley people, was carried out through out the 19th and 20th century. There was, however, no deliberate policy towards the Sweden-Finns before the 1950s, and they were even not regarded as a specific minority before that. Both the Torne Valley people and the Sweden-Finns were in the 19th century regarded as Finns, a uniting ethnonym for Finnish speakers in Sweden.

The Sweden-Finns who lived in the Torne Valley were subjected to the same kind of language policy as the Torne Valley people. The language policy, before the launching of a Home language legislation in the 1960s, can be divided into four periods. From 1845 to 1875 there was a period when Finnish was the instruction language in primary school. From 1876 to 1916 an assimilation policy was introduced in primary school and in other institutions in the society. Gradually Swedish became the only instruction language in school. The assimilation policy was part of the nation state buildning process in an era of strong nationalism, which also affected the policy in different administrations. The varieties of Finnish, spoken in the county of Norrbotten, were stigmatised and regarded as lower forms of languages for communication means (Elenius 2001). From 1917 there was a gradually change over in the minority policy, but still up to the 1960s some teachers still practised an assimilation policy in school (Elenius & Ekenberg 2002).

The Sámi minority policy followed a different cource. From the 16th century to 1845 a missionary activism was carried out on the Sámi language. Special, so called, Lap schools were launched in the 18th century for this purpose, and a special department for Sámi ecclesiastical affairs was established in 1840. Between 1846 and 1912 a pragmatic language policy was carried out. The purpose was to integrate Sami reindeer herders with farmers. From 1913 this "civic policy" changed to a combination of assimilation and segregation. The reindeer hearding Sámi were segregated, while all Sámi groups were exposed to an assimilist language policy in school. The assimilist policy went on until the end of the 1950s. In that time a reorientation did occur and Sámi was recognised as a language to use in education (Uppman 1978; Henrysson & Flodin 1992).

From 1969 to 1999 there was a period of Home language education in the mother tongue for the minorities. From this time the language policy towards the Sámi,

Sweden-Finns and Torne Valley people was exactly the same.This change was connected with the big world-wide immigration from all the world during that period (Elenius 2006). It was followed by the new minority legislation in 2000.

The Post Colonial Discourse

When examining the relations between ethnic groups in the Nordic countries one must take into consideration the global changes in the relation between colonies and colonial powers. A redefinition of the global legal system has taken place, which has made former colonised countries gain their independence. It has led to a de-construction of social hierarchies, a construction of new images of the nation, and a rewriting of the history of different indigenous groups; in short, to create

a new conception of the world (Said 1997; Castells 1997; Childs & Williams 1997; Harrison 2003; Loomba 2006).

When examining the North Calotte in a post-colonial perspective it is obvious that the post-colonial approach is not a geographical perspective which separates the industrialised Western word from the rest of the former colonised world. The notion of "colonialism" denotes, in a post-colonial sense, how power structures have influenced the relations between dominating and sub-ordinated groups in a worldwide economic, political, ideological and cultural coherent system. The de-colonisation process is, thus, the deconstruction of this system and establishing of a new international order.

The Western national minorities were during a long period incorporated in different nation states whose changing borders also changed the belonging to certain states. The incorporation of minorities in nation states is not a linear affair. It varies very much depending on the historical context. Some minorities very fully integrated according to citizenship, others did not achieve such a full citizenship. Most of the minorities were culturally subordinated to the ethnic majority of the state. In this sense some Western minorities can be regarded as internally colonised.

The peripheral territories of the Westerns states, which in many cases were inhabited by ethnic minorities, were colonised by the majority of the population in the state. The minorities have more or less been integrated and assimilated into the political, cultural and economic framework of the majority population. In the discourse of internal colonialism one could call it a cognitive power system of dominating and sub-ordinate groups. In such a system the cultural norms of the dominant part of the population have been used for the creation of national identification.

Theories about internal colonialism has been used by Michael Hechter to explain how a cultural division of labour has occurred in the nation-state, i.e. a system of stratification within the structure of professions, were objective cultural differences get an advantage before class differences. Hechter, and others with him, has further tried to qualify the theory by asserting that cultural division of labour leads to an ethnic mobilisation and revitalisation from below. The theory has been used to explain the ethnic revitalisation in the Celtic territories, in the meaning of "ethnic class antagonism" (Hechter 1999). The model has, however, been criticised for territorial reductionism. Hechter has later modified the model about cultural division of labour to a more "segmented" type, but even the latter model has been met by criticism (Smith 1981, p 32 ff.).

The discourse of internal colonialism can also be applied on the national minorities in the Scandinavian countries. Regarding the Sámi people it has been done in many contexts, all the way from religion and school policy to commercial and tax policy. In this connection it is interesting to notice, that in Sweden both the Sámi people and the Finnish speaking Torne Valley minority have raised protests against to be regarded as colonised groups. They have dissociated themselves out of different standpoints, but yet with a clear ethnopolitical indication that they regard themselves as citizens in democratic ruled countries.

Another feature of the post-colonial era is an increased global migration in mass scale, which has increased the variety of cultures and ethnic groups within the nation state. This mass migration started already in the wake of WW2. Sweden, with its favourable position after the war, had an intact infrastructure and an undestroyed industry. There were many needs in the bombed out Europe, and Sweden had a lack of workers for the big demands. Therefore the government encouraged workers from other countries to immigrate to Sweden.

In the other Fennoscandinavian countries the situation was different. Both Finland and Norway had to rebuild the country after the war, especially at the North Calotte were the German troupes had burnt both the Finnish side of the Torne Valley and big parts of Northern Norway. Finland had no need for immigrant workers. On the contrary a mass migration of Finns to Sweden started. From the end of WW2 many hundred thousand of Finns moved over to Sweden. This was eased through the creation of a Nordic political common with the aim to make it easier for citizens in the Nordic countries to move between the countries. In 1954, for example, a common Nordic labour marked was created (Sundelin & Wiklund 2000).

In the 20th century the power of the nation state has declined in favour of new transnational global structures. The North Calotte was an early regional experiment in the northernmost part of Europe, but during the initial stage of the European Common the nation states still had a strong independent role in politics. Within the community of the Nordic countries the Sámi people developed a trans-national co-operation, which started parallel to the trans-national region building of the Nordic countries. No such trans-national co-operation did occur among, or between, the Finnish speaking minorities. They were in the first half of the 20th century, both in Sweden, Norway and Russia, regarded as a menace to the nation state, a kind of inner enemy. This "inner" image did follow both the Torne Valley people in Sweden and the Kven people in Norway up to the beginning of the 1960s.

The image of an inner enemy was also, up to the Second World War, associated with the Finnish immigrants from Finland, both in Sweden and Norway. In Norway this image was prolonged up to the 1970s, but not in the same suspicious way as earlier. In Sweden the image of the Finns as a menace vanished from the middle of the 1930s when the two states negotiated about military co-operation. After the war the Finns more and more were regarded as important immigrant workers in the factories. They were part of the new global immigration wave, which also moved them from a pure Nordic context to a new global context.

In this new context they were also transformed from the ethnonym Finn, in its old national context, to Sweden-Finn, in its new global context. The same happened to the Sámi people, as mentioned, but much earlier. In their case they were transformed from the pejorative ethnonym Lap, in a Swedish context, to the self denominator Sámi. The Sámi people were regarded as an indigenous people, and the elite activists of the Nordic Sámi movement played an important role in the establishment of the World Council of Indigenous People (WCIP) (Minde 2005, p 18; Lantto 2003). In this way they came to be a direct part of the global de-colonisation movement.

No such transformation happened among the Finnish speaking minorities in the Swedish Torne Valley in northern Sweden, or in northern Norway. The Torne Valley people and the Kven people were still in the 1970s regarded as national minorities in single nation states. They were neither connected to the new global immigration movement, nor connected to the global indigenous movement. Even if the Kven people were an immigrant group, this did not count, because they had immigrated to northern Norway mostly in the 18th and 19th century. (Niemi 1995).

The Finnish speaking minorities were also latecomers as ethnopolitical organisers. The national organisation for the Torne Valley people was, for example, not created before 1981, but a new element was added to the organisation. They used their own Finnish language to depict themselves as "Tornionlaaksolaiset", the Torne Valley people. They also distinguished their variety of Finnish, "Meänkieli", as a language of itself.[7]

The consequences of the de-colonisation are incalculable, but one obvious effect is the consequences for the national minorities in the European states. It is connected to two, between themselves, related processes. One is the deconstruction of the ethnic content of the nation-state, which has led to changed power relations between different ethnic groups. The other is the post-modern deconstruction of the cultural content of the state, which has opened up for recognition of the nation-state as a multicultural unit. This has entailed cultures to be regarded as mixed cultures instead of monolitical units. In that way different kind of hybrid identities have got normative status. In the same time has the large narratives of the nation-state been challenged by the accounts of ethnic groups and national minorities (Bhabha 1990; Young 2001; Harrison 2003, p 99 ff.).

This has opened up for new kind of identifications and constructed identities for political purposes. An important part of this process is the use of history as a collective memory for the purpose of ideological and moral aims, were the present needs, to a large extent, is guided by the creation and forming of a history consciousness out of the goals of distinctive groups (Hobsbawm 1992; Karlsson 1999; Hall 2000). In this regard the ethnic mobilisation at the North Calotte shows how influences from globalisation have had an effect on ethnic relations and collective memory production from below also in stable nation-states, as the Nordic ones.

The Minority Policy of Sweden and Norway

In a Nordic context the Finns in nowadays Finland was already in the medieval period directed both to the East and West. It is particular so for the Karelian group, divided in its loyalty between the Grand Duchy of Novgorod and the Swedish kingdom. This led to the division of the Karelian culture in a Western and Eastern branch. The Western part became protestant Christian and the Eastern part became orthodox Christian.

In Sweden the Finnish tribes did already in the 13th century, during the formation of the nation state, represent a big minority group within the kingdom. It is not true, what Swedish nationalistic historiography wants to claim, that Finland was solely conquered through crusades and incorporated in a fulfilled Swedish kingdom. There was no fulfilled Swedish kingdom in the beginning of the 13th century.

The Finnish tribes were in a political position between Novgorod and Sweden, but also religiously between Constantinople and Rome. Nothing seems to prove that the Finnish tribes at this time had the strength to form a separate state. The desire to be incorporated in the Swedish kingdom was caused both by force and necessity. In the northern part of Sweden, along the Gulf of Bothnia, there was a settlement with elements of Finno-Ugric culture before the Swedish state colonised the area in the 14th century (Wallerström 1995).

The Swedes used an integration policy to incorporate the Finns, both politically and religiously, in the kingdom. Already in the middle of the 14th century the Finns had the same right to elect the king as other regions in the common kingdom. They obtained the same kind of representation in the Diet of the four Estates. As a consequence of the Reformation the Bible was translated almost in the same time to Finnish as to Swedish. The same judicial system was in function in Finland as in Sweden and the same system of enrolment in the army.

Also in education the Finns had the same rights and obligations in the Swedish kingdom. In 1686 an education system on family level was launched in the Swedish kingdom, based on the Church law from that year. This law prescribed every master of the household to educate the servants and children in reading. The vernacular language was instruction language, i.e. the language the head of the household talked. This is the background to the high level of literacy in Sweden and Finland before the primary school reforms. In cultural matters the Finns were subordinated to the Swedes, because the central political language was Swedish and the Swedes occupied most of the administrative appointments in Finland as well as in Sweden (Elenius 1999). During the long period from the 13th century until 1809 Finland was a buffer zone in the rivalry between the Swedish and Russian nation state. After that year the political centre turned from Stockholm to St. Petersburg. That was also the birth of a separate Finnish national movement.

In the case of Norway there was no Finnish- or Kven-question during the middle Ages. You can hardly talk about a Kven settlement in Northern Norway before the 18th century, and along the coast of the Arctic Ocean there was anyhow a very sparse and outspread population (Björklund 1985; Niemi 1995). From 1814 to 1905 Sweden and Norway formed a common union. During that time the foreign policy of the two countries was the same, but the inner national development had an independent national course.

This period saw a cultural polarisation between a Scandinavian culture on one hand, and a Finno-Ugric culture on the other hand. It took the shape of a both inner and outer frontier. The outer frontier was the border to Finland, which during that period was a Russian grand duchy. The Finns in Finland was regarded as the eastern Other, associated with the main enemy Russia. This did also spill over on the Finnish speaking Torne Valley people, at the border of Sweden-Finland, and Kven people, at the border of Norway-Finland. The two minorities were regarded as an inner enemy.

The polarisation did not only include the Finnish speaking minorities, but also the Sámi people on the North Calotte. Before the middle of the 19th century there were, both in Norway and Sweden, an allowing policy towards Finno-Ugric minorities. When this policy turned over to an assimilation policy in Norway in the middle of the century, also the Sámi people were involved. Sweden turned over to an assimilation policy towards the Torne Valley people in the middle of the 1870s, but not towards the Sámi people. The policy towards the Sámi people was in the beginning of the 20th century differentiated into two directions. A segregation policy was launched towards the reindeer herding Sámi people, both in cultural and trade matters. An assimilation policy was launched in language matters (Elenius 2006).

There are many factors which can explain the similarities in the Swedish and Norwegian minority policy during the end of the 19th century and the beginning of the 20th century. An obvious similarity is that the two countries were in union with each other. This implied that they had separate national parliaments for the inner policy, but a common security- and foreign policy and a common head of the state.

Through this arrangement Sweden and Norway came to share a similar conception of an international menace during the union time, even if this could be interpreted in somewhat different ways in the two countries. In the conception of an international menace the Russian great power played an all-pervading role. As both the Finnish speakers and the Sámi people was a border population near the border to the Russian Empire, they came to play an important role in the discussion of security policy. They were regarded as a national threat at the border. The fact that language, culture and history were so closely connected in Sweden and Norway did also to some extent work as a unifying factor. In the Social Darwinist ideas of the time the fight between people, race and language played an important role. A prevalent European trend was the effort to unify language families in a common movement. Pan Slavism, Scandinavism and the Fennoman movement in Finland were expressions of the striving for cultural and linguistic unity.

In the cultural polarization between different kind of people in the end of the 19th century, Norwegians and Swedes had an idea about a linguistic and cultural fellowship to be defended towards the Finno-Ugric family i.e. the Sámi people and the Finns. To the pure cultural striving must be added the political ambition to unify people talking the same language, or belonging to the same language group, in a greater political unity (Elenius 2002).

The assimilation policy released little by little during the 1960s and 1970s, under the influence of the immigration policy. In this way the Finnish immigrants from Finland, now called Sweden-Finns, paved the way for a new way of recognising national minorities with a historical connection to the Swedish nation state. During the two last decades of the 20th century a strong revitalisation among the Torne Valley people and the Sámi people took place. As mentioned above, the first national organisation for the Torne Valley people was created in 1981. In Norway a similar organisation for the Kven people was launched in 1987. Some years later the Sámi people was officially recognised as an indigenous people.

The Notion of Neo-Tribes

Both the creation of ethnic organisations among the Finnish speaking minorities and the recognition of the Sámi people as an indigenous people are caused by the globalisation process in its post-colonial shape. In this development the state is not longer in the centre, rather the state are marginalised within new kind of global and international power structures. In the same time life has became more fragmented among ordinary people.

The development of an urban, post-modern society of masses has come to a point where we see a presence of deliberately formed micro-groups in every day life. They are, in sociological terms, called new-tribes. New-tribes are not rational groups in a normative modern way. They are driven by the aim to socialise in local and sub-cultural contexts. They are motivated by empathetic, more than rational arguments. They are called neo-tribes because they tend to be counterparts to the organisational, national projects of the Enlightenment era, based on individuation and separation (Maffesoli 1996; Tierny 2002).

An important means in this ethnopolitical mobilisation has been the use of Internet as a means of a fast and effective communication outside the established media

channels. With the Internet a both globally effective and decentralised communication system has been created, which in a dramatic way has contributed to undermine centralised communication structures. It has also led to a democratisation of the media structure, which in the same time has created a forum also for undemocratic forces (Burkhalter 1999; Svenningsson 2003). Parallel to this development, the influence of the nation-state has declined in favour of transnational macro regions, such as EU and the Barents region.

Different kind of small political groups have, within this communication revolution, and in the new decentralised political room, mobilised around specific demands. These new kind of pressure groups, or "neo tribes", are very local in their context, taking their arguments from every day life, but using Internet as a tool of mobilisation cross the nation boundaries. They are creating new kind of political and mental spaces and challenge the official minority policy, which is actually, from the beginning, based on the ground of a paternalistic view of the Sámi people and other native minorities.

The common denominator of the pan-Kven movement

The creation of new kind of ethnic organisations at the North Calotte, claiming that they are indigenous people, must be regarded in the discourse of globalisation, post-colonialism and neo-tribes. The years in the late 1980s and beginning of the 1990s, was a turning point in the relation between Finno-Ugric people of the North Calotte. Until that point there had been no strong tensions between the Finnish speaking minorities and the Sámi people, but with the new ethnic power balance within the nation state, also new conflicts grew.

Only some month after the resolution of a Sámi Parliament in Sweden, in 1993, a new ethnopolitical movement saw the light of the day. They were Finnish speakers in northern Sweden, Norway and Finland, and they called themselves Kven people, claming a long historical heritage, before the establishment of the nation state. They used old ambiguous historical sources, claiming to be indigenous people with the same rights as the Sámi people.

They new thing is that these persons belong to the traditional national minorities, defined by the state as Kven people and Torne Valley people, but in the new post-colonial context they have defined themselves as ancient "Kven people". An obvious goal has been to be regarded as an indigenous people, or at least to block the recognition of the Sámi people as the only indigenous people. The ground for the conflict is the legislation considering the Sámi people as an indigenous people, especially the UN-convention ILO 169, which regulates their right to self determination, as an indigenous people, over the natural resources within their area of residence (SOU 1999:25).

One striking feature of the pan-Kven movement is that the Finnish speakers involved are organised cross the nation boundaries of Sweden, Finland and Norway. Another feature is that the mobilisation is done through home pages at the Internet, or through web-based discussion forums. It means that the pattern of organisation brakes with the traditional pattern of political minority organisations.

The Response from Political Parties in Sweden

Also political parties in Sweden have been committed both on local and national level. Kirunapartiet is a local party in Kiruna in northern Sweden. It is an opportunistic political party, known for its commitment in medical treatment, but also for its resistance towards a Swedish ratification of ILO 169 (http://www.kiruna.se/~kip/). On a national level the Swedish Christian Democrats has engaged in the issue as a political party. In 2003 the party proposed a motion, in which they demanded a consequence analyse of a ratification of ILO 169. They argued that allowances must be taken to trade and industry when considering ratification, and also that the changed relation between the Sámi people and "other indigenous people" must be analysed before ratification (Motion 2003/04:K287).

Two years later the Swedish Christian Democrats proposed a new motion on the subject. The same arguments were used as before, but now with the addition that it was unclear if there are other people, for example the Kven people, who is an indigenous people (Motion 2005/06:K308). Both motions were rejected by the Parliament. Also within the Sámi parliament there are big tensions between non-reindeer and reindeer Sámi, a

tension that has been hidden under the surface before. All in all, the development, carried out through globalisation processes, has totally changed the inter-ethnic relations in the field of minority policy and the minorities' policies at the North Calotte. These new kind of neo-tribes have changed the conditions of the state to carry out a minority policy.

Conclusions

The Euroepan minority legislation must be regarded in a post-colonial context. The notion "colonisalism" is here regarded as power structures which has influenced the relations between dominating and subordinated groups in a worldwide economic, political, idelogical and culturally coherent system. The de-colonisation has therefore influenced the global legal order for the relations between colonies and colonial powers.

The old colonial powers did in a tangible way loose their grip on the colonies. Spain and Portugal was among the last European colonial powers which were forced to leave their colonies in Africa. If also the former Soviet Union is considered as an old colonial power, the dissolution of the Soviet Union was the dissolution of the last European colonial power. This caused a transformation from political tensions and antagonisms from the cold war, to new kind of religious and cultural antagonisms in a more globalised world (Hettne 2005; Loomba 2006).

As told before, the minorities in Sweden had quite strong political rights, especially the Finnish speaking minorities. They were totally integrated in the Swedish legal system. The Sámi people did not have such a strong political position, due both to their socio-economic subordinated position and to the segregating policy towards them. Culturally the reindeer hearding Sámi people did receive differnet kind of support throughout the 20th century, but in a patriarchal way (Lantto 2000 & 2003; Elenius 2006). This cultural attention to the Sámi way of living had a long historic tradition.

Anyhow, speaking in cultural and identity terms, either the Finnish speaking minorities, nor the Sámi people, were encouraged to strengthen their vernacular languages, especially not in contact with authorities. In privat life the mother tongue had a strong cultural position up to at least the 1960s, but the formal political right to use the vernacular lagnuage in contact with authorities was weak. There was no minority language legislation that supported the minorities.

In a way you can say that during the assimilation period, from the 1870s to the 1960s, the minorities maintained a culturally strong minority identity in privat life, but in the same time the minority languages were more and more marginalised in public life. After the 1960s the minorities has gradually received more political power through the political system, but the cultural minority identity has in the same time weakened. During the late part of the 19th century efforts were made to give some support to the vernacular language, but it was not before the year 2 000 that the minority languages received the status of leagal minority languages.

With the new minority legislation the status of culture and language of the minorities are strengthened in public life, but the private minority identity is in a corresponding way weakend. There is a paradoxal shift from a strong private identity of the minorities (with week cultural status in society) to a weak private identity (with strong cultural status in society).

In the same time new kind of transnational ethnopolitical identities have been created at the North Calotte since the 1990s. In the discourse of globalisation, post-colonialism and neo-tribes Finnish speaking minorities are claiming that they are an indigenous people, using the ethnonym Kven on themself. They can be regarded as "neo tribes", a kind of post colonial pressure groups, organising themselves over the Internet. This has totally changed the inter-ethnic relations in the field of minority policy and the minorities' policies at the North Calotte.

Notes

1. A research project, concerning ethno political creation of identities at the North Calotte 1960-2000, is carried out at the department of Social Sciences at Luleå University of Technology. It is financed by the Swedish Research Council and will continue 2006-2009. The article is partly built on my articles: "Kväner – en föränderlig identitet på Nordkalotten" in (red. Inga Lundström) Historisk rätt och historiens sprängkraft. Riksantikvarieämbetete: Stockholm and "Memory Politics and the Use of History: Finnish-speaking Minorities at the North Calotte", in Historical Writing and Politics and Practices of Remembrance (ed. Bo Stråth & Gosia Pakier) The European University Institute: Florence.

2. The convention 169 within the UN-organ International Labour Organization (ILO), about aboriginal and tribal people in self dependent countries, came into existense in 1991. The convention adjudge special rights to indigenous people, for example the right to keep ones own langugage and institutions, and the right to, during certain circumstances, solve internal conflicts in accordance with one owns customs. it was ratified by Norway in 1991 and Denmark in 1996 (SOU 1999:25).
3. The notion "Sámi language" refers, in this context, to all varities of the language; North Sámi, Luleå Sámi and South Sámi.
4. Meänkieli is the name of the varity of Finnish talked by the Torne Valley people at the Swedish side of the Torne river. This minority was created in 1809 when Sweden lost Finland to Russia. The new nation boundary was drawn along the Torne river, which left a Finnish speaking minority on the Swedish side, in the latter part of the 19th century called The Torne Valley People.
5.The below related facts comes from the investigation in 2004, cf. Elenius 2004.
6. This service was later withdrawn, but discussions has been going on during 2007 about how to establish the service again.
7. The meaning of "Meänkieli" is, in English, "Our language".

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Human Rights Challenges in the Arctic

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The headline of the Northern Research Forum (NRF) Conference in Oulu in October 2006 was The Borderless North. It is a statement that constitutes an ambitious goal, certainly desirable and worthwhile, but also optimistic, even romantic. And it is not yet a reality.

Yes, there are several instances of meaningful cooperation, and they are growing in number and scope. The NRF is one prominent initiative. An examination from a legal perspective, looking at both domestic legislation and international standards and their application, nevertheless serves to demonstrate that varying approaches and sharp differences in many instances continue to underline boundaries as barriers - rather than bridges - between them.

The legal challenges appear in many contexts, and many areas of law are affected. Again and again, real-life practices - when we look at assertions of sovereignty and of territorial integrity, boundary disputes on land and at sea, the treatment of indigenous peoples, the exploration and exploitation of natural resources, the responses to environmental problems, security considerations and military preparedness, transport, communications, and so on - highlight the presence of State borders and the importance attached to them by States.

In this article, with a focus on international human rights law, some recent developments are outlined, with reference to the rights of the people and of the peoples who live in the Arctic. The five issues and events that I'll be looking at are:

First, the evolution of the right to external self-determination and its consolidation as binding law in a decolonization context, as well as the ongoing elaboration of self-government or the internal dimension of self-determination.
Second,the adoption of ILO Convention No 169 concerning Indigenous and Tribal Peoples in Independent Countries.
Third, the UN draft declaration on the rights of indigenous peoples that is pending before the UN General Assembly,
Fourth, the draft Nordic Sami convention that is being circulated for comments from interested parties.
Fifth, Greenland where my argument would be that the Greenlanders are not only an indigenous people but a people or a nation, in a country of their own, entitled to external self-determination and decolonization if and when they so wish.
Sixth, a few concluding observations will follow.

The Right of External Self-Determination

Peoples are entitled to exercise the right of external self-determination. This right is set forth in a series of international instruments, such as the Charter of the United Nations, the two International Covenants on Human Rights, the Declaration on the Granting of Independence to Colonial Countries and Peoples in General Assembly resolution 1514 (XV), and the Declaration on Principles of International Law concerning Friendly Relations and Co-operation among States in accordance

with the Charter of the United Nations. The right of colonized peoples to external self-determination is confirmed in the consistent practice of States and international organizations, not least the Namibia, Western Sahara and East Timor cases decided by the International Court of Justice.

A people (or a nation) in the self-determination context means the population of a distinct territory, as evidenced by provisions in the UN Charter on non-self-governing territories (rather than non-self-governing peoples) and in the title of the Declaration on the Granting of Independence to Colonial Countries and Peoples (countries comes first). The territory is geographically separate and preferably overseas from the controlling power. This emphasis on a geographical rather than a popular entity is also firmly rooted in several international law texts and confirmed in State practice.

Through the exercise of the right of external self-determination, a people is able to determine its international juridical status. At least for decolonization purposes, under General Assembly resolution 1541 (XV) which adds selection criteria and procedural formulations to the 1960 Declaration on the Granting of Independence to Colonial Countries and Peoples, the available options are independence, free association and integration. The choice belongs to the people, and popular support for the outcome as expressed in a referendum or otherwise is essential.

Opposite to the external dimension of self-determination that can lead to independence, autonomy, self-government or internal self-determination are not supposed to bring about such a result. Instead self-government is very much about political participation within a State, without interruption of sovereignty and the territorial integrity of the State concerned. The term 'internal self-determination' is nowadays fashionable in academic literature and in the demands of some minority and indigenous groups, and the lines are not always easily drawn. The term (even with the addition of internal) indeed invites resistance by governments which fear subsequent trouble and even violent conflict relating to secession. Indeed, if we are talking about self-government for groups within State borders, it would be more logical and more productive to refer to self-government or autonomy. Furthermore, the term 'internal self-determination' is not firmly established in the international human rights instruments.

In the Lund Recommendations on the Effective Participation of National Minorities in Public Life, that were drafted under the auspices of the HCNM of the OSCE, the term self-determination is not employed at all. The choice of terminology was very much intentional. Its provisions on self-governance for groups provide for their own institutions and for the handing over of certain internal powers within the State.

The distinction between the external and internal aspects of self-determination is important inasmuch as self-determination comes up relating to all the subsequent issues brought up in this article, that is ILO Convention No. 169, the UN draft declaration on the rights of indigenous peoples, the draft Sami convention, and the status of Greenland.

ILO Convention No. 169

The Convention concerning Indigenous and Tribal Peoples in Independent Countries (ILO Convention No. 169, from 1989) now has 17 ratifications. It is still a low number, but a few more country ratifications are in the pipeline. In the Arctic region it is only Norway that has come forward with a ratification. Denmark has also done so with regard to Greenland but with a declaration saying that land rights should belong to the permanent population and not specifically the indigenous people. This declaration presumably extends land rights to ethnic-Danish residents, thus rendering the acceptance less meaningful.

Perhaps the most significant provisions in ILO Convention No. 169 are article 7 on the right of indigenous peoples to decide their own priorities for the process of development as it affects their way of life, article 14 on indigenous property rights to traditionally occupied land, and article 15 on partial property and participatory rights concerning natural resources. In case-law under article 27 of the International Covenant on Civil and Political Rights, the treaty monitoring body under UN auspices, that is the Human Rights Committee, has come to similar conclusions inasmuch as land is essential to maintaining the culture of an indigenous people.

Provisions in ILO Convention No. 169 concerning management of land and the exploitation of natural resources clearly foresee input on behalf of the indigenous peoples, as groups, which requires some sort of

representative and autonomous institutions. We are therefore talking about self-government or internal self-determination. It's not external self-determination because the Convention is about the rights of the groups within States; furthermore, in article 1, paragraph 3, it is spelled out that the "use of the term peoples in this Convention shall not be construed as having any implications as regards the rights which may attach to the term under international law".

Draft Declaration on the Rights of Indigenous Peoples

In June 2006 the new UN Human Rights Council, after some 20 years of drafting, adopted a draft declaration on the rights of indigenous peoples. It was not done by a consensus vote as is frequently the case with the adoption of international human rights instruments: the vote was 30 in favor, 2 against and 12 abstentions. As to countries in the Arctic region, Finland voted in favor of the draft declaration in the Council, but Canada and Russia cast the two negative votes. When the draft declaration came up for a final vote in the UN General Assembly in December 2006, it was decided not to take action on the text pending further consultations.

It is mainly provisions on the right of self-determination that have been the source of disagreement in the elaboration and voting on the draft declaration, and one has to admit that in that respect there are somewhat good reasons for the non-approving votes. In particular, when it comes to self-determination, the draft declaration is ambiguous since the text does not clearly distinguish between its external and internal dimensions.

The main thrust of the draft declaration is on internal self-determination, as is inherent in an instrument dealing with the enjoyment of rights within States. Draft article 4 says that "Indigenous peoples, in exercising their right of self-determination, have the right to autonomy or self-government in matters relating to their internal and local affairs, as well as ways and means for financing their autonomous functions". In several other articles, the draft declaration constructs or refers to autonomous functions of an internal character, for example in articles 14, 18-20, 23, 26, 31-34, and 36.

On the other side, draft article 3 reads: "Indigenous peoples have the right of self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development." This wording is derived from common article 1 of the two International Covenants on Human Rights and can be seen as having an external dimension. That same sentiment is reflected in the 16th and 17th paragraphs of the draft declaration's preamble, with a listing of the main sources of self-determination in general and with a reference to parameters of international law that are still under evolution.

If adopted and if accompanied by a serious monitoring mandate, the new declaration with a wide range of substantive provisions would on many fronts significantly strengthen the rights of indigenous peoples. This would be welcome, also as a tool for harmonizing national practices. Nevertheless, it is unfortunate if this human rights instrument were to create unrealistic expectations as to its self-determination aspects and even the potential for violent conflict.

The Draft Nordic Sami Convention

The draft Nordic Sami convention has been circulated for comments in the three countries involved, Finland, Norway and Sweden, and among the Sami. Many aspects of the draft text are progressive and highly praiseworthy, not least in terms of an increased role for the Sami and their own institutions and self-governance on political, economic and cultural matters, as well as for the idea of adopting a treaty with the indigenous peoples as partners.

Nevertheless, a few provisions in the draft convention may give rise to concern. Article 34 on land rights, providing for both individual and group rights, looks like falling below the standard set in article 14 of ILO Convention No. 169 that extends land rights to the groups only so as to prevent the splitting up of indigenous lands which in turn would harm their pursuit of identity and culture.

Under article 3 of the draft convention, the Sami would have the right of self-determination as a people in accordance with international law and the provisions of the convention, and to the degree allowed they could decide on their economic, social and cultural development and control their natural resources. While again the thrust of draft article 3 and subsequent articles of

the text is on internal self-determination, the references to international law as well as wording in the accompanying explanatory notes leave the door open to varying interpretations and therefore uncertainty.

In my opinion, albeit to a lesser degree, the draft convention may suffer from the same type of ambiguity as the UN draft declaration, blurring the lines between external and internal self-determination. One must keep in mind that this convention, if adopted, would likely serve as a model for other countries and indigenous peoples. In the drafting of human rights instruments every effort should be made, both as to internal consumption and external precedent, to employ crystal clear language and terminology so as to avoid misleading messages and unrealistic expectations.

The Status of Greenland

As to the people of Greenland, they meet all the criteria which have been laid down in the course of the decolonization process as conditions for the exercise of the right of external self-determination:

• they live in a distinct overseas territory with an ocean separating them from Denmark, meaning the so-called salt-water theory of decolonization is applicable. The Greenlandic situation is thus quite different from that of groups which live within metropolitan boundaries. Accordingly, in a 1998 case, the Supreme Court of Canada found that Quebec does not meet the threshold of colonial or other criteria pertinent to the right of external self-determination;

• they possess subjective and objective identity and culture, with distinct identity, history, language and other national characteristics that differ significantly from those of the administering power and often result in separate status or different treatment (like non-membership in the European Union, exclusion in some Danish treaty ratifications, a flag and postage stamps of their own, etc.);

• they have come under long-standing colonial control, as confirmed by Denmark with the inclusion of Greenland on the list of non-self-governing territories under the UN Charter from 1946 to 1954. The termination of this listing in 1954 was seriously flawed under international law standards of that time; the consultation was minimal and did not extend to the whole people, the Greenlanders were not given the required options like independence or free association and, unlike the population of Denmark, they were not able to vote in the referendum on the amendment to the Danish constitution which brought about their supposed integration; and

• In Danish reports to the United Nations during the period 1946-54, the information submitted was seriously flawed and misleading, including statements to the effect that there were no Eskimos left in Greenland because of the mixing with Danish blood and that the Greenlanders had accepted integration when approved in a municipal council which did not represent the whole island, did not have a mandate for deciding on constitutional issues, did not receive information about the full implications of the process, and was not given any other choices than integration.

A people in the pursuit of the right of external self-determination, should be entitled to leveling the playing field with the controlling State, with the aim of equal footing in negotiations. International law considerations have an impact, and this applies not least to legitimate decolonization claims where the solidarity of newly independent States and peoples will enter the picture. Accordingly, the mandate for ongoing negotiations between Denmark and Greenland, in a joint parliamentary Self-Governance Commission which is scheduled to complete its work in 2007, encompasses both international law and Danish constitutional law.

Relying on decolonization constitutes the strongest claim to external self-determination under international law. The decolonization argument, no matter how mild and modern the colonization setup may be, is therefore an avenue which in my view is open to the Greenlanders as a people. It will be interesting in the years ahead to follow the debate in Greenland and to see what decision the Greenlandic people eventually will take.

Conclusions

It's time for a few concluding observations. The human rights picture now drawn up presents a series of human rights challenges that are pending in the Arctic. Still the list is by no means an exhaustive one. A survey of the indigenous peoples in the Arctic region shows differences in State responses as to the scope of self-governance or

autonomous arrangements, with some of them generous and others more restrictive. Similar differences exist as to the active protection of identities and cultures and, in particular, the rights to lands and natural resources.

These challenges will be difficult to deal with. That is so not because the legal solutions are missing or because the international standards are unclear, but because of political opposition by States and population majorities when it comes to sharing power and natural wealth. One must hope and expect that the rich and democratic countries of the far North can do better. They should be willing and able to undertake significant human rights improvements that would lead to better living conditions for their indigenous peoples in dignity and without discrimination and to consistency of treatment, not least in relation to self-governance and land and resources rights, also when new arrangements would result in multi-layered governance and increased cross-border cooperation.

Notes

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ILO Convention No. 169 – A Solution for Land Disputes in the Nordic Countries?

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At the moment political and legal issues concerning indigenous peoples in modern nation states are receiving increasing attention on national and international levels. Like other indigenous peoples, Nordic indigenous groups are fighting for land and self-determination rights. Their aim is to regulate their affairs in their own way in order to survive as culturally different peoples, mostly within nation states. Fundamental questions arise concerning the limits of state sovereignty and the contents of highly and emotionally discussed indigenous right to self-determination.

This article introduces the ILO-Convention No. 169 which is an international legal instrument safeguarding the rights of indigenous peoples. It has been ratified by 17 countries, including two Nordic countries; Norway and Denmark. Finland and Sweden are aware of the potential impact of the law of the Convention and trying to remove the obstacles before the ratification. The article analyses the interpretation and implementation of the Convention, which has caused disagreement and conflict between the different stakeholders, and situation where legal concepts have been mixed in different ways and used for political purposes.

Recent Developments

It is obvious that the problems which indigenous peoples worldwide are facing today are similar to each other, but it is interesting to see how different approaches have been adopted in these matters.

The ILO-Convention itself has gained very little critics in the Nordic approaches and few have yet demonstrated the actual impact that these international norms can have on domestic politics. Complete opposite approaches from the world are interesting examples. It could be argued that indigenous peoples land rights are seen as an ongoing process of different political interests, new legislation, interpretation and new information brought to agenda. Therefore combining the methods of international politics and international law is a fruitful approach.

In the new era of globalization the Nordic countries represent welfare states with the strong image and will to protect all the good in life. The Northern geographical position of these countries influences the matters of concern; environmental issues, global warming, human rights etc. all issues that are affecting the lives and livelihoods of the people living in the North. However, one might argue, the new era has brought tremendous challenges for the traditional order of international system. Also the Nordic countries, especially Norway, Sweden and Finland have faced the situation where traditional state sovereignty and indigenous peoples' demands for greater self-determination have made them revalue their positions. It seems that the big question of rights to the Northern lands have also come to an new era. This has put important issues into the two cups of the scale; on the other, there are States' reputations as model countries in protecting human rights, but also States' economical interests in Northern lands. On the other cup, there is the fact that somebody other than the State

owns the Northern lands, which is challenging State sovereignty over its territory and resources.

As has become quite obvious during recent years, indigenous ownership rights usually have long historical roots. On the land in question, population is mixed, borders poorly defined and proving ownership rights is intensely problematic and a time-consuming process. Claims from the Sámi people with regard to land may collide with equality rights of other members of the States in question, where however, generous social, cultural and political rights are enjoyed by all citizens regardless of status in comparison to, for example Latin American countries. In the three Nordic countries the interpretation and implementation of the ILO Convention has caused disagreement and conflict between the different stakeholders. It seems that legal concepts have been mixed and used for political purposes. It is important to emphasise that the conflicts of interest that have arisen between the Sámi and for example those who are not registered into the Sámi Parliament's election registers, or reindeer herders and non-reindeer herders, are the result of a series of circumstances for which neither party can be blamed. Over the years – from the mid 18th century and late into the 20th century – the states have actively encouraged settlers and others to cultivate areas in which the Sámi had previously had exclusive use for reindeer breeding, hunting and fishing. This led to competition for land and subsequently conflicts.

This article introduces some of the recent developments in three Nordic countries in regard to land rights. It also evaluates in a critical manner the International Labour Organization's (ILO) Convention No. 169 concerning indigenous and tribal peoples, which has had a significant role in the political and legal discussions of these countries. While Norway has ratified the treaty, Sweden and Finland have not done so. As will be shown, however, all three countries are acutely aware of the potential impact of the law of the Convention and it even effects the policies and legislation concerning land use and Sámi rights.[1] The potential influence of ILO Convention No. 169 is especially interesting at the moment in Finland, where big mining companies are claiming a mineral deposit (uranium) in the areas of Historical Lapp territories and where State ownership has been challenged. Although States have quite universally rights to the minerals and natural resources of it's territory, they still have certain obligations especially towards people who have used the areas since time immemorial for their livelihoods and subsistence. It is here where ILO Convention No. 169 could be used as an important political and moral tool for the mining companies.

The Finnmark Act in Norway

The Sámi rights process in Norway dates from the controversy of the Alta river power plant of the 1070s. A Sámi Rights Commission has been operative since 1980 with the task of clarifying and creating a basis for consolidation of the legal position of the Sámi in Norway. The Commission's report of 1984 included an extensive assessment of relevant international law, and led to the establishment of Sámi Parliament, elected for the first time in 1989, and the inclusion in the Constitution of Article 110a on the rights of the Sámi in 1988.[2] The Committee submitted a new report in 1997 relating to rights to natural resources and land.[3] This report formed the basis for the government's Bill concerning land rights and management in Finnmark (the Finnmark Act).[4] Many different stakeholders criticized the bill. For example, the Sámi Parliament rejected it out right, claiming it violated Norwegian legal precedent and national and international law on the rights of indigenous peoples.[5] In the summer of 2003 the Norwegian Parliament commissioned Professors Hans Petter Graver and Geir Ulfstein of the University of Oslo to prepare a legal opinion on human rights and the proposed Finnmark Act. Their conclusion in the report was that the proposed Finnmark Act does not meet the human rights legislation and commitments, especially in regard to the International Covenant on Civil and Political Rights and ILO Convention No. 169.[6] The Act, however represents the latest progress in Norway in the field of Sámi land rights and will be partly introduced here in the light of the ILO Convention No. 169.

Norway was the first country to ratify the ILO Convention No. 169, and did so in 1990.[7] When ratifying the Convention, there was an examination to make sure that there was no contradiction with Norwegian law. At the same time, ILO was informed that matters of the Sámi land rights remained partly disputed and unsettled, and were under consideration by the Commission, with a view to possible changes in the legislation.[8] At the time of ratification, the Ministry of Justice did not question that there were areas in Norway that were "traditionally occupied" by the Sámi, and where their

rights of "ownership and possession" should be recognised. However, contrary to the demands of Article 14(2)[9] of the Convention, the Ministry did not identify the areas.[10] Moreover, it interpreted the phrase "ownership and possession" narrowly, and concluded that a "protected right to use" was also covered by the phrase. As a result of this, the view in Norway in 1990 was that current regulations on the rights to land and natural resources fulfilled the requirements of the Convention. Norway's understanding of the Convention has not been directly criticized by the ILO, but the ILO Committee of Experts has stated that: "*The Committee does not consider that the Convention requires title to be recognized in all cases in which indigenous and tribal peoples have rights to lands traditionally occupied by them, although the recognition of ownership rights by these peoples over the lands they occupy would always be consistent with the Convention.*[11]" This statement has on many occasions been interpreted in such a way, that Norway's understanding of the Convention is in compliance with the requirements. The dialogue between the Norwegian Government and the Committee of Experts after 1995 shows however a different approach, and will be demonstrated briefly below. One has to remember that Norway has still taken an important step forward in the land right issues in the Norwegian Storting adopting the new Finnmark Act in May 2005.

The Finnmark Act presents a common administrative arrangement for all land in Finnmark that was at the time registered as the property of Statskog SF, i.e. 95 per cent of the county's land area. According to the Ministry of Justice and Ministry of Local Government and Regional Development the purpose of the Finnmark Act is to facilitate the management of land and natural resources in the county of Finnmark in a balanced and economically sustainable manner. This shall be carried out for the benefit of the residents of the county, particularly as a basis for the Sámi culture, reindeer husbandry, use of uncultivated areas, commercial activity and social life. The Act establishes a legal entity, the Finnmark Estate (Finnmarkseiendommen, Finnmárkkuopmodat). Registered title to state land in Finnmark is transferred from Statskog to the new Finmark agency. The Finnmark Estate is governed by a board which consists of seven persons: three board members appointed by the Sámi Parliament and three by Finnmark County Council. The seventh member and his or her alternate shall be appointed by the King in Council. According to Ulfstein, this unequivocally turns the new agency into a landowning body, and not, in principle, an administrative agency.[12] However, the Committee of Experts commented on Norway's approach in 2004 in the following manner, when the Finnmark Act was just a proposal:

"17. *The proposal would transfer state ownership of 95 per cent of the land in the county to the Estate. It appears that this would include areas that Sámi claim as their land by right of long occupation, and to which the Government acknowledges in principle that the Sámi do have rights, though the extent of these lands and the content of the rights have not yet been identified as required in Article 14 of the Convention. It would give the Sámi a significant role in the management and use of larger area than that to which they now have rights, and the Government indicates that they would have more benefits from the management of the larger area under the present situation.* ***However, the proposal would replace the rights of ownership and possession recognized by the Convention with a right to a large share in administration of the region.***[13]"

It seems that that the new Finnmark Act and the proposed administrative arrangement does not fulfil the requirements of the ILO Conventions article 14 para.1. There are also other numerous unclear issues which include the fact that the Act does not define a boundary between the powers of ownership assigned to the Finnmark Estate and the rights held by the Sámi people on the basis of prescription or immemorial usage[14], the crucial point in relation to the ILO Convention article 14.1. According to the Ministry of Justice, the Finnmark Act provides that the Sámi people, through prolonged use of land and water, have acquired rights to land in Finnmark. Other residents of Finnmark may also have acquired such rights. This is problematic in relation to ILO Convention, because the local population in Finnmark, which of course includes the Sámi population, have the right to exploit certain resources.[15] However, they give no special rights to the Sámi as an indigenous people. According to the Ministry of Justice the Finnmark Act is ethnically neutral in the sense that individual legal status is not dependent on whether one is Sámi, Norwegian or Kven or belongs to another population group.[16] The Committee of Experts has also commented on issues in regard to compliance with the Convention: "*The Committee recognizes the very difficult issues raised by mixed Sámi and non-Sámi occupation of Finnmark County, and the uncertainty over the rights that Sámi and*

other Norwegians should enjoy there. It has been the subject of long and difficult negotiations until recently.[17]"

It seems that the problems in Norway in regard to land rights and ILO Convention No. 169 are very much the same as in many other countries. Even if Norway has ratified the Convention, the implementation of it has been difficult. Some fundamental questions still remain open and unclear. First of all, the subjects of this Convention have not been determined in Norway.

The Committee notes that there are no plans for further census including specific indigenous criteria. The Committee notes that the Government expresses an interest in achieving a high level of participation in the elections to the Sami Parliament and that the right to vote depends on registration on the electoral lists so that those who are entitled to vote in the elections to the Parliament can be identified. It also notes the programme of Sami policy adopted at the Nordic Sami Conference in 1980, which establishes the basis for identification of "Sami" persons, including self-identification as a fundamental criterion.[18]

Even though the Convention speaks about "peoples" in plural, the supervisory mechanisms of this Convention shows that it is important to know to which "individuals" this Convention applies. It is also a basic human right. This has been observed for example in the case of Bolivia in 1995:

"…*The Committee would be grateful if the Government would indicate the manner in which recognition is given to indigenous communities and individuals so that they can benefit from the legislation which applies to them*."[19]

The second important question is the identification of lands. In order to protect indigenous and tribal peoples' rights to the lands they traditionally occupy, it is necessary to know which these are. This is also an open question in Norway, but will be more closely handled in the case of Sweden below. As a conclusion one might say that Norway's approach has been criticized by several legal scholars and other stakeholders. The Finnmark Act has been seen, however as an important step forward in land rights issues in Norway. But, according to ILO this administrative arrangement still leaves open the question of ownership right to lands and water which the indigenous persons have used with basis in prescription and immemorial usage. If the fundamental questions could be solved, it would be a giant leap in this issue.

"Samernas Sedvanemarker" *-The report of the Border Commission for the reindeer herding area in Sweden*

In Sweden the ILO Convention has been under consideration in the National Assembly (the Riksdag) for more than ten years. In 1997, the Government decided to appoint a one-man Commission with the task of examining whether Sweden should ratify the ILO Convention No. 169 and the measures necessary for Sweden to be able to live up to its provisions. The Heurgren Report of 1999 – entitled "The Sámi – an indigenous people in Sweden"[20] – concluded that Sweden fulfilled the treaty requirements in most respects, but that the land right articles might be problematic. The report also pointed out that, despite the fact that the Convention uses the expression "rights of ownership and possession, this does not necessarily involve a formal title to the land. However, according to Heurgren, the Convention assumes that these land rights satisfy certain minimum requirements. This minimum level would correspond to a right of use and possession of the land with strong protection under the law.[21]

The report also states that the rights to land enjoyed by the Sámi today do not meet these minimum requirements, since the Sámi are forced to tolerate serious infringements of their reindeer husbandry rights. For Sweden to fulfil these minimum requirements, the Sámi must enjoy the same protection against such infringements as applies to other land use rights. The report concluded that Sweden may ratify the ILO Convention No. 169, but that this should not occur before a number of measures relating to Sámi land rights were implemented. The first important task was the establishment of a certain boundary delimitation committee to identify the lands and borders where Sámi have rights under the Convention. This committee submitted its findings in 2006.[22] Second, a survey should decide the scope of Sámi hunting and fishing rights on land traditionally occupied by them. A special rapporteur, Sören Ekström, was appointed to clarify this issue and he submitted his findings in 2005 with co-operation of several experts in the field.[23] These two recent reports are examined below.

The main task of the Boundary Committee was to delimit, primarily on the basis of archive material, the areas that the Sámi may use under the Reindeer Husbandry Act for reindeer grazing during the period of October-April (winter grazing lands). This part of the remit has been called the search for the outer boundary. Another task was to transfer the terms set out in Article 14 of ILO Convention No. 169 into Swedish conditions. This particular article deals with lands that indigenous peoples traditionally occupy and land to which they have traditionally had access for their subsistence and traditional activities. The Committee called the boundary between these two categories of land the inner boundary.[24]

The question of land rights in Sweden can be seen as a question of a reindeer herding right. The whole issue is handled through the legislation on reindeer husbandry which works with a number of concepts that can only be understood when their background is known. The most important of these concepts are the Taxed Lapp Lands (*lappskatteland*), the Lapp Lands boundary (*lappmarksgräns*), the cultivation limit (*odlingsgräns*) and the reindeer grazing mountains (*renbetesfjäll*) in Jämtland County. The Taxed Lapp Lands were areas that individual Sámi families used long ago for the maintenance of their reindeer herds in the spring, summer and autumn. In winter they sought grazing for their herds outside of their own lands. According to the Committee, as far as can be seen from the historical material, in the 17th century case-law, the authorities treated the Taxed Lapp lands in a way that corresponded to the taxed land held by the tax-paying farmers (*skattebönder*). In the late 17th century and the first half of 18th century, however, the Crown questioned the rights of both the tax-paying farmers and the Sámi to their land.[25] This question will be more closely examined below in the case of Finland where new information has cast light on this issue.

As mentioned above historical background is significant when examining the rights to lands and water. In Sweden these issues relate to reindeer herding, the outer boundary of grazing areas and the prescription from time immemorial. Prescription from time immemorial is a concept that has deep historic roots. Since late 19th century it has been used to legitimise the reindeer herding right. Prescription from time immemorial was discarded from the Land Code in 1972, but is still found in the Reindeer Husbandry Act. The reindeer herding right is a constitutionally protected right that arises through a long-term use of land and water accepted by others.[26] In chapter 11 of the report the Committee takes a position on the outer boundary for reindeer grazing. The Committee considers it important to repeat that their position will not acquire the force of law. A determination with legal force of the question of whether or not a land area is burdened by reindeer herding right can only be obtained through a court ruling.[27] The Committee has, however, had the ambition of bringing forward as much material as possible that can serve as relevant information in support of decisions on where rights exist under customary law and they hope that, as a result of the conclusions they have drawn from this, they can help to make future legal proceedings largely unnecessary. The question whether this approach would be in accordance with the provisions of ILO Convention No. 169 is another issue.

The sources the Committee has used are drawn from archives, maps, official publications, scientific works and information we have received from Sámis and landowners. On the basis of this information and guided by the principles that have been expressed earlier in the report they have divided the reindeer herding area into the following categories:

First, proven reindeer grazing right;
Second, reindeer grazing right not proved according to land-owners, but preponderant probability of a reindeer grazing right in Committee's view;
Third, reindeer grazing right claimed by the Sámi, but not proved or less probable in Committee's assessment;
Fourth, no reindeer grazing right.

The Committees conclusions are illustrated on a map that is attached to the report but here it is not possible to demonstrate the specific reindeer herding areas by names.[28]

The Boundar Delimitation Committee had also the remit of identifying, in accordance with ILO Convention No. 169, the land that the Sámi occupy and use together with others. The main obstacle to Swedish ratification of the Convention has been the question of indigenous peoples' right to land. The Committee's analysis of the requirements set up in article 14 of the ILO Convention results in conclusions that differ in significant respects from those drawn by the previous ILO inquiry.[29] The

Committee does, however *agree with the ILO Inquiry that the Convention does not require a formal ownership right in order for lands that are used by the indigenous people to be assigned to lands that it traditionally occupies*. There is, however, a minimum level that the rights must reach to be applicable. The Committee considers that this minimum level is not fulfilled by the reindeer herding right that the Sámi have under reindeer husbandry legislation. This means that the Committee does not share the view of the ILO Inquiry that all state-managed year-round land shall be classed as land possessed by the Sámi under the Convention. In the Committee's view, which is based on the current law, there is no large continuous area to which the Sámi have a right that is as strong as the right to which the Convention's requirements concerning rights of ownership and possession refer.[30] Some recently published academic research by Bertil Bengtsson[31], Lennart Lundmark[32], Lennart Stenman[33], Christina Allard[34] and Maria Ågren[35] are selected here to provide more information on rights to land and water in Sweden in special reference to reindeer herding right and prescription from time immemorial.

Historical Land Rights in Finland - *The report of the Ministry of Justice*

The question of land rights in Finland as well as in Sweden and Norway dates back a long time. The new era after the Second world war and the activeness of indigenous peoples themselves since the 1960s have raised these questions more openly to public debate as well. In Finland in the late 1980s new information was retrieved affecting the historical land right question. Kaisa Korpijaakko argued in her doctoral thesis that Lapps had ownership of the land and water areas in northern part of Sweden-Finland in the 17th and early part of 18th century.[36] The Constitution Committee of the Finnish Parliament has referred to the same possibility in 1990 and several times later. The difficulties related to land rights has also been the main reason for Finland not ratifying the ILO Convention No. 169. There has, thus been a process to clarify the situation, initiated in the late 1990s. The progress has been slow and controversial. The State's intention was to solve the question by political consensus through establishing bureaucratic organs to administrate the northern lands, which would remain in State hands. This model was similar to the model presented above in the case of Norway and Finnmark Act. As consultations got under way, however, very few stakeholders had anything positive to say about it. After several reports and committee deliberations, the Ministry of Justice in 2003 appointed an academic research group to investigate the historical and current legal position of those lands, as requested in many consultations.[37]

The aim of the research project was to study from a historical and legal perspective the settlement patterns, population history, land use and land ownership in the area of historical Lapland which at present is part of Finland. The research concentrated on the period 1750-1923 and studied 1) the legal situation of land use rights and land ownership in Finnish Lapland, 2) historical developments after Finnish settlers' arrival to Lapland and 3) historical developments concerning the position of mountain and forest Sámi. Source materials included legislation, court verdicts and tax material, administrative materials (decisions of Governors, tax authorities, etc.); correspondence of authorities and decisions made in connection with the establishment of farms by settlers. The research group consisted of experts from the Universities of Oulu (history) and Lapland (law).

The research group submitted its findings, altogether 1300 pages, in October 2006. A great amount of new information was brought up to clarify the situation of northern lands. The question of ratification of ILO Convention was however postponed after the Finnish Parliamentary Elections in spring 2007. Here it is only possible to go through some of the legal findings and issues related to the ILO Convention, although the three historical researches were mainly of the same opinion.[38] This means that only the study of Juha Joona's, titled: "Entisiin Tornion ja Kemin Lapinmaihin kuuluneiden alueiden maa- ja vesioikeuksista" will be examined here. The area his study concerns is the area that belonged in the 17th and 18th century to Tornio and Kemi Lapplands and that today belongs to Finland. The line between Lappland and the coastal parish of the Gulf of Bothnia is the so called Lapplands border and it was confirmed in 1751-1754. The Lapplands were divided into Lappvillages. In Enontekiö area in Tornio Lappland there were Lappvillages called Rounala, Suonttavaara and Peltojärvi and in Utsjoki area there were Lappvillages called Utsjoki and Teno. The Lappvillages Kittilä, Sodankylä, Sompio, Inarin Keminkylä, Kuolajärvi, Kitka and Maanselkä belonged to Kemi Lappland. The Kemi Lappvillages were situated in the area where at

present the municipalities of Kittilä, Inari, Sodankylä, Savukoski, Pelkosenniemi, Salla, Posio and Kuusamo are located.

This division between Lapplands and Lappvillages is a first interesting visible sign in regard to the demands of ILO Convention, especially article 14.2 where identification of lands is requested. In Finland, the question of land rights has focused in the area of Sámi Homeland, which is an area in the Northernmost Finland, established in the mid 1990's. In this area the Sámi have a cultural autonomy (right to use their own language, education in Sámi etc.) secured by law and administrated by the Sámi Parliament. The discussion of land rights has therefore focused on the area of Sámi Homeland where Sámi Parliament has demanded a collective ownership or control over the area. The recent research however shows, that the area of historical land rights is much larger than just the area of Sámi Homeland and covers almost 1/3 of the total surface of Finland. The research also confirms the fact that Lapps regarded themselves and were officially acknowledged as landowners in the Kingdom of Sweden-Finland before year 1743. Legislation and courts protected a Lapp's title to land in the same way they protected that of a farmer. Kaisa Korpijaakko also stresses that both farmers and Lapps were considered *individual* landowners. In contrary to a common belief, collective land use was not the dominant, let alone the only pattern of land use among the Lapps.[39] According to Joona, certain land and water areas inside the Lappvillages were divided among families and individual persons. The areas were hereditary lands and called "Tax land" (skatteland) since 17th century. Members of the Lappvillage had the right to use lands only in the area of one's own Lappvillage. If this right was offended, the court had the right to resort to punishment.[40]

Joona has divided his research in four different timescales; 1550-1673, 1674-1694, 1695-1748 and 1749-1808. These divisions are based on a new legislation in that time in regard to land and water rights. The research focuses on analysing the legal praxis from the materials mentioned above. In this legal praxis Lapps were considered as land owners and their rights were strong in this respect. In 1737 the situation changes in a special case concerning a farm called Haukiniemi in Kemi Lapplands Lappvillage called Maanselkä. The trial was about whether the claimant had the right to reclaim back the family the farm founded upon a Lapp Tax Land. The central question was whether the Lapp Tax Lands were Tax Lands or Crown Lands. The district court analysed the case according to the old practise and decided that it was a question of Tax Land. The defendant complained to the Piitime chief judge (lagman) which considered the case similarly to the district court. They, however wanted to ask clarification of law from the Court of Appeal of Svea, from Stockholm before final solution. The Court of Appeal asked for a statement from the Chamber Collegium. Contrary to previous sources and research, the Chamber Collegium made a decision in the matter and concluded that all lands were *Crown lands*. According to Joona, this was however only an interpretation of the Chamber Collegium and no legislation is to be found to support this decision. This means that the decision could be taken to a rehearing and that State ownership today is increasingly at a lower position.[41]

In regard to the ILO Convention, Joona points out certain important questions which previously have had little attention or not been discussed at all. It is important to know the right holders of these land rights. Therefore those, according to the current legislation, who since time immemorial have continuously used the lands (reindeer herding, on a small scale also fishing and hunting) and belong to a Lapp family have obviously stronger rights. The subjects of the rights are important to know also in regard to the ILO Convention.[42] It is also reasonable to begin to speak of Historical land rights of Lapland instead of highlighting the artificial area of Sámi Homeland which has nothing to do with the land rights. There has also been very little discussion about the provisions, wordings, interpretation and contents of the ILO Convention and what these issues would mean in Finland's situation. There exist also property rights according to the national legislation whose value has not been estimated in regard to ILO Convention.

Comparison and Conclusions

The Governments of Finland, Norway and Sweden have progressed in their investigations of Sámi rights in recent years. While this is perhaps the result of national and international pressure from the indigenous peoples' themselves, it is also a result of improved and wider knowledge of these issues. In this respect it is therefore reasonable to ask whether these solutions, planned or implemented so far in these countries, actually fulfil the

requirements set down in the ILO Convention No. 169? Norway has taken the step to establish a new political body with representation from the indigenous communities and other local interest groups, before the basic legal questions (ownership and land identification for example) have been solved and the rights recognized. Norway's approach has been criticized by several experts of international law and the ILO has also commented on the difficult situation. Finland's approach has been similar to that of Norway but has recently adopted new information which likely will change the direction of those plans and will place much more attention on the basic legal questions. The land right question in Sweden revolves around the reindeer herding right which is the crucial element of the whole issue. This differentiates Sweden from Norway and Finland, where issues related to reindeer herding have had very little attention. In spite of the fact that reindeer herders are actually the only ones who still use the land in traditional ways and many of them for their subsistence.

In the Nordic countries governmental and Sámi representatives have firmly supported the ratification of the ILO Convention No. 169, seeing it as an important step towards international standards of indigenous rights, although there is disagreement between them on the interpretation of land rights. There has been little cooperation between the Nordic countries when preparing ratification of the ILO Convention. The States in question have wanted to find their own ways to solve the issues, although each country has closely followed proceedings of the others. Many questions still remain open and unclear, which generates strong feelings and different political views. ILO Convention No. 169 itself has gained very little criticism in the Nordic countries which is contrary to many other countries where indigenous peoples live. The Convention has been ratified only by 17 countries, most of them in Latin America. Big countries like Australia, New Zealand, Canada, USA, Russia, Asian countries etc. don't even consider the ratification. There are several reasons for that.

The ILO Convention No. 169 has been criticized as being Eurocentric and denying the rights of indigenous peoples. Many of the critics are concerned with how the Convention was drawn up: the tripartite (Governments, employers and employees) system of ILO doesn't recognize indigenous peoples as official partners, therefore they couldn't participate to the drafting process of Convention No. 169. They didn't have the right to speak or vote. The Convention has also been criticized for being written from the non indigenous worldview denying that indigenous peoples have their own governments, legal systems, religions, cultures, economic systems and the right to self-determination. Article 1.3 is worded: "The use of the term "peoples" in this Convention shall not be construed as having any implications as regards the rights which may attach to the term under international law." It is interesting that an International Organization and the United Nations is telling over 350 million people that they don't exist as peoples. It raises the question of whose rights are protected: those of the indigenous peoples or of the non indigenous peoples? In general, the language of the Convention No. 169 is regarded as negative toward indigenous peoples. For example, Article 7 deals presumptuously with the issue of development, implying that indigenous peoples are backward and underdeveloped. Therefore, development and acceptance of the non indigenous systems are the preferred way of "progress". Many of the wordings of the provisions are considered to be too vague and flexible thus limiting the Conventions purpose. And when it comes to the land rights, the land right articles only recognise rights over land currently occupied by indigenous peoples; they don't recognise rights over land which they used to occupy but were taken from them through colonisation.[43]

The primary argument in favour of the Convention is that, while it may not be the best solution, it is better that anything else available at the moment. This is because it actually identifies indigenous peoples' rights which are not specified anywhere else in international law, nor indeed in many countries' domestic law, either. Ratification by a country could therefore give the indigenous peoples in that country more rights than they have at present, also in Nordic countries.

Notes

1. See for example: Vihervuori, Pekka (1999) Maahan, veteen ja luonnonvaroihin sekä perinteisiin elinkeinoihin kohdistuvat oikeudet saamelaisten kotiseutualueella. Oikeusministeriön yleisen osaston julkaisuja, 3. Helsinki.
2. NOU 1984:18 Om samenes rettsstilling.
3. NOU 1997:4 Naturgrunnlaget for samisk kultur.
4. Proposition to the Odelsting No. 53 for 2002-2003 concerning an Act relating to legal relations and management of land and

natural resources in the county of Finnmark (Finnmark Act). See also Ulfstein, Geir 2005, 32.

5. Some of the comments are found in English at http://www.samediggi.no/default.asp?selNodelID=313&lang=no. See for example, Councellor Sara's speech to the UN, a statement by the Sámi Council, and a press release about the Finnmark Act (visited 11 November 2003).

6. Folkerettslig vurdering av Forslaget til ny Finmarkslov.

7. In the end of 1980s the Norwegian Government showed an interest on ratifying the ILO Convention No. 107 concerning … However, soon it became clear that this Convention was about to be revised and Norway decided to wait that and after that ratified the newer Convention No. 169 as a first country to do so. In political speech this argument has been strongly used to describe the will of the Norwegian State to commit itself to the rights of its indigenous population.

8. Unpublished seminar paper by State Secretary Anne Lise Ryel. Ministry of Justice, Norway. Rovaniemi, Finland, 5 May 2001.

9. Article 14:"First, the rights of ownership and possession of the peoples concerned over the lands which they traditionally occupy shall be recognised. In addition, measures shall be taken in appropriate ceases to safeguard the right of the peoples concerned to use lands not exclusively occupied by them, but to which they have traditionally had access for their subsistence and traditional activities. Particular attention shall be paid to the situation of nomadic peoples and shifting cultivators in this respect.

Second, governments shall take steps as necessary to identify the lands which the peoples concerned traditionally occupy, and to guarantee effective protection of their rights of ownership and possession.Third, adequate procedures shall be established within the national legal system to resolve land claims by the peoples concerned."

10. For example in a CEACR: Individual Observation the Committee of Experts states that: "In Finnmark County, which, as indicated above, is inhabited jointly by Sámi and other Norwegians, the extent of land rights and access to land have been in dispute for many years. The Government acknowledges that "parts or all of Inner Finnamrk consist of land which the Sámi people traditionally occupy… However, the Sámi Rights Commission has not provided any basis for the Government to identify precisely which lands the Sámi people traditionally occupy within the county".

11. CEACR: Individual Direct Request concerning Convention No. 169, Submitted February 1995. www.ilo.org/ilolex

12. Ulfstein 2004, 32; The Finnmark Act – A Guide8/2005, 2. www.jd.dep.no by Ministry of Justice and Ministry of Local Government and Regional Development.

13. CEACR: Individual Observation concerning Convention No. 169, Published 2004.

14. The Finnmark Act involves no changes in rights of use and ownership to the land in Finnmark. If someone has acquired the right of use or ownership through prolonged use of an area (prescription or immemorial usage), the Finnmark Act will not change this. According to Norwegian law, one may on specific conditions acquire both rights of use and right of ownership to an area through using or disposing of it for a long time. "prescription" and "immemorial usage" are terms for means by which one may acquire such rights. The conditions for prescription follow from the Act of 9 December 1966 No. 1 relating to prescription. In order to claim right of ownership one must have disposed of an area for at least 20 years. One must have good reason for believing that one owns the area. In order to claim rights of use one must have exercised a certain use for at least 20 years. The use must have taken place in the belief that one had a right to it. The doctrine of immemorial usage has been developed through legal usage. On the basis of immemorial usage, one may acquire the right of use or ownership to an area even if the conditions for prescription are not met. A total assessment is made, where the most important factors are:

- use of the area over a long period. Since the remaining conditions are not as stringent as for prescription, an extremely long period of use is required,

perhaps as long as 100 years and at least 50 years.

- the person who has used or disposed of the area must have done in so in good faith. The requirements regarding good faith are not equally stringent if the period of use is extremely long.

15. All residents of Finnmark will be given the right to exploit natural resources on Finnmarkseien-dommen's land, including hunting, fishing and cloudberry picking. The extent of such rights is dependent on how closely on is associated with the resources. For example, one has a greater right to exploit natural resources in the municipality where one resides. Persons who reside outside the county shall also have access to hunt and trap small game, to fish and to pick cloudberries for their own domestic use. The Finnmark Act – A Guide 8/2005, 2. www.jd.dep.no, by Ministry of Justice and Ministry of Local Government and Regional Development.

16. The Finnmark Act – A Guide8/2005, 5. www.jd.dep.no by Ministry of Justice and Ministry of Local Government and Regional Development.

17. CEACR: Individual Observation concenring Convention No. 169, Published 2004.

18. CEACR: Individual Direct Request concerning Convention No. 169, Indigenous and Tribal Peoples, 1989 Norway
Ratification: 1990, Submitted: 1995, February.
According to the official web-pages of Norwegian Saami Parliament, in 1989 5497 Saami were registered in the Saami Parliament Election Register in Norway and in 2001, 9923 persons were listed in the register. http://www.samediggi.nodefault.asp?selNodelID=110&lang=no (visited 28 November 2003) In 2005 Saami Parliament Elections 12 538 was listed on the register (samemanntallet) http://www.samediggi.no/Artikkel.asp?MId1=3&MId2=300&AId=236&back=1 (Vistited 20 November 2006).
Estimation of the total Saami population varies from 50 000 to 75 000. See more T. Joona 2005, 307-309.
The Ministry for Foreign Affairs in Norway gives this explanation for the variation of the amount of Saami population: "The size of the Sami population has been reckoned at 75,000, but estimates vary in accordance with criteria used (genetic heritage, mother tongue, personal wishes, etc.). Official censuses have not given reliable counts. Because of the assimilation process, not all Sami have wished to acknowledge or declare their ethnic identity. For this reason, the Sami parliaments in the Nordic countries have worked out their own criteria for defining Sami from a combination of subjective and objective factors." http://odin.dep.no/odin/engelsk/norway/history/032005-990463/index-dok000-b-n-a.html (Visited in 20 November 2006).

19. CEACR: Individual Direct Request concerning Convention No. 169, Indigenous and Tribal Peoples, 1989 Bolivia
Ratification:1991, Submitted:1995.

20. SOU 1999:25, Samerna ett ursprungssfolk i Sverige. Frågan om Sveriges anslutning till ILO:s konvention nr 169, Stocholm, 31 March 1999.

21. SOU 1999:25, 25-26.

22. SOU 2006:14, Samernas Sedvanemarker. Betänkande av Gränsdragningskommissionen för renskötselområdet, Stocholm.

23. SOU 2005:116, Jakt och Fiske i Samverkan. Slutbetaänkande av

jakt och fiskerättsutredningen, Stocholm. Two separate publications were also included in the research: SOU 2005: 17 Vem får jaga och fiska? Rätt till jakt och fiske I lappmarkerna och på renbetesfjällen. Delbetänkande av Jakt- och fiskerättsutredningen, Stockholm. And SOU 2005: 79 Vem får jaga och fiska? Historia, folkrätt och miljö. Delbetänkande av Jakt- och fiskerättsutredningen, Stockholm.
24. SOU 2006:14, 33.
25. SOU 2006:14, 36.
26. The law has nothing to say on question of how long a use must have continued for prescription from time immemorial to exist, except that it must have continued for such a long time that no now living person remembers or has heard from his forefathers when it started.
27. SOU 2006:14, 43-45.
28. SOU 2006:14, 45-46. The grouping can be described very briefly in the following way. According to the current law, the whole province of Lapland is inside the reindeer herding area and is reported on the Committees map as within grazing area 1. Most mountain Sámi villages and all forest Sámi villages have their year-round lands in this province. The Committee also assign the concession area in Norrbotten to category 1 even though all reindeer herding these is not conducted by Sámis. The Committee has taken the view that it is not part of their remit to comment on the disputes on land use that occur between mountain and forest Sámi villages on the one hand, and concession villages, on the other.
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30. SOU 2006:14, 48-49.
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The Limits of the Arctic Council

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Arctic-wide co-operation has been with us almost 20 years.[1] The focus of the co-operation has been in protecting the vulnerable environment of the Arctic, especially in the first phase of the co-operation, which started from signing of the Declaration and Strategy for the Protection of the Arctic Environment in 1991 by the eight Arctic states (Finland, Sweden, Norway, Denmark, Iceland, Soviet Union (the Russian Federation), the United States and Canada).[2]

In the Strategy, six priority environmental problems facing the Arctic were first identified, (persistent organic contaminants, radioactivity, heavy metals, noise, acidification and oil pollution), then international environmental protection treaties that apply in the region were identified and, finally, additional actions to counter these threats were outlaid. As part of the environmental protection action by the eight Arctic states, four environmental protection working-groups were established: Conservation of Arctic Flora and Fauna (CAFF), Protection of the Arctic Marine Environment (PAME), Emergency Prevention, Preparedness and Response (EPPR) and Arctic Monitoring and Assessment Programme (AMAP). Three ministerial meetings (after the signing of the Declaration and the Strategy) were held in this first phase of the Arctic co-operation, generally referred to as Rovaniemi process.[3] The ministerial meetings were held in 1993 (Nuuk, Greenland), 1996 (Inuvik, Canada) and in 1997 (Alta, Norway). Since the Canadian initiative for the Arctic Council had been launched before the final two Rovaniemi ministerials, these focused much on integrating the Rovaniemi -process under the structure of the Arctic Council.

The establishment of the Arctic Council in 1996 broadened the mandate of the co-operation to all common issues facing the Arctic (excluding matters related to military security), especially those relating to sustainable development; four environmental protection working-groups of the Strategy were integrated into the structure of the Council and one working-group was established (Sustainable Development Working-Group, SDWG). With the absence of permanent secretariat, the work of the Arctic Council is heavily influenced by the priorities the chair-states lay out for their two-year chair period, at the end of which a ministerial meeting is organized.[4] Senior Arctic Officials (SAO) provide guidance to the work of the Council in-between the ministerial meetings. Arctic Council has also adopted new programmes related to environmental protection, such as the Arctic Council Action Plan to Eliminate Pollution in the Arctic (ACAP), which was recently turned into a sixth working group[5], and the Arctic Climate Impact Assessment (ACIA). The region's indigenous peoples have a unique status in the Council as Permanent Participants (i.e., not having an observer status such as that possessed by states outside of the region and inter-governmental and non-governmental organisations) and the eight member states are required to consult them fully before proceeding to decision-making (Koivurova & VanderZwaag 2007).

Increasingly, scholars as well as international and non-governmental organisations have started to criticise the way the Arctic Council conducts its work in general and its environmental protection mandate in particular. At the forefront have been two observers in the Arctic Council, an NGO, the World Wide Fund for

Nature (WWF), and an international organisation, the World Conservation Union (IUCN).[6] The problems that have been pointed out by the observers and scholars are manifold, of which some can be mentioned. There is no mandatory funding scheme for carrying out the activities of the Council, financing depending on the voluntary contributions by the member states. The structure of the Arctic Council is becoming increasingly complicated, with new programmes and projects being adopted as part of the Arctic Council's activities with no clear relationship to already existing programmes; The work of the Council lacks long-term perspectives due to the lack of permanent secretariat and the consequent problem of chair-states wanting to have their own priorities implemented within their two-year chair period, although this is somewhat mitigated by the semi-permanent secretariat established to Troms Norway till 2012. There also seems to exist a lack of enthusiasm for the work of the Council, testified in part by the fact that e.g. the ministerial meeting in Inari was participated only by three minister level representatives from the eight Arctic states.

One of the main underlying problems in the work of the Council is its legal basis. The Rovaniemi process and the Arctic Council have both been adopted via declarations, considered widely as soft-law instruments. Even though there is disagreement over the credibility of the whole concept of soft-law in international law, the participants to the Arctic co-operation view the Council as soft-law organisation with no power to establish internationally legally binding obligations for the Arctic states. And it is usually the case that states opt for a soft-law approach only when their level of political and financial commitment is fairly low. By contrast, with laying the foundation for cooperation on a treaty basis, states commit themselves to a stable long-term cooperation, which can be implemented with mandatory funding scheme - a basis, which enables states to enter into more controversial policy fields.

The soft-law approach is manifested in the current mandate of the Council. The Council is confined to a role where it can make viable scientific assessments, and even adopt soft guidance. This means that the environmental protection and other work of the Council cannot touch upon issues that should be at the heart of policy work of the Arctic, i.e., to influence the national and sub-national governance systems functioning within the Arctic eight or the international regimes and governance frameworks having influence in the Arctic.

Within these limits, the Arctic Council has done a lot of useful work: reviewed the international environmental laws and treaties applicable to the Arctic region; produced guidelines and manuals on various fields of environmental protection, where Arctic application would require special measures; made an inventory of existing nature protection areas, studied the environmental problems damaging the environment etc. The Council has also been a platform where the internationally oriented Arctic actors and actors outside of the region can meet and discuss common issues facing the Arctic, and it has certainly been able to promote the cause of indigenous peoples, as their framework organisations are given a unique status in the Arctic Council as Permanent Participants. It has also influenced even global policy processes by producing influential scientific assessments.

Yet, the governance related work of the Council has remained a limited one, trying to influence policy-making via scientific assessments and sometimes even adopting manuals of good practise, guidelines and policy recommendations. Sometimes these assessments have indeed made a difference but many a times the end product has been somewhat disappointing. More importantly, there is no assessment as to whether this soft guidance by the Council in the form of guidelines and manuals has really made policy impacts, other than the one the present author conducted with a colleague.

Evaluation of Impacts of Soft Guidance: EIA Guidelines

The elaboration of principles to guide the making of environmental impact assessment (EIA) in the Arctic conditions was commenced already in 1994 by Finland proposing that such a guide be made (to be known as "Guidelines for Environmental Impact Assessment in the Arctic", hereinafter "the Guidelines") - a development inspired in part by the entry into force of the first Finnish general EIA Act that same year (Koivurova 2007). The idea was well received, and at the 1996 Rovaniemi Process meeting in Inuvik, the ministers requested that EIA Guidelines be prepared under the auspices of the Task Force on Sustainable Development and Utilization.[7] The drafting process was led by the

Finnish Ministry of the Environment, and the negotiations involved an impressive number of representatives of all the Arctic stakeholders (Guidelines for Environmental etc 1997).

After their finalization, the Guidelines were warmly welcomed by the international Arctic institutions, which strongly emphasized that the Guidelines should be made a living reality. In the 1997 Alta Declaration - the outcome of the final ministerial meeting of the Rovaniemi Process - the ministers adopted the Guidelines for Environmental Impact Assessment in the Arctic, with the following, particularly strong wording regarding their follow-up:

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 (The Alta Declaration 1997, paragraph 3)

The conferences of Arctic parliamentarians also placed the Guidelines high on their agenda. The instrument was mentioned at the 1996 Yellowstone and 2000 Rovaniemi confe-rences, but particular attention was drawn to it at the 1998 Salekhard Conference, where Arctic EIA was one of the main issues. The Parliamentarians asked their governments to:

implement within the respective national structures the guidelines for Environmental Impact Assessment in the Arctic, as developed by the Arctic Environmental Protection Strategy, by including them in all proposals, plans and decisions for activities that could have impact on the Arctic environment (Third Conference of Parliamentarians etc 1998);

Even though a great deal of energy was put into drafting the Guidelines with the help of all Arctic stakeholders, including the international Arctic institutions emphasizing practical application, the instrument has not proven to be a success in practice. A study done at the Arctic Centre's Northern Institute for Environmental and Minority Law suggests that the stakeholders in the Arctic - companies, administrative officials, indigenous peoples and the general public - are little aware of the existence of the instrument. The research, carried out for the Ministry of the Environment by the present author, together with researcher Sanna Valkonen, showed that even those who actually conduct Arctic EIAs - e.g. administrative officials, companies - rarely know that the Guidelines exist.[8]

There are probably many reasons why the Guidelines have not become living practice in Arctic EIA. The instrument does flesh out certain ideals of how EIA should be conducted in the Arctic but in many parts the recommendations remain on a fairly general level, leaving Arctic stakeholders and especially administrative officials without clear guidance. While these factors partially explain why the instrument has had little influence in practice, one must still ask why it is that the stakeholders of Arctic EIA in particular have not made use of the Guidelines, given that they do provide clear guidance on some aspects of Arctic EIA. Another puzzle is why the Guidelines have not been transformed into practice despite the emphasis placed on this ambition by the Arctic international institutions. Arguably, one of the reasons for the lack of practical relevance of the Guidelines is the absence of a follow-up mechanism. Another is that without any legal status, there was no legal obligation to put them in practice
With this kind of structure for establishing environmental controls on how economic activities are executed in the Arctic, we can certainly argue that the Council will be unable to counter the problems caused, for instance, by global warming and the associated opportunities for making better economic use of the Arctic. As the multitude of scientific assessments shows, the Arctic is melting in a rapid pace, opening the region to hydrocarbon and minerals exploitation, transportation, etc - developments that call for a stronger body having a mandate to place controls on the exercise of these activities. Already now the global shipping industry plans for the use of the Arctic shipping routes, which reduce the distances between various economic centres of the globe.

Whether and How to Strengthen the Arctic Council?

The road ahead will probably have to be built on the existing structure of the Arctic Council as this seems to be the only acceptable structure for the Arctic states at the moment. It is unlikely that any major change in the present Arctic Council will take place in the short or mid-term since Arctic-wide co-operation has developed incrementally, step-by-step, from the AEPS to the Arc-

tic Council. Even though Arctic wide co-operation has developed rather speedily from the AEPS to the more ambitious Arctic Council, the Council was intentionally built on the foundation of the AEPS. Like its predecessor, the Council has remained a soft-law creature, and the four environmental protection working-groups, the institution of Senior Arctic Officials and ministerial meetings, which were already part of the AEPS, have continued almost unchanged. Even the new Sustainable Development working group had a predecessor in the AEPS under the name of Task Force on Sustainable Development and Utilisation.

There is, however, a clear tendency to perceive that the future reality in the Arctic is geared towards governing the Arctic waters, given the consequences of climate change and increased shipping, offshore hydrocarbon exploitation and fisheries in the region. If the focus of Arctic-wide co-operation eventually turned in this direction, there are plenty of already existing legal rules on which to base the regional marine approach in the Arctic. This focus on marine areas would effectively transform the focus from the whole of the circumpolar region, including both terrestrial and marine environments, to its marine component. It can be convincingly argued that the two Arctic Council members, Finland and Sweden, which do not have a coastline on Arctic waters would not want Arctic-wide co-operation to move in this direction. If the focus would turn into Arctic Ocean, Iceland would oppose such a development, given that it is not a littoral state to the Ocean. It remains to be seen whether such a change in focus can challenge the present structures of Arctic-wide co-operation. As argued above, it is difficult to imagine any general governance structure emerging that would not build on the existing one, and hence, according to the present author, the increasing focus on marine issues can and should be integrated into the existing structures as outlined below.

The various processes by IUCN, WWF Arctic, UNEP Grid-Arendal and Arctic parliamentarians that have studied the possibility of an Arctic treaty[9] have ended up with recommendations containing two features: an audit to assess the effectiveness and relevance of existing regimes as a basis for the second step, discussing a possible Arctic treaty. In their August 2006 meeting in Kiruna, the Conference of Arctic parliamentarians asked that their governments and the institutions of the European Union:

In light of the impact of climate change, and the increasing economic and human activity, initiate, as a matter of urgency, an audit of existing legal regimes that impact the Arctic and to continue the discussion about strengthening or adding to them where necessary (Kiruna Conference Report 2007)

In a seminar co-hosted by UNEP Grid-Arendal and the Standing Committee of the Arctic Parliamentarians on Multilateral Agreements and Their Relevance to the Arctic in September 2006, the participants agreed on one overall recommendation:

The participants of the Arendal Seminar recommend that UNEP, the Arctic Parliamentarians, the Arctic Council, the Nordic Council of Ministers, and Contracting Parties, governing bodies and secretariats to the MEAs support and cooperate on an audit to assess the effectiveness and relevance of MEAs in the Arctic and to examine the need and options for improving the existing regime as well as the need and options for developing an Arctic Treaty or Arctic Framework Convention. The audit should take into account recommendations from the Kiruna Conference of the Parliamentarians of the Arctic Region and the Arendal Seminar (The Arendal Seminar on multilateral environmental etc 2006).

A similar conclusion was reached by the IUCN, which convened an expert meeting in Ottawa on 24-25 March 200410 to discuss whether the ATS could provide the needed input for the development of environmental protection in the Arctic. The expert meeting was divided over the way environmental protection should and could be developed in the Arctic and whether a treaty approach was what was needed. The main approach to Arctic governance identified at the meeting was not to borrow from the Antarctic experience but to first study which environmental threats to the Arctic should be addressed at which level: i.e., universal (global treaties and processes), regional (the Arctic Council), bilateral, national and sub-national.

Hence, there clearly seem to be pressures from various observers of the Arctic Council to at least examine the applicable treaties carefully, in particular how these

treaties are implemented in the region and whether, on the basis of that analysis, an integrated Arctic treaty approach is called for. What these actions by observers of the Arctic Council serve to demonstrate is that pressures are building to adopt a treaty approach.

In the mid-term perspective, it seems evident that the consequences of climate change in particular will press the Council to turn to the issue of a treaty since, with its present status as a soft-law forum[11], commissioning assessments and even providing soft guidance in some cases, it can do little to induce sustainability in the region. ACIA and other assessments of the Council's working groups will bring increasing pressure to formalise the co-operation, which will likely lead to real discussions about whether a treaty approach should be chosen for the Arctic. It is this internal process within the Arctic Council organs which will likely prompt the negotiation process, more so than pressure from the observers (such as IUCN, WWF or the Arctic parliamentarians) of the Council. If the observers can push the audit to be commissioned by the Council, this will clearly impact the speed at which the internal process within the Arctic Council moves ahead.

If this internal process in the Council leads to choosing a treaty approach, it is possible to foresee a process of formalisation which builds on the present structure of the Council. According to the present author, one possible, generally sketched way forward is that of choosing a framework treaty which formalises the current membership and decision-making procedure of the Council, adds certain guiding principles related to environmental protection and sustainable development to the treaty and gives a mandate to the Council to adopt protocols to counter threats to environmental protection and challenges to sustainable development on the basis of scientific assessments. The reason for adopting a framework treaty is that it would enable the shortest possible timeframe for adopting a treaty approach, since it would not require substantial changes to the present structure and thus would lessen the time needed to find consensus in the negotiations. It would also leave doors open to enter into substantive regulation via protocols when the time is ripe for that, and in this the already existing treaty and customary law norms applicable to the Arctic states provide a good starting-point. The protocols can thus serve in many cases as regional implementation treaties of more general conventions, and if treaties are not available or apply only to some Arctic states, independent protocols can be opted for. Good suggestions for the content of individual protocols have already come from WWF Arctic and the studies of Nowlan and professor Rayfuse (Nowlan 2001; Rayfuse 2007).

Of vast importance would be the re-structuring of the work of the six working-groups of the Council in order to ensure that scientific information/traditional knowledge flows in an integrated and effective way to the Council, putting pressure on adopting protocols to the framework treaty. Currently, almost all the working groups conduct their own assessments, although the AMAP is the key working group in this field. In order to ensure an integrated flow of scientific information/traditional knowledge to the Council, AMAP should be given a clearer role as the scientific assessment body of the Council, while the other working groups could focus more on policy response strategies on the basis of this information/traditional knowledge. This sort of re-organisation of the tasks of the working groups was contemplated already in late summer 2006 by the then incoming chair Norway when it circulated a short paper on reform of the Arctic Council, in particular how the tasks of the existing working groups should be reorganised:

1. A group to monitor and assess the Arctic environment and ecosystems (AMAP and part of CAFF);
2. An Environmental Action Group to implement practical action (PAME, ACAP, EPPR and part of CAFF);
3. An Economic group (part of SDWG); and
4. A Social and Cultural group (part of SDWG) (Improving the Efficiency and Effectiveness etc 2007).

An especially important point would be to institutionalise the updating of ACIA12 within the AMAP, in a format similar to IPCC's periodic assessments. In fact, the so-called focal point process to implement the Reykjavik ministerial decisions made on the basis of ACIA has been initiated by the Council, but the current chair Norway has pointed out that the measures taken so far are not sufficient.[12] ACIA should, however, be re-focused to better cover how the Arctic governance systems and human communities are impacted by climate change, and how their adaptive capacity could be enhanced, since the main focus has been on natural sciences (Arctic Climate Impact Assessment Final etc 2005). The baseline for these social assessments has now been created with the Arctic Human Development Report (AHDR) un-

dertaken during the Icelandic chair period in 2002-2004 (Arctic Human Development Report 2004). If this kind of framework treaty approach is adopted, the difficult questions of permanent funding and secretariat must be confronted. The importance of having an independent staff dedicated to Arctic interests cannot be overstated, and the current chair Norway has already taken the first steps in this direction by establishing, together with the next chairs, Denmark and Sweden, a secretariat for the Council until the end of 2012 (Common objectives and priorities etc 2007). The secretariat, if properly staffed and financed, could also assume the task of co-ordinating the implementation of existing treaties applicable in the Arctic.

One of the greatest concerns in moving towards an Arctic treaty approach is the possibility that the status of the organisations of Arctic indigenous peoples might be called into question. As will be recalled, they are not NGOs in the work of the Arctic Council, but participate on an equal footing in the work of the Council, from ministerial meetings down to individual working groups. Even though the decisions will be made by the Arctic states, they can only be made after full consultation with the six Arctic indigenous peoples' organisations, which all possess the status of permanent participants.[13] In reality, this has meant that if all six permanent participants object to a certain project or decision, it will not even proceed to decision-making (Koivurova & Heinämäki 2006). Can the status of the indigenous people's organisations be retained if the above-outlined treaty is negotiated, since in almost all other inter-governmental organisations, regimes or negotiation processes the status of indigenous peoples is only that of an NGO, with concomitant observer status?

It should be emphasised that the danger of downgrading the status of the indigenous people's organisations and lessening their general influence in decision-making is not due to constraints laid down by the customary law of treaties. According to that body of law, states are perfectly free to create a treaty permitting the participation of indigenous peoples as permanent participants since they are not accorded actual decision-making power but most only be fully consulted before decision-making by the member states. Indeed, the biggest obstacle to establishing participation rights for indigenous peoples in an Arctic treaty would arise from the factual setting. When an international treaty is concluded, different officials are involved than when a soft-law instrument is created. Foreign ministries and their legal offices would be involved, and their views might result in indigenous peoples being given the status they normally have in international treaty negotiations or in inter-governmental organisations: that of an NGO. Another possible obstacle would be the involvement of national parliaments, which normally have at least some kind of powers over treaty-making, a fact that also poses a challenge to the position of indigenous peoples. If the Arctic indigenous peoples' organisations were downgraded to the status of observers, with the usual NGO status, this would have, according to the present author, unfortunate consequences for the whole Arctic co-operation process, but especially its environmental protection mandate. This is not only because of the importance of these organisations in the environmental and sustainable development work carried out in the Council, which has been substantial, as they have been able to convey their views on how environmental protection should be carried out in an area in which they have lived sustainably for ages. They have also made a distinct contribution in providing their traditional knowledge to make the Arctic Council's scientific assessments even more compelling for the general public and decision-makers (Reiersen & Wilson & Kimstack 2003; Flöjt 2003).

If we think of future possibilities to create an Arctic treaty with a stronger environmental protection mandate, retaining the status of indigenous peoples in the formalised Arctic Council is necessary. First, the status given to Arctic indigenous peoples legitimises the work of the Arctic Council as truly representing the people who live there, the original occupants of the region. Second, irrespective of whether all Arctic indigenous peoples still live in a sustainable way in a close relationship with their environment, this is the popular image conveyed in international forums and in the public eye. This has a vast significance from the perspective of legitimising the environmental protection mandate of the Council, as it can and must present itself as safeguarding this special relationship with the still relatively undisturbed environment of the Arctic indigenous peoples. These reasons justify retaining the status of indigenous peoples if and when an Arctic treaty is negotiated at some point in the future.

There would thus seem to exist a need to launch the third phase of the Arctic co-operation, the two first

phases - the Rovaniemi process and the Arctic Council - being soft-law co-operation, building on the same fundaments that were already established in the 1991 AEPS. The celebrated role of the Arctic Council as a `a symbol of the of the emergence of the Arctic as a distinct region in international society' (Young 2000) seems increasingly outdated as vast environmental and social challenges would require a more authoritative role for the Council.

If the questions as to whether the environment and the people of the Arctic region are well-managed in the face of climate change and globalisation challenges - questions, which are of much interest to the people and communities living in the region and concern to the region's vulnerable ecosystems - can be answered by referring to the existence of the Arctic Council, there is a great danger of the Council becoming a façade under which unilateral and uncoordinated policies of the states in the region can proceed. This problem of façade legitimisation is bound to haunt its work until it can transform itself to an inter-governmental organisation with legal powers. The celebrated role of the Arctic Council as a `a symbol of the of the emergence of the Arctic as a distinct region in international society' (Young 2000) seems increasingly outdated as new environmental and social problems would require a more authoritative role for the Council.

Notes

1. Especially if we count it from the commencement of the negotiations leading up to the adoption of the AEPS, which started in 1989.
2. The Soviet Union was still in existence when the AEPS was signed, soon replaced by the Russian Federation as its successor.
3. Senior Arctic Officials (SAO), normally officials from the foreign ministries of the eight Arctic states, guided the co-operation in-between the ministerial meetings.
4. The first chair-state was Canada (1996-1998), the United States (1998-2000, Barrow ministerial), Finland (2000-2002, Inari), Iceland (2002-2004, Reykjavik), the Russian Federation (2004-2006, Salekhard) and currently Norway holds the chair. Norway has agreed with the two next chair states Denmark and Sweden that a secretariat is established for Troms Norway until 2012.
5. The new name is Arctic Contaminants Action Programme (ACAP).
6. The difference between the WWF and the IUCN is that IUCN is a hybrid organisation, the membership, which consists also of states (78) and government agencies (113) but also international and national NGO's.
7. The final ministerial meeting of the Rovaniemi process took place in Alta in 1997. Since the Arctic Council had been established already in 1996, the Alta meeting focused much energy on guiding the Rovaniemi process under the auspices of the Arctic Council. The first ministerial meeting of the Arctic Council took place in Iqaluit, Canada, in 1998.
8. The report was compiled for the internal purposes of the Finnish Ministry of the Environment and has not been published (82 pages). On file with the author.
9. The only exception is the Nordic Council, which went further and adopted the following recommendation directed at the Nordic Council of Ministers: "The Nordic Council recommends to the Nordic Council of Ministers that in cooperation with the Arctic Council the aim is to create a legal system pertaining to the Arctic." 26 April 2006 decision (translated from Finnish, Timo Koivurova, on file with the author).
10. The present author was invited to this meeting, which was attended by scholars, representatives of Arctic indigenous peoples and government officials. The IUCN recently decided to establish an Arctic Task Force.
11. The possible benefits of establishing a treaty include encouraging greater political and bureaucratic commitments, establishing firmer institutional and financial foundations, transcending the vagaries of changing governmental viewpoints and shifting personnel, giving `legal teeth' to environmental principles and standards, and raising the public profile of regional challenges and cooperation needs. For an overview of pros and cons of the treaty approach (Koivurova & VanderZwaag 2007).
12. Annex 8: Paper prepared by Norway on the topic of revising the Arctic Council Focal Point, Draft Text for a discussion paper on the future of the Focal Point for ACIA Follow-up at the upcoming Focal Point meeting, included in Report to SAOs from Focal Point for ACIA Follow-up Activities, which can be downloaded from the Arctic Council website (meetings > ministerial meetings > 2006), at http://www.arctic-council.org.
13. These are: the Arctic Athabascan Council, the Gwich'in Council International, the Aleut International Association, the Inuit Circumpolar Council, the Saami Council, and the Russian Association of Indigenous Peoples of the North.

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Energy Legal Challenges in the Arctic: Implications of a Changing Climate

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Climate change – or global warming – is strongly related to the use of energy in various forms, which implies that the energy sector is strongly affected by not only climate change itself, but also as a result of the policies and measures implemented to mitigate the adverse effects of climate change.

The Arctic holds an unusual position in relation to climate change; on the one hand it is considered particularly vulnerable to changes in the climate and on the other hand, the Arctic consists of only Annex I parties to the climate convention.1 Hence, notwithstanding the Arctic's sort of "weak position" impact wise, most Arctic countries are bound by the substantive provisions of the conventions protocol2 (except for the U.S. who has withdrawn its signature from the protocol, and Russia, who is an EIT).

The purpose of this article is to highlight some of the "energy legal challenges" that might confront the Arctic states with regards to climate change, e.g., both as a result of the climate regime and challenges that are due to the actual changes in the climate. In this context I will draw on some of the Swedish experiences, predominantly in the field of wind power implementation.

Impacts and Challenges of the Climate Change

The Arctic is rich in energy resources: immense reserves of renewable as well as non-renewable energy resources are found all over the Arctic region and so far, further exploitation has mainly been hindered by both absolute and relative inaccessibility. Physical obstacles, such as weather conditions and topography etc. impose more or less absolute barriers to exploitation whereas the often high costs involved in e.g., transport, infrastructural reinforcement etc. are more relative hindrances to development. However, a scenario of global warming may well profoundly change these preconditions: a decline in sea ice will increase accessibility to the sea and hence provide new opportunities for transport (shipping) across the Arctic Ocean. This will in turn lower the investment and operating costs for energy activities.3

Accordingly, changes in the climate imply changes in the physical preconditions for exploitation and therefore the relative costs for energy developments may decrease. At the same time a warmer climate implies constraints in terms of increased risks for damages on existing as well as future infrastructure. Thawing permafrost, melting ice and more extreme weather conditions etc. increase the risks for road and pipeline failures and hence accidents (such as oil and gas leakages etc.). More extreme weather conditions also impose maintenance difficulties on for instance windmill and hydropower installations.

The overall objective of the climate regime (by which is intended the UNFCCC and the Kyoto protocol) is "to achieve (…) stabilisation of greenhouse gas concentrations at levels that would prevent dangerous anthropogenic interference with the climate system"4. In other words, the regime mainly calls for human induced GHG emissions to be reduced. The independent function of the protocol is in a sense to add force to the ob-

jective by means of the legally binding emission reduction targets. The parties are, however, in principle free to decide how these individual targets are to be reached which implies that the protocol does not force the parties to take any specific measures in for instance the energy sector.5 Nevertheless, the energy sector holds a huge part of the emissions in most countries and measures to e.g., alter the energy mix are hence in most cases considered necessary.

The Arctic thus holds a somewhat special position both in terms of the actual impacts of climate change and in relation to the climate regime since it is NOT paid any specific attention by the climate regime. With reference to energy, a number of Arctic specific issues can be brought to the table, for instance in connection with heating (it's a very cold climate), transport (long distances), industrial structure (a lot of heavy, energy demanding, industry is located within the Arctic), and the fact that the region is rich in energy resources, not least natural gas, which is a fossil – and hence GHG-emitting, energy source.

Hence it follows that the process of global warming together with the implications of the climate regime are likely to challenge national – as well as regional – energy related laws. Not least in view of the principle of a sustainable development. The prospects of increased exploitation and transporting across the Arctic region raises questions relating to (examples, not exhausting):

- Land use legislation: how can land be used and by whom? Initialises issues relating to physical planning and the like
- Investments and trade: how to treat foreign investments (outside the ECT) in infrastructure, energy installations (windmills, dams, pipelines etc.)
- Cumulative environmental effects: from what perspective do we assess/measure these effects: nationally, regionally or even globally
- Procedural rules: e.g., permit (concession systems) etc. How shall different (and difficult) concession systems be handled? Is there a need for harmonization? (We are currently involved in a study about inter-country differences in the permit systems for electricity installations in the Nordic countries with the intention to analyse the preconditions for increased harmonisation of the rules…)

To illustrate some of the legal challenges that may lay hidden in the institutional framework and that may prove a serious obstacle to addressing climate change, I will provide an example from the Swedish implementation of wind power.

Lessons from Sweden: Legal Obstacles to Wind Power Development

Sweden has – somewhat contrary to its energy resource base – decided not to further develop (large-scale) hydropower and to phase out nuclear power (together hydro and nuclear account for 100% of the electricity supply). At the same time, the country has decided to cut back on the emissions by 4% during the first Kyoto commitment period (without the use of the flexible mechanisms). It should also be mentioned that there is little room left for additional efficiency measures in for instance the energy intensive steel and pulp industry. Accordingly, a significant part of the future demand for primarily electricity is supposed to be met by renewables, preferably wind power.6 Said and done, in 2002 the Swedish government laid down a goal for a yearly wind power generation of 10 TWh by the year 2015. This goal is however only one of many wind power promoting measures. Renewables, and in particular wind power has been subject to a number of policy instruments over the last two decades. Production subsidies, R&D-programmes (environmental bonus) etc. has been in place for a long time in Sweden, none of them very efficient. In spite of the fact that the economics of wind power is relatively good (counting *new* installations *with* the policy support, wind power is actually the cheapest alternative available…), nothing much has happened.7

The economics, in terms of the investment decision, of wind power will however be affected by other factors, there among the public's attitude towards wind power and the legal framework governing the planning, location and installation of windmills.

The legal part of the analysis (i.e., the study of the legal system in relation to wind power the main question being whether the law promotes or counteracts wind power development) gives evidence of a sort of "conflict in objectives" due to some serious legal obstacles to further development of wind power in Sweden:8

First, the rules governing the overall use of land present a strong protection against activities with a negative impact on the landscape; the legal protection is biased in the sense that it does indeed protect natural and cultural environments (for instance the mountain areas, or areas protected for reindeer husbandry etc.) whereas it does not hold any corresponding protection for "sustainable use" of natural resources. Hence it follows that the landscape interests tend to "win" over exploitation interests (no matter how in keeping with other environmental objectives) in a weighing process. This is particularly evident when it comes to wind power since one of its main environmental impacts is the visual impact of the turbines. Other than that, the substantial rules on land use are for the most part vague and the room for discretion hence considerable and conclusively the outcomes are unpredictable…

In addition to the more general land-use rules, the environmental code holds yet another provision, called the location rule, which has proven to hinder windmill installations in several cases: roughly, the provision requires the chosen location to be "the best" (from an environmental point of view) of the alternatives (which have to be presented). The court then objectively assesses the different alternatives and decides which one is "the best". Subjective matters, such as which of the locations the investor has access to, are not taken into account. In several cases, the court has rejected applications on the basis of the location rule, stating that it cannot be shown that the proposed location is the best suited.

Second, a full-blown jungle of permit requirements may face the windmill investor, which seriously increases the costs for the investment, especially since the outcome is utterly unpredictable due to the vagueness of the substantial rules. An offshore wind park may need up to five different permits, which only to a minor extent can be processed by the same authority (i.e., the environmental court decides upon the permit for environmentally hazardous activity and for water operations simultaneously).

Third, the much decentralised planning system – also known as "the municipal planning monopoly" – basically implies that – in the end, it is the municipalities who decide whether or not there is going to be any wind power at all. Some of the permits, i.e., building permits and detailed plans, are connected to the physical planning and hence conducted by the municipal authorities. This implies that the municipalities may possibly plan for wind power (in which case it will be installed), or not (in which case it will not be installed).

All in all, the analysis indicates a conflict of objectives in terms of on the one hand a long term sustainable development and on the other hand neighbour law and subjective environmental impacts. As for the policy implications, the result thus calls for:

- Long-term stability in policy instruments. Few things have more negative effects on investment decision as uncertainties. Therefore, instead of changing the policy instruments every other year because they are not "working", it might be useful to take a deeper look at the institutional framework in which the policies are to be implemented.
- Offshore installations. Considering the difficulties involved in land-based wind power, it may be a better idea to put money in offshore establishments.
- Designation of areas of national interest for wind power. Have positive implications both for the assessment and the physical planning process (has to be taken into consideration).
- Provide more precise/less vague guidelines for the overall use of land. In view of the sustainability objective, land and water areas may be protected also for their usefulness…the rules on how to balance the interests must be adaptable to changing circumstances.
- Facilitate (and perhaps harmonise) the permit (concession) process. This is crucial for investments to take place.
- Increase public participation possibilities. Time-consuming, yes, but nevertheless important for further developments

Conclusions

In consideration of the Swedish wind power experiences; there are some issues that might be of interest for the other Arctic states. Firstly, the land-use aspects: It is not unlikely that conflicts of interests in relation to the use of land will increase as a result of increased accessibility to the Arctic areas, hence from an environmental perspective it is utterly important that there is in place a legal system that is capable of assessing the impacts (also the cumulative impacts). Secondly, the

permit systems: Overlapping and time-consuming permit processes negatively affect competition and thus refrain from investments. Thirdly, public participation: the issue is delicate; on the one hand an excessive participation process tends to prolong the installation time, on the other hand, establishments that are not deeply rooted among the general public and the indigenous population is inclined to cause serious hassle later on in the form of e.g., appeals etc.

Notes

1. United Nations Framework Convention on Climate Change (UNFCCC)
2. The Kyoto Protocol to the UNFCCC
3. UNEP, Global Environmental Outlook, "GEO-2000" Chapter two: The state of the environment: The Arctic – Social and economic background. Available on the Internet: http://www.grida.no/geo2000/english/0118.htm
4. UNFCCC, Art. 2
5. The enforceable part of the regime builds heavily on the quantified emission reduction targets, which implies that the extent to which the system will have any profound effects on the energy sector comes down to the size of the cap. Thus, even though the climate regime indeed provides *possibilities* for far-reaching energy conservation, it does not really force the parties to take specific measures in this respect. The market-based model chosen to enforce the objectives of the climate regime does hence at best implicitly promote the diffusion of clean and renewable energy.
6. See for instance Swedish Government. Regeringens Proposition 1996/97:84 om en uthållig energiförsörjning, Stockholm 1997. (the 1997 Government Bill on a sustainable energy supply)
7. See Söderholm et.al. (2005) "Wind Power Development in Sweden: Global Policies and Local Obstacles", *Renewable and Sustainable Energy Reviews* 11 (2007) 365-400
8 . For a more detailed analysis on the subject matter see Pettersson, M (2006) *Legal Preconditions for Wind Power Implementation in Sweden and Denmark* , Licentiate Thesis, Luleå University of Technology

Fourth Theme:

Gender, Citizenship and Human Security

Households on the Margin: Smallholder Resilience in Highland/Island Scotland

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At the close of the first millennium, the height of the Medieval Warm Period had reached its maximum in Northern Europe (Dahl-Jensen et al. 1998; Barber et al.2003). This anomalous period of mild climate was associated with large-scale intensification of agriculture throughout the British Isles and Europe (Fossier 1999; Dyer 2002; Alldritt 2003). This time also witnessed raiding by and later settlement of Norse farmers throughout the greater North Atlantic (McGovern 1990; McGovern et al. 2001; Bigelow 1991; Morris and Rackham 1992; Barrett et al. 2000). The Norse gained effective political control of Northern Scotland, along with its Northern and Western Isles, by the end of the first millennium. Although the beginnings of an economy based on pastoral dairying and intensive production of cereals are noted in indigenous contexts from c. AD 300-500 (e.g. Parker Pearson and Sharples 1999), by AD 1200, research indicates that a pastoral expansion (for increased fodder) was accompanied by the production of surplus commodities such as dried fish, cereal grain and wool, throughout Northern Scotland and the Northern and Western Islands (Alldritt 2003; Barrett 1997; Barrett et al. 1999; Rorke 2006). The Treaty of Perth in the 13th century, brought an end to Norwegian political control in Northern Scotland and the Western Islands and ushered in a period of political instability as elites vied for political control of lands and the small-scale farmers that occupied them.

Until recently, most of what was known of rural Scottish householding came from biased pre-clearance descriptions (c.f. Findlatter 1845) that cast a rather negative light on the technology and production of small-scale farms for the period. Rural farming immediately pre-clearance was feudal in nature and organized via township settlements within given tenure areas (Alexander 1975). Each township consisted of an agricultural infield (in close proximity to the houses) that was plowed into long rows (rigs). Each household farmed particular rigs that were located in the infield region. The outfield areas were communal grazing zones under close scrutiny of the households. The rigs were fertilized with dung and midden on a yearly basis and grew a succession of barley and oats. Privately owned cows, sheep and goats were raised in the outfields. The run-rig system of farming was perpetuated via a complex set of heritable usufruct property rights until the clearances of the 18th and 19th centuries. Although the written record for small-scale farm production strategies during the Medieval Period is sparse, it appears that for the five hundred year project period (AD 1200-1700), the cumulative historical forces of political instability, climate change and growing market forces were buffered by the small-scale farming households of Northern Scotland, all while local power centers such as Finlaggan (Caldwell 1997; 2004) rose and fell.

Household Economies of Resilience in Northern Scotland

Citing the limited knowledge of rural farming economics in Medieval Northern Scotland, archaeologists have attempted in recent years to fill the void left by written sources. However, the few archaeological attempts at understanding rural Medieval Scottish political econ-

omy have been based on data gleaned from specialized and/or higher status sites (Barrett 1997; Barrett et al. 1999, 2000; Batey 1987; Morris et al 1995) and mirror other macro-scale historical reconstructions of the time period for Britain and Europe (e.g. Hodges 1982; Astill 1985). These studies have been important in detailing the larger economic forces (e.g. stockfish trade and growing European markets) in play during the Medieval Period for both Northern Scotland and Europe but they obscure the view of local household economies that operated in the region.

The current project attempts to add to our limited understanding of small farm production strategies (and the factors that helped them to persist for centuries) in a region marginal for agriculture. A question of critical importance concerns the degree of commodity production within household economies for the period of investigation (AD 1200-1700). The two primary export commodities for Northern Scotland during the Medieval Period were wool and fish (Barrett et al. 1999, 2000; Rorke 2006). The production of both commodities by small farmers would have required significant resources in the form of equipment (boats, lines, etc.) and stocking mixes (e.g. many male sheep castrates) that would have individually and collectively competed with subsistence-based food production. Active articulation with commodity trade networks, however, could have possibly offset losses in subsistence production via trade. Alternatively, small scale farmers could have based production primarily on subsistence needs and insulated themselves from precarious commodity markets, all while simultaneously marginalizing themselves from trade articulations. A more likely scenario involves some combination of subsistence and commodity focused production as a strategy for balancing household needs with market opportunities.

Netting (1993: 321) articulated a "smallholder" farming adaptation in order to define the processes by which small farms (that serve both subsistence and market demands) with continuous levels of production, tend to occur (and persist) in areas of dense rural population or marginal land. Netting (1968, 1981) attempted to show that the intensive agriculture of the smallholder was economically efficient, environmentally sustainable and socially integrative. Since the original formulation of the smallholder model, both cultural anthropologists (e.g. Wilk 1997; Stone 1998; Sick 1999; Crate 2003) and archaeologists (Pyburn 1998) have highlighted its utility in helping to understand the mechanisms of resilience within small-scale farming societies. Smallholders' unique robustness is predicated on a wide-based subsistence strategy that is uniquely adapted to particular areas (based on local histories and environments) and modified as needed (Netting 1993). Because of smallholders' limited market articulation and wide-based subsistence strategy, archaeological measures of micro-level (household) economy will not accurately reflect wider macro-scale political economies but instead reflect local histories of subsistence in unique microenvironments *within* Northern Scotland. Theoretically, the smallholder adaptation is based in part on the neoclassical economic work of A.V. Chayanov. Chayanov (1966) working with Russian agricultural and demographic data from the 19th century, developed a model of peasant family-farm organization. Using neo-classical economic theory, Chayanov positioned the family household as the unit of production and consumption and in doing so, could explain certain peasant-based decisions that seemed to violate the normal expectations for profit farming. The strength of Chayanov, for Netting, was his microeconomic focus on the logic of household decision making in small-scale farming societies. However, unlike Sahlins (1972) and others who used Chayanov less critically, Netting did not believe in an isolated, self-sufficient "household mode of production" comprised of altruistic non-economic individuals. Rather, for Netting (1993), smallholders are organized at the household level and act in their own economic self-interests while balancing subsistence and market production in an ever changing world.

Another objective of the current project is to reveal the economies of small, rural, Scottish Medieval farms within the context of the better understood regional political economy of Scotland and the North Atlantic (Bigelow 1984; McGovern 1990; Barrett 1995; Barrett et. al. 1999, 2004; Morris and Rackham 1992). These macro-scale views often overshadow the economies of individual farms and the mechanisms by which they operated. Rural farmsteads in Northern Scotland and the Western Isles managed to develop quite robust mechanisms for survival and the current project is an attempt to gain a better understanding of these factors. Based on archaeological investigations of large elite sites in Northern Scotland, the regional political economy is believed to have been heavily dominated by the production and

trade of commodities such as fish and fish products (Barrett et. al. 1999, 2004). To date, a proper economic characterization of small farmsteads in coastal Highland and Island Scotland has not been possible, due to a lack of site investigations. Many questions remain to be answered. Was household production in this region focused on commodity production and trade, as seen in larger sites, or was it more independent and subsistence based? Alternatively, was household production perhaps a combination of both commodity and subsistence production? The current project contributes to our understanding of sustainable economic farm strategies in the agriculturally marginal North Atlantic region.

Archaeological evidence of rural Medieval settlement and economy in Scotland is poorly understood at present (Lelong 2003). Noting the absence of information concerning Medieval rural settlement in Scotland, Fairhurst (1968, 1969a, 1969b) initiated the systematic study of abandoned farm remains over thirty years ago. Fairhurst was unsuccessful at locating archaeological contexts predating the early modern period and little has changed regarding the location and study of Medieval farm remains in rural Scotland. In many regards, the Iron Age with its robust stone architecture is better understood than the Medieval Period that followed it. Although these data remain elusive, in recent years some progress has been made at locating rural Medieval settlements in the Scottish countryside (see Govan 2003 for review). Working as part of the MoLRS research group established in 1994, archaeologists in Scotland are beginning to have some limited success at locating rural settlements, as the small number of sites from the Highlands and Islands that contain Medieval remains is slowly growing (Lelong 2003). As part of the MoLRS group, Glasgow University Archaeological Re-

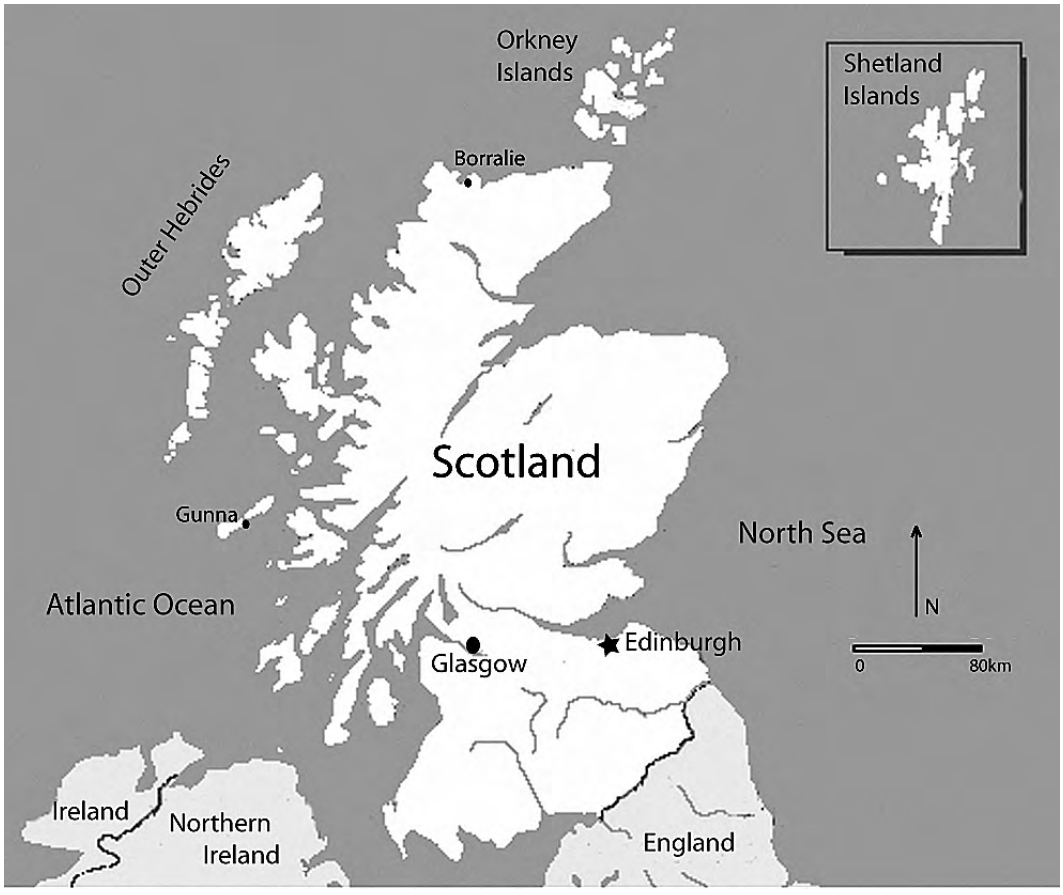

Figure 1. Project Farmsteads in Scotland (AD 1200-1700).

search Division (GUARD) has investigated a series of four archaeological sites containing Medieval Period remains. Three of the sites are located along the northern coast of Scotland with the remaining site located in the Inner Hebrides. All of the sites contain archaeological deposits dating to the Middle to Late Medieval Periods (AD 1200-1700) and collectively offer the first comprehensive view of rural Medieval smallholder economies in Scotland.

Project Data

Archaeological data for the current project were excavated from four sites (Borralie, Sangobeag, Dunnet Bay and Gunna); three from the north coast of Scotland and one from the Inner Hebrides (**Figure 1**). In Sutherland, along the northwest coast, two sites are located near Durness. Borralie and Sangobeag both contained Medieval midden deposits along with structural remains that have been dated via ceramics to the 13th -18th centuries (Lelong and Gazin-Schwartz 2004, 2005; Brady and Lelong 2001). To the east in Caithness, Dunnet Bay revealed midden deposits that included a bone comb dated to the 13th -14th centuries (Pollard 1999). The fourth site is located on the Isle of Gunna in the Inner Hebrides. Gunna contained extremely rich midden deposits, structural remains and was dated via ceramics to the 13th – 18th centuries (James 1998). Each of these regions (North Sutherland, North Caithness and the Hebrides) has a unique history of Medieval archaeological investigations.

Throughout the Medieval Period, Scotland's two most important export commodities, based on export values, were wool and fish (Rorke 2006). Although data analysis is ongoing, preliminary findings from the four project sites are beginning to show a uniform pattern of household economic strategies aimed primarily at subsistence production with only minimal evidence for commodity production. Proxy animal profiles reveal stocking mixes dominated by sheep (ca. 60%) with lesser amounts of cattle (ca. 40%). The cattle remains suggest diary production at each of the sites and are expected at small farmsteads for the time period throughout the North Atlantic. More interesting is the lack of any significant evidence for the raising of sheep for wool commodity production. Rather, sheep mortality and sexual dimorphism profiles from the project sites, reveal a pattern of female sheep being raised for milk production - a common strategy for subsistence farmers in other parts of the North Atlantic not engaged in wool commodity production (Fenton 1978; Aðalsteinsson 1981; Ingimundarson 1995).

Although a growing literature continues to unveil the emergence of the Medieval stockfish trade in Scotland and Northern Europe (Barrett 1997; Barrett et. al. 1999, 2004; Perdikaris 1999; Van Neer et. al. 2002) much of the evidence for its emergence and role in coastal economies of Northern Scotland comes from specialized fish processing sites (Barrett 1997; Barrett et. al. 1999), rather than more typical small-scale farmsteads located on or near the coast. Fish specimens (although representing less than 10% of each site's overall faunal collection) from each of the sites were analyzed to establish proportions of represented species (and elements), butchery patterns, and size reconstructions, following adopted methods (Barrett 1997) for identifying the capture and processing of commercial North Atlantic fish. Commodity stockfish productions via a specific focus on larger deepwater gadids (e.g. cod and haddock) and butchery/processing patterns consistent with the creation of dried fish, was *not* noted for any of the project small-scale farmsteads. In contrast, a variety of small inshore species (e.g. labrids, cottids and rocklings) dominated the fish assemblages and suggests opportunistic shoreline fishing rather than focused stockfish production.

Northern coastal Scotland and the Hebrides had a distinct fiber-tempered pottery tradition that was active throughout the project period (AD 1200-1700) (Batey 1987; Ballin-Smith personal communication). By the 13th century, high quality redwares and grittywares were being manufactured along Scotland's east coast and traded throughout the country (Dunning 1968; Hall 2000). Additionally, Norwegian and continental trade wares were making their way to Scotland throughout the project period (Dunning 1968). Households with heavy investments in commodity markets were likely to have been consumers of import trade wares and these would be expected to be well represented within ceramic assemblages. However, very little import ceramic evidence was found at each of the project sites and overall, the ceramics were dominated (over 90% by number and weight) by the locally made dark fiber-tempered wares.

Discussion

In summary, data from the four project sites reveal proxy measures of household economies suggesting a primary reliance upon subsistence-based strategies. Evidence of commodity production and active international trade are minimal and contrast significantly from political economic reconstructions involving larger, more elite sites from rural Scotland for the study period (AD 1200-1700). Dominant core areas such as urban England and trade centers of continental Europe, appear to have failed in pulling small-scale farmers of the marginal lands in Northern Scotland and the Hebrides into powerful commodity market systems. It was not until farmers from this region were physically removed from their farms that they began to fully embrace wage labor and commodity markets. For the millennia before this, household economies of small-scale farmers in rural Scotland appear to have been primarily subsistence in focus with only minimal trade as an adjunct.

According to Netting's (1981, 1993) smallholder model, small-scale farmers do articulate with markets, as they can provide either cash or needed materials. However, the intricate household and community systems of subsistence can be jeopardized if too much emphasis were to be placed in commodity production or wage labor. The historical tenacity of smallholding groups such as those of rural Scotland is believed to be in part due to uniquely developed and environmentally reflexive systems of subsistence and community organizations, both which were critical for survival and actively protected. Quite simply, it is proposed that the smallholders of rural Medieval Scotland *chose* not to become fully involved in market economies of the region because they did not serve their needs as fully as the household and community based subsistence systems that had been carefully crafted for hundreds of years. The importance of subsistence economies within many current Northern societies continues to be debated. Although viewed as unprogressive and backward for their day, the subsistence based economies of Medieval rural Scotland were responsible for a rich legacy of ecological knowledge and population density that has yet to be matched since the land clearances of the 18th and 19th centuries. With respect to sustainable agriculture and resiliency in the North, often the true experts are those that reside there – and they have much to teach us.

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Human Security in the Arctic: A New Perspective on Gender and Rights?

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In this article, we explore how the concept of human security, which was developed primarily to assess and ameliorate dramatic challenges to life and livelihood in the 'Third World,' might be applied to an examination of aspects of political participation of women in the Nunavut, Canada. We start with the assumption that functioning and appropriate political systems and institutions are fundamental to human security; and, that legitimate and effective Indigenous representation and the creation of political institutions appropriate to Indigenous peoples' senses of identity, community and culture are essential to Indigenous individuals' and communities' well being.

First, we explore briefly the vocabulary of rights active in the Canadian North and hypothesize the ways in which human security might be a useful way of thinking through the rigid juxtaposition of individual *versus* collective rights that so often characterizes discussions of Indigenous women's rights. Subsequently, we present a specific case study of failed institutional reform designed to ensure the participation of Inuit women in formal politics in Nunavut. Throughout, we examine how the concept of human security can contribute to thinking about the issues of political participation and the appropriateness of political institutions.

Human Security in the Arctic: A New Dialogue

Indigenous and/or human rights discourse is one of the primary political discourses generated by indigenous leaders engaged in activism and negotiations directed towards the Canadian state.[1] This political activism is based upon the idea that Indigenous peoples, as peoples colonized by settler states, have human rights – structured as "aboriginal rights" by colonizing states – that existed before the imposition of the colonial state, and continue to exist. In many cases, particularly in the Americas where colonial governments and peoples became permanent, the refusal of the state to recognize Indigenous peoples' rights results in an unresolved relationship with the State, wherein Indigenous peoples remain colonized (*e.g* dispossessed and in conditions of economic, political and social marginalization)[2]. In general, human rights are understood as protecting an *individual's* fundamental human interests, such as protection of the home and bodily safety, and are believed to be universally applicable to all persons in all societies. Canadian political philosopher Will Kymlicka (1995) has been influential in broadening the conception of human rights to describe how Indigenous rights differ from the dominant understanding of individually

held human rights developed by Western liberal political thinkers and in positing a place for collective rights in human rights discourse. His argument is based on the idea that Indigenous peoples require rights exceeding individual human rights, such as a collective right to the traditional lands that form the basis of continuing group livelihood and coherence or a right to meaningful political engagement, in order to ensure access to a secure base of Indigenous culture. Kymlicka argues that without such a firm societal basis, individual rights and the attending concepts of individual autonomy and freedom cannot be attained.

Yet, Kymlicka fails to move this discussion outside the colonial framework through his failure to engage with an Indigenous understanding of nationhood. Kymlicka ascribes the title of 'national minorities' to Indigenous peoples within the Canadian state. As the classification of minority requires there be an established authority (i.e. Canadian Federal Government), this designation represents another attempt to assimilate Indigenous peoples within the colonial structure by arguing Indigenous populations have no choices outside of this political standard[3]. This reality has furthered the discussions surrounding Indigenous rights as human rights. If indigenous peoples have a collective right to maintain practices and institutions that differ from the dominant settler state, would their social and political institutions be exempted from basic human rights legislation and charters of rights? This issue becomes particularly prominent in terms of thinking about the rights of 'subgroups' of vulnerable persons, often depicted as Indigenous women, within an Indigenous community and is often posed as a irreconcilable conflict between group, or Indigenous, rights and individual liberal rights.

Indigenous feminist scholars recognize the vulnerability of Indigenous women in particular communities and in particular situations, but ascribe disparities in the power accorded men and women in indigenous cultures to the influence of Western beliefs (Kafarowski 2002; McIvor 1999; Turpel-Lafond 1997). Thus, the protection and empowerment of women in Indigenous communities would not hinge upon the enforcement of Western individualist liberal rights specifically for women, but rather a restoration of the Indigenous decision-making processes and political institutions that have been undermined by constant colonial interference (Alfred 1999). It must be recognized that colonialism has rendered issues of human security for Indigenous women inextricably intertwined with the questions of self-determination and freedom that transcend gender lines. Colonialism has attacked the very basis of Indigenous cultural practices, which underpin the equality and freedom of Indigenous women *vis a vis* Indigenous men and non-Indigenous people. In the words of one Indigenous feminist, anti-colonial perspectives encompass: *…a theory and movement that wants to fight all forms of oppression, including racism and colonialism…we could see it as a struggle for unity among all oppressed men and women* (Sunseri 2000: 144)

This approach, which articulates a necessity to interrogate broader social and political processes bent on the destruction and de-legitimization of Indigenous cultural and political practices, guides the following discussion of the implication for colonial political systems for human security in the Arctic, with respect to Indigenous women and peoples generally.

Western political theorists are now also working to think beyond the individual versus group rights discourse that characterizes much of political theory's approach to Indigenous claims. Bern and Dodds (2000: 169) propose that the individual rights versus group rights paradigm conceals that there may be:

a diversity of interests within a group that are not so much opposed to one another as they are to all aspects of the rich complexity of a shared way of life. As such, it is not a case of an oppressed subgroup's interests against the interests of the wider group, but rather an array of partially overlapping but different interests that, together, form the full array of group interests.

Ivison, Patton and Sanders (2000: 11) propose that moving beyond this dichotomy requires abandoning the idea that rights are universal and unchanging and call for an understanding of the historicity of rights, human rights discourse, and their implementation mechanisms and institutions. However, they do not propose to abandon 'the language of rights completely…[but rather] the moderation of our desire to translate every claim into one that can be classified as an individual or group right… A postcolonial political theory needs to focus as much on these processes as it does on the language(s) of rights.'

Perhaps the concept of human security is one way of overcoming the group versus individual rights debate. As the United Nations Development Program (1994) noted, human security is an 'integrative' as opposed to 'defensive' concept. It is this integrative aspect, which recognizes the interconnected nature of all facets of life in achieving a sense of security, that could help us see beyond the perennial juxtaposition of Indigenous women's human rights versus the group rights of the peoples to which they belong. Human security was initially defined as freedom from danger, poverty and apprehension but both in theory and in practice today it encompasses political, economic, health and environmental concerns. In opposition to the language of rights, in which an individual's rights are either respected or not, human security invites us to think of the embodied and situational experience of feeling more or less 'secure' – a spectrum as opposed to absolute possession or dispossession. In the following section, we examine, through a case study of a reform proposed and voted upon in 1997 that was designed to increase women's political participation at the territorial level in Nunavut, some of the difficulties involved in rights-based discourses.

Addressing the Political Access of Inuit Women in Nunavut: A Case Study of the Gender Parity Proposal

On April 1, 1999, one-fifth of Canada's landmass became Nunavut, a new Arctic territory in which eighty-five percent of the population of 28,000 is Inuit.[4] The gender parity proposal,[5] discussed prior to the territory's official establishment, was an attempt to address the under-participation of Inuit women in formal politics by guaranteeing gender parity in the Nunavut Legislative Assembly through an electoral system in which two representatives would be chosen: one man and one woman. To locate the debate, we will sketch out briefly the politics that led to the establishment of Nunavut, focusing specifically on how changes in leadership and power structures affected the political participation of women. Looking closely at the gender parity debate, which extended from the proposal's inception in 1994 to a public plebiscite in 1997, we will highlight how different political actors described the role of women in political institutions, in terms of traditional Inuit culture and western colonial political institutions. Finally, in light of the failure of the gender parity proposal, we will explore how the concept of human security might be a useful tool for developing other proposals related to the political participation of Indigenous women in decision-making.

The concept of a gender-equal legislature emerged from an awareness that traditional modes of Inuit gender relationships, leadership and the nature and structure of political power and organization have changed over time (Hicks 2003; Merritt 2003).[6] Despite the leadership of several high-profile Inuit women, overall levels of participation of Inuit women in formal colonial political structures remained relatively low, particularly in Nunavut. The assertion that the Nunavut government could not adequately represent the interests of all Inuit if it consists almost entirely of males was one of the guiding principles behind the gender parity proposal. The idea of a gender-balanced legislature was discussed first in 1994 by the Nunavut Implementation Commission (NIC), which was mandated by the 1993 *Nunavut Act* to provide advice on the establishment of Nunavut. The majority of the 9-person commission came to see the idea developed by the NIC staff - an electoral system which would 'build' gender balance into the very structure of the legislative assembly through a voting system in which one man and one woman would be chosen from each electoral district - as a combination of practicality and innovation and a rational step towards overcoming a history of Inuit women's voicelessness and non-participation in territorial level politics (Hicks 2003; Merritt 2003, Harper 2003).

Prior to contact with Europeans and Euro-Canadian bureaucratic structures, the basis of Inuit identity was the extended family unit, which was usually led by the oldest male who took decisions 'informally, gently and…in consultation with members of his extended family' (Duffy 1988: 196). Ethnographic analyses of indigenous northerners' gender relations highlight that men and women were highly interdependent and that there was a mutual awareness and appreciation of this complementary relationship (Bodenhorn 1990; Dorais 1988; Guemple 1986; Reimer 1996). However, the Euro-Canadian traders, merchants, missionaries and government officials who controlled the North favoured the participation and leadership of Inuit men, a tradition which caused Inuit women to feel that their experiences and knowledges were not applicable to this new West-

ern political process (Reimer 1996; Thomsen 1988). This was followed by the sedentarization of the formerly nomadic Inuit by the Canadian state in the 1960s, which caused the Inuit to interact more regularly with those outside their own clan or kinship groups and reinvent and reorganize their societal patterns, including new forms of political organization in the shape of settlement councils (Honigmann and Honigmann 1965; Vallee 1967). The 1970s marked the beginning of a campaign, led by Inuit politicians and largely in keeping with the policies of the Canadian state, to settle land claims and to create the Government of Nunavut, a process that greatly emphasized the right to exercise authority over land, a traditionally male domain of activity (Cassidy 1993; Damas 2002). The economic and political emphasis on natural resources and the centrality of the image of the hunter (Dybbroe 1988; Thomsen 1988) may have positioned masculine concerns at the center of Inuit nation-building.

Further, the emphasis on Inuit, and other Indigenous, women as 'givers of life, custodians of culture and language and caretakers of children' (RCAP 1996a: 64) positions domesticity at the center of Inuit womanhood, creating a situation in which the mobility of political office is problematic and women are distanced from the public sphere – the space of Western political decision-making and the space upon which political institutions in Nunavut are modeled. Nancy Karetak Lindell, a Member of Parliament for Nunavut, cited the criticism faced by female politicians for leaving their families behind when traveling as a disincentive for women to participate in formal territorial politics (*Nunatsiaq News*, 9 November 2001). Other reasons cited for women's low participation in elected politics include the difficulty of balancing family, career and community obligations and the challenge of gaining access to the funds and supportive networks required for political campaigns (Dewar 2003; Dickson 2003; Doherty 2003)[7].

Prior to the public plebiscite on May 26, 1997, political leaders in favour of gender parity toured Nunavut's communities as part of the 'Yes' campaign and published articles and made radio appearances. Subsequently, a smaller 'No' campaign, championed by Manitok Thompson, a prominent female politician who had served as a Member of the Legislative Assembly in the Government of the Northwest Territories, was established in opposition. However, all meetings about gender parity had relatively low attendance and turnout for the final vote, in which gender parity was rejected by fifty-seven percent of those casting ballots, was only thirty-nine percent of all eligible voters (Dahl 1997). Regardless, the debate amongst the politically engaged was heated and clearly elucidated some of the major discourses active in conceptualizing gender relationships and women's political participation in Nunavut.

Arguments based on competing perspectives of traditional Inuit culture

Although the idea of gender parity in the Nunavut legislative assembly was not initially presented or discussed in relationship to Inuit tradition, the idea of traditional and inherent gender equality within Inuit society came to be used by both supporters and opponents of gender parity, who framed their arguments with competing views on the continuity between traditional gender relationships and those of the present-day. Supporters of gender parity argued that the proposal would restore a tradition of respect and equality that had been lost, whereas those against the proposal hearkened to traditional Inuit gender relationships as a firm foundation assuring mutual respect, which made the proposal itself superfluous. James Arreak, in a letter to the editor of Nunatsiaq News[8], argued that 'women do not need to earn respect because they already have our respect' (1997). Acknowledging men and women differently was also seen to undermine an Inuit 'spirit', which is, in the words of Paul Arreak (1997), 'communally based and individualism is second to it.' As Paul Quassa (1997) argued, '[our ancestors] did things collectively in order to survive…I believe that this [idea of gender parity] will only make the Inuit think and act as if there are two distinctive groups rather than viewing us all as one…' Also, a relatively conservative interpretation of Christianity, which has in some ways been incorporated into Inuit 'tradition' across the North, was invoked by a vocal minority who, particularly over community radio, used religion as grounds for opposition to the gender parity proposal (Dahl 1997; Gombay 1997; Hicks and White 2000; Kango 2003[9]).

The conceptualization of women as the carriers of tradition, responsible for the care of the national family is central to Inuit nationalist discourse and echoes throughout understandings of Inuit womanhood. As carriers of knowledge about the communities and the

home, supporters of gender parity argued that the presence of more women in formal politics would help the government deal with social problems, like those relating to health and education. One Igloolik woman said that social issues would have a higher priority if the Nunavut legislature had gender parity. She commented that 'if we don't make a change, I don't see these types of problems going away…Nobody talks about them in the present government' (in Bourgeois 1997a). The importance of the family and women's role within it was also used as a reason to reject the proposal, based upon the notion that the absence of women in the home while participating in territorial politics could lead to a deepening of the social problems afflicting many communities in Nunavut. One elder in Pond Inlet voiced his concern about women being elected members of the legislative assembly, as children would be left at home. 'I see kids who are left alone at home…I think they're the ones committing suicide when they get older. What's going to happen to those kids when their mothers are at the capital?' (in Bourgeois, 1997b). Veronica Dewar (2003), currently president of the Inuit women's organization Pauktuutit, highlights the responsibilities of Inuit women as keepers of the house as another obstacle for women's participation in formal politics. She observes that community leaders of wildlife boards, hamlet councils and hunters and trappers organizations, who are mostly male, treat women who want to be involved as 'if you had no reason to be there when you should be at home taking care of your husband and family.'

Arguments based on competing perspectives of formal political structures

Those against the gender parity proposal argued from a position of belief in the ability of existing forms of representation and rights to ensure the fair treatment and equal participation of all citizens, an idea which feminist scholars argue has led to the suppression of difference from public discourse in the name of objectivity – a practice that reinforces the privileges of already dominant groups (Pateman 1998; Young 1998). Paul Quassa (1997) argued that 'each and every able Canadian elector has the right to run for office…we don't elect people because they are men or women, but because they have experience and have proven their ability to constituents.' In light of the Canadian Charter of Rights and Freedoms, gender parity was seen to be superfluous as a legal requirement for and commitment to equality already existed.

Supporters of gender parity attempted to point to the reality of women's under- participation and the institutional barriers inherent to governance structures (Nunavut Implementation Commission 1995). Martha Flaherty (1994) saw Nunavut as a unique opportunity to reverse this trend:

We can avoid some of the problems with existing governments, one of the most significant problems being the under participation of women…in the old days, Inuit survived in the harsh environment through cooperation, and now NIC is proposing to carry on this long-standing tradition of working together.

In attempting to incorporate an acknowledgement of gender difference into the structure of the legislative assembly, supporters of the proposal were challenging powerful notions about the nature of representation in the public sphere. The public sphere was, in many ways, constructed largely in contrast to the assumed particularity and subjectivity of power relations within the home (Phillips 1998). Feminist scholars argue that this contrast resulted in two concepts that powerfully characterize modern political thought: the public/private divide and the related notion of women's responsibility for the spheres of domesticity and reproduction and men's obligation to the public word of economic and political life (Okin 1998). This created a situation in which both women and women's issues are excluded from the public sphere of political life (Okin 1998; Pateman 1989; Phillips 1998; Young 1998). While it is important to exercise caution in relating Western literature on the public/private divide to non-Western societies, much of the evidence outlined in this case study points to the influence of Euro-Canadian political ideas and institutions in shaping Nunavut's politics.

The gender parity proposal can be seen as a 'rights-based' approach, despite the fact it could be argued that the proposal's detailed implementation mechanisms and practicality overcomes the criticism frequently levelled at the use of rights-language, namely that rights are meaningless without the mechanisms that allow rights to be realized. Regardless, the proposal is based in the idea that women have a right to be involved in

politics and seeks to implement this right by moving Inuit women into formal political institutions. The failure of the gender parity proposal essentially ended productive dialogue about how to involve more Inuit women in all types of political activity. In the end, it was an all or nothing game – the gender parity proposal was to be accepted or rejected in referendum, a right to participation as a way of overcoming low female participation in formal politics to be implemented or not. Perhaps the idea of human security, which calls attention to the particular historical, cultural and social circumstances of individuals and collectives in a certain place and forces us to think about the individual and collective embodied experience of security, is a more useful concept that can measure a spectrum of experience from insecure to secure and orient people towards practical, step-wise solutions rather than abstract argument and all-or-nothing politics.

Conclusions

In the introductory section of the Interviewing Inuit Elders: *Perspectives on Traditional Law*, the first words on page six state: "Inuit elders were not concerned with theory, but with practice." (Oosten et al, 6). Throughout this article, we have attempted to take up that directive and to determine how human security may be a useful tool for thinking and, more importantly, for action, especially in relationship to issues of governance and Indigenous women's involvement in governance structures. We have argued throughout this article that human security may be more conducive to achieving an integrated understanding of what it means to live well and live freely – a concept more open to participation and discussion than the theoretical and often 'all or nothing' discourse of rights. Further, thinking in terms of human security allows us to move beyond the prevalent and hindering juxtaposition of individual rights versus collective rights that has characterized so much of the debate about Indigenous women's within their collectives. The concept of human security acknowledges and must continue to acknowledge that individual and collective security are intertwined and that the security of Indigenous women is deeply engaged with the security of Indigenous peoples, both men and women.

Notes

1. This summary does not include indigenous political theories and practices that operate at the level of indigenous communities and peoples – such theories and practices vary from people to people and are difficult to make generalizations about. By contrast, strategies directed towards the Canadian state for achieving indigenous political goals are more homogenous in that key practices and discourses are set by the Canadian state itself and by politically savvy indigenous leaders.
2. In Canada, the State has pursued the extinguishment of aboriginal rights through treaties and through the so-called 'modern treaties' – land claims and self-government negotiations process.
3. See Alfred (1999) for an excellent discussion about Indigenous understandings of nationhood.
4. Prior to Nunavut's establishment, the Eastern Arctic was part of the Northwest Territories. Although Government of Nunavut is a public one, in which Inuit and non-Inuit alike can participate, the founding principle of Nunavut was that it was meant to be an Inuit homeland with governmental structures and political processes reflecting the values and interests of Inuit society. It is debatable the extent to which the Government of Nunavut is an 'Inuit' government and the effects of integrating 'Inuit values' into Euro-Canadian governance institutions.
5. See Wilson (2005) for further discussion of the gender parity proposal and debate.
6. Jack Hicks served as a staff member of the Nunavut Implementation Commission (NIC) and John Merritt was legal counsel to the NIC from December, 1993 to January, 1998.
7. At the time of interviews, Veronica Dewar was President of Pauktuutit, the Inuit Women's Organization, Jennifer Dickson was Executive Director of Pauktuutit, and Maureen Doherty was Executive Director of Qullit (Status of Women Council, Nunavut).
8. Articles and commentary in Nunatsiaq News, an English-Inuktitut weekly newspaper that has the largest circulation of any newspaper in Nunavut, were the primary texts analyzed for this article and supplement the interviews Wilson conducted with politicians and policymakers in Nunavut from July-December, 2003.
9. Natsiq Alainga-Kango served as Secretary of Nunavut Tunngavik Incorporated, the Inuit land claims organization, during the gender parity plebiscite.

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Gender, Power and Citizenship in Circumpolar North – Gender and Sexual Harassment in University Revisited

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In the circumpolar North, discussion about citizenship has emerged during the past decades. This coincides with the development of transnational, supranational, and global formations such as the European Union, Circumpolar North, Barents region, Nordic collaboration or The Arch of Bothnia. These economic and political formations go beyond the nation state. What happens to citizenship and democracy in connection with decision-making that takes place within these new formations? What kind of access do women have to decision making processes and do they participate in the production of knowledge within these new formations? How are equal opportunities and gender equality intertwined into processes of decision making and development in the 21st century globalised North?

In my article, I will use empiric research material to reflect everyday life in an engineering department of a University. Prevailing is the ambivalence that the female engineering researcher faces in her job. Due to her intellectuality she has been treated respectfully and offered a possibility to carry out her studies in the University. However, she faces gender and sexual harassment and gendered expectations. This coincides with the general concern of the article, of whether forms and procedures developed within transnational, supranational and global formations of organizations are appropriate for the promotion of democracy and gender equality.

The study opens a view to the complex intertwined processes of gender, power and citizenship in a university of circumpolar North. The study challenges deeper intersectional analysis of democratic development in an era of transnational, supranational and global forms of citizenship. Societally sustainable development in circumpolar North requires a gender sensitive perspective on active citizenship, including the possibility of participating in decision making and knowledge production on the local and global perspective. This article aims to review challenges for gender equality policy development within complex multilevel governance of transnational, supranational and global organizations of which circumpolar Universities are currently a part.

Citizenship Challenges to Political Accountability

Development in the 21st century globalised North creates new challenges through multicultural issues, welfare, employment, education, equal opportunities and gender equality. In the Artic circumpolar North discussion on citizenship has emerged during the past decades. This coincides with the development of transnational, supranational and global formations such as the European Union, Circumpolar North, Barents region, Nordic collaboration or The Arch of Bothnia. These economic and political formations take decision-making beyond the nation state driven citizenship. What happens to citizenship and democracy during these transformations? What kind of citizenship would be needed to take care of equal rights? How is gender equality

going to be promoted within these new transnational, supranational and global formations? What kind of access do women have to decision making or expertise - participation in the knowledge production? How are equal opportunities and gender equality intertwined into processes of decision making and development in the 21st century globalised North?

The circumpolar North has become an arena for launching cooperative activities featuring innovative transnational initiatives on the part of subnational units of government and a variety of non-state actors (Young and Einarsson, 2004). These formations of agency are questioning the nation driven understanding of the citizenship rights and obligations. What seem to be the same women still do find themselves excluded from public office and power. Women's participation in decision-making and women's political participation are still central feminist concerns, and as important as women's access to education and participation in research and knowledge production. Issues that are important for women in contemporary society are equal human rights, equal pay, equal opportunities and equality in career development, participation in various localities in the North and human security still remain a question.

Pnina Werbner and Nira Yuval –Davis (1999) are elaborating the processes that have led to the gendering of citizenship and the counter-movements towards equality that exclusionary forces have produced. The UN's attempt through CEDAW convention and surveillance has produced instruments for developing equality between women and men in various countries. The Beijing platform for action defined issues for girls' and women's human rights. These international conventions are important steps forward but the following ones are needed.

Werbner and Yuval (ibid.) describe citizenship as defining the limits of state power and where a civil society or the private sphere of free individuals begins. They present these opposed impulses as part of what makes a citizenship, for subjects themselves, such a complex, ambiguous imagery (ibid.). According to them citizenship can be understood as a dialogue, a total relationship, multilayered or holistic. They also present that …"it is clear that political subjects are often involved in more than one political community, the boundaries of which can be local, ethnic, national or global, and may extend within, across, or beyond state lines. Moreover, membership in one collectivity can have crucial effects on citizenship in others" (Werbner and Yuval –Davis, 1999). They see that despite its gendered history, it is possible to recast citizenship in a feminist and plural perspective as an important political tool. Also, the language of citizenship provides women with a valuable weapon in the fight for human, democratic, civil and social rights. Without new forms and procedures of political accountability we cannot contemplate transnational, supranational or global forms of citizenship.

They see a challenge in creating movements that are genuinely international at the grassroots level (Yuval-Davis & Werbner 1999). Yuval-Davis & Werbner challenge us to ponder what our next step will be and how we can contribute to an even stronger cooperation and networking among those who devote themselves on different levels and in various ways governmentally, institutionally, communally or individually.

Thorgerdur Einarsdóttir (2003) asks why we do not see more progress in gender equality with all the knowledge we already have. The gender equality development has taken three identifiable steps. 1) Equal rights – corollary liberal feminist ideology which had its greatest impact in the 19th century women's movement. 2) Affirmative action – which aims to accommodate women to the existing system and is influenced by radical feminism in that it recognizes women's disadvantages in a world made by men. 3) Mainstreaming – which corresponds to the most recent emphasis in academic feminism, recognizing the notion of diversity and multiculturalism, by addressing the different and often intersectional types of oppression, that women (and in fact men) may experience. So, why don't we see more progress in gender equality with all the institutionalized, governmental, national and international gender equality machinery we have to pursue our goals? She identifies the configuration of the three pillar model whose parts are: 1) The institutionalized gender equality policy machinery, 2) Women's studies and gender research in Academia and 3) The women's movement. The concept of the velvet triangle refers to this collaboration that brings together civil servants, researchers and grass root women's organizations. The function and aim of this triangle is to make visible channels for communication and societal impact. "This kind of organization, to bring together scientists, policymakers and functionaries and, when

possible, representatives for social movements, reflects very well the Nordic spirit – or for that matter, the European spirit of administration. Within the area of gender equality this concept becomes more and more usual, and it indicates a serious belief in some kind of cooperation between different fields. It has been used with great success in the EU for promoting gender issues within the area of women and science. And the ultimate idea behind this concept is the modernist project of the making of the society and for the future (Einarsdóttir, 2003)." Einarsdóttir contributes importantly in identifying concrete political practices which I see as producing new forms and procedures of political accountability with the aim of ensuring gender equality on the Yuval and Werbner terms.

Anna van der Vleuten (2005) elaborates on the implementation of gender equality legislation in EU countries. Her study shows facilitating and hindering factors of implementation as economic and ideological costs of policy change and the amount of pressure exercised by societal actors. In her analysis the importance of collaboration among the different sectors of society are crucial. Her analysis provides important critical insights to forms and procedures of political accountability.

Erik O. Eriksen and John Fossum (2007) ask whether there can be democracy without nation and state. Europe is under constant reconstruction, is democracy possible under conditions of pluralism, diversity and complex multilevel governance (Eriksen and Fossum 2007).They elaborate in their paper three different models for how democracy can be reconstituted within a multilevel European context. From the gender equality perspective it seems to be important to pose a question of whether democracy could be re-constituted if it is not constituted yet? Circumpolar North opposes these same challenges of democracy in pluralist, diverse and complex multilevel governance, and furthermore gender equality in knowledge production and decision-making in issues that influence the direction of development in this area (Jenssen Williamson et. al. 2004).

Gendered Violence Hinders Women's Citizenship Globally

Gendered Violence in it various forms has been named as one specific issue hindering women's full citizenship globally. While first wave feminism's agenda was suffrage and second wave feminism's political - third wave feminism has been to target violence against women (Saarinen, 2004). Various feminist researchers consider sexual harassment one form of gendered and sexualised violence (Sunnari et. al. 2003, 2005, 2007; Thomas and Kizinger,1997). Several feminist researchers since Liz Kelly (1987) have considered sexual harassment as one of the most common forms in the continuum of sexual violence (Sunnari et al., 2007). According to Wise and Stanley (1989), it is important to notice that most sexual harassment cases are what we call small, mundane, accumulating and common, but it is important to name them sexual harassment since it is a limiting, oppressing and ethically wrong behavior in an attempt to disempower. Sexual harassment can be seen as one mechanism through which men exert power over women and through which heteropatriarchal power is sustained and reinforced (Thomas and Kitzinger, 1997). The European Commission divides sexual harassment into three categories: verbal remarks about figure/look, sexual jokes, verbal sexual advances, non-verbal - "staring and whistling" and physical - unsolicited physical contact (Sexual harassment in the workplace in the European Union, 1998). Another way to categorize sexual harassment is 'quid pro quo' –harassment, which refers to sexual demands or blackmailing a person and environmental harassment which can target a person or a group (Thomas and Kitzinger, 1997). The term, sexual harassment, refers only to cases where sexuality is used as a tool in harassment. Gender harassment is larger, consisting of harassment based on one's gender. Both sexual harassment and gender harassment have been interpreted as forms of discrimination (Sunnari et al., 2003.).

Combating Gender and Sexual Harassment in Universities

Power perspective produces important insights into gender and sexual harassment. The power position plays different roles in various studies conducted on sexual harassment. Power may be discursive but it is also political and it has consequences, as Joanna Brewis (2001) states, reflecting on power theories from the Foucauldian perspective "discourse as use of power". Fiona Wilson and Paul Thompson (2001) examine sexual harassment as a use of power from Luke's

three dimensional model of power. Wendy Hollway and Tony Jefferson (1996) approach sexual harassment cases through alternative analysis in terms of multiple, non-unitary gendered subjectivities and a question of ambivalence. The context of their analysis is the 'political correctness' in connection with sexual harassment policies on U.K. and U.S. university campuses. Linda Eyre (2000) focuses on discursive strategies for dealing with sexual harassment in university communities and points out how 'academic freedom', freedom of speech and juridical discourses may serve contradicting purposes in the aim to combat sexual harassment. Afshan Jafar's (2003) study about U.S. policy development on sexual relationships between college faculty and student's questions attempts to ban consensual relations between college faculty and students as paternalistic over-caring of feminists. In contrast to the Jafar study, Linda Kaloff (2000) calls for vulnerability factors that lie outside of the personality and attitudes of the victims of themselves. In her quantitative research on a U.S. college campus, there were no clear features at the individual level that would have predicted sexual assault. Deborah Lee (1998) in her research on sexual harassment in PhD supervision points out how women were denied their position as fellow intellectuals and instead, inappropriately gendered and unwelcome in sexual ways. She further suggests that harassment in PhD supervision is worthy of further investigation because of contradictory notions of PhD supervisors as highly professional and well-intentioned individuals.

In my article I will carry out the notion of diverse discussion of gendered and sexual harassment in universities. There are obvious contradictions that appear at the individual level as organizational policies limiting personal freedom, at the organizational level as discursive practices of gender discrimination and at the societal level as stiff gender segregation. EU and Nordic policies and political attempts to intervene in the domain of engineering have not been grasping deep enough in attempting to receive sustainable results. Gender equality may seem to serve neoliberalism – in the most superficial cases women have been persuaded toward engineering, aiming to fill the gap of competent scientists for corporations and further to receive fast economic advantages from produced innovations.

Henwood (1998) states that explanations for the poor representation of women in areas of science and engineering tend to emphasize either individual or structural factors, neither of which allow women's agency to be fully understood. Agency is a remarkable concept in feminist research in challenging the inequalities which continue to persist within organizations. Additionally, it is an interesting concept since it contradicts the relativist post-structuralist's practices and as a consequence challenges the view of power as just discursive practice (Francis, 2001). Post-structural deconstruction of our own moral arguments and assumptions about right and wrong, justice and injustice cause political paralysis and a narcissistic turn. Identity, which is entirely deconstructed by poststructuralists, leaves us with hollow subjects. This challenges us to seek new ways of theorizing on social relations. There must be some coherence in people's selfhood, allowing agency and strategy. Therefore, Becky Francis (Francis, 2001) identifies identity, which incorporates both contradiction and consistency.

"Discourse is the vehicle through which social relations are conducted, rather than being all powerful in itself", states Becky Francis (2001). Francis (ibid.) suggests continuing analysis of the various gender discourses in order to provide greater understanding of the ways in which we use them, their impacts on our lives, and potentially of how we might resist or reconfigure them. According to her, we also need to explore and develop our understanding of consistency and agency in human subjects as well as diversity in subject positioning and presentation.

Gender equality discourse is a special interest in this article. Eva Magnusson's research about women's strategies of selves in negotiations opens an interesting view of women's political agency (Magnusson, 2000) and her research about political rhetorical strategies of gender equality in the Nordic context (1999), challenges us to be aware of the meaning-range of the gender equality concept.

Gendering Engineering

The purpose of my article is to draw attention to agency and strategy in academia. How the female engineer is constructing and enacting her agency in engineering and how gender is reproduced in these formation processes of one's agency. I will use intellectuality and embodiment as special analytical dimensions in my

review of academic agency in engineering. I will focus on a discursive construction of intellectuality, because it is typical or self evident in academic circumstances and embodiment because it has not been regarded as important, meaningful or at least not the most central in academic activities. Special focus is on gender and sexual harassment experiences. The research data is from a biographical narrative of the female engineering researcher. Following inserts are from an interview that was conducted in 2006 at the University of Oulu.

When doing research about agency in an academic and engineering setting, it is reasonable to focus on professionalization (Dryburgh, 1999) or occupational identity (Nicolson, 1997) and intellectuality (Salminen-Karlsson, 1997), which may be entirely gendered. Sunnari et al. (2007) state that within the university setting, embodiment has been used as a means of marginalization. This marginalisation takes its form in gender and sexual harassment. In this article, the aim is to get new insights into constructions of agency and strategy and to focus on possibilities of resistance. Inspired by discourse research (Magnusson, 1999, 2000; Francis, 2001), agency is also analyzed as an emancipatory endeavour referring to our ability to make decisions and to take action in order to change the world. Construction of one's agency has a certain consistency which includes a subjective scope of rights and obligations. Understanding of one's agency and self-definition is in constant transformation during one's studies in a university, influencing future decisions.

"It is my duty since I am born with these brains – it is my duty to serve the society. What I want is to make a difference"

After finishing her PhD, she has been receiving more responsibilities, her intellectuality is respected and she is using it for the scientific community. "*It is obvious that I have to take more responsibilities and I am not so protected anymore. Now all of the sudden, I am developing courses or course materials or writing applications and developing research ideas."* The interviewee mentions a female mentor who has been an important person in giving her challenges, through being involved with various tasks at the university. It would be interesting to further examine how this wider scope of tasks and various challenges has influenced her agency. During this process she became part of the research community and also took on leadership responsibilities. While in this position she became aware of a form of gender discrimination *"…I was a project manager and after a project meeting a male researcher honestly told me that it has been a little bit difficult for him to take orders from a woman."* Her leadership, expertise and professionalism were questioned openly. Does this incident reflect on a larger scale current developments in gender equality? Being a woman with the position of project leadership may fall within a grey area of the contemporary gender contract in engineering that is currently in the process of be shifted (Salminen-Karlsson, 1997). Women in engineering do face various contradicting expectations that are intertwined with their gender, appearance, outlook and behavior, also within the university. These expectations produce an extra burden that she has to deal with when organizing and planning work in her project. She may be challenged to do daily gender equality promotion work within her organization in addition to her work in the disciplinary field.

Gender stereotypes are not always a question but rather spitefulness that may appear in the work place in a harmful way. *"Extremely competent women have been belittled or bashed behind their back."* In addition to their high competence, women in engineering face expectations to be nice and comfortable. *"If a female applicant's competence is undeniable, she can still be dismissed for being a 'difficult person'… this type of labeling exists, that women are difficult to get along with"*. Salminen-Karlsson (1997) also reports on expectations 'to be good with people' which may also mean they are not expected to apply for jobs and positions higher within organizational hierarchy. These types of expectations cause pressure as to what others really think about you. *"I am a little bit afraid that there is a picture of me that is different than what I really am (…) and I heard that I was called a "militant feminist". I do not believe that it is true. I am a much more affectionate person than what they think."* The concept of ambivalence (Holloway and Jeffersson, 1996) may be useful to describe this situation and personal process of agency and strategy. Hidden gendered perceptions do exists in the male dominated work life and may come up in an ambivalent way. *"(…) We had a project and it just happened that all the researchers were women. A male supervisor gave us a backhand compliment: it went really good, even-though all the researchers were women."* The result of the work has been judged as work done by the embodied competences. Women made it!

Embodiment and intellectuality go in hand in hand in the following quote *"When I was young, I thought that the body was more of a disadvantage than an advantage (…) some men thought that I was attractive so it was more like a disadvantage. (…) it was absolutely an obstacle that they were not able to think that a young woman with that outlook could be an engineer."* A certain outlook might be judged differently than another. If you are perceived as young and attractive you may face challenges in gaining credibility within the field of engineering. But the situation seems to be similar on the flip side. There are multiple expectations that women face in the engineering in connection to their outlook, social behavior, areas of interest, career aspirations, and they are constantly working more space for other women to enter to field. *"I think it is degrading that, if you are a woman, competence is not enough."*

"(…) What I have learned is that you do not have to accept it. If you get these types of comments you should educate them that it is discrimination…"

On the micro level power is a very personal question and challenging to tackle. It requires awareness and open confrontation. On the societal level the question of power is also a question of democracy. How do the structures support the active participation of all groups?

It is obvious that prejudices and discrimination based on gender exists in Universities and also on the larger scale of the organizations. Sexist culture is socially constructed and can be socially transformed. Everybody within the organization is responsible for his or her own behavior, but also responsible for interfering if someone else is harassed. Managers and directors have a special kind of responsibility while making an effort to change an organization towards a non-sexist, socially sustainable work place culture. Legislation and international agreements provide support for attempts to transform the organizational culture to a more equal one for women and men. Traces of gender equality policy development are visible also in the narrative. Trans-national influences are prevailing in sexual harassment policy development which has been traced cross-Atlantic (e.g. Sagay, 2003; Zippel, 2006). Personal definitions of gender and sexual harassment may vary in translating incidences as hindering one's work or disturbance depending on a power position which is intermeshed (Francis, 2001) with gender, race and social class influenced by citizenship rights (Welsh, et al., 2006). Intersectionality seems to provide fruitful frames for research when this type of diversity within one's power position has been examined (e.g. Skachkova, 2007) making the current notions of legislative and policy driven citizenship rights and obligations very limitedly white women's privilege.

A female engineering student experienced gender and sexual harassment in various ways including insults concerning her intellectuality and embodiment. Intellectuality forms consistency for the engineering student's development of agency whereas sexual and gender harassment experiences create inconsistencies for intellectual aspiration. The female body remains a place for a special kind of embodied vulnerability. Because of the female body, her and her female colleague's work has been questioned. The evaluation factor is not the research, but the body. This study opens up some view points of how it is to study in the field of engineering. This study is not to be generalized, but it may challenge us to further consider women's various accounts in engineering. Like Francis (2001) points out, various structural factors such as wealth, social class, gender and ethnicity are likely to impact groups of people in particular ways - either limiting or aiding access to power and financial security. Power relations are exceedingly complex at a micro level. As Wise and Stanley (1989) put it - it is important to notice the common and accumulating behavior which is limiting and oppressing attempting to disempower and that the resistance will be constructed on that level too.

Gender Equality as Critical Indicator

My aim in this article is to draw attention to gender equality in the university in the context of democratic development in circumpolar North. Universities are central for knowledge production also in circumpolar North. In some of the Nordic countries, universities are seen as motors for regional development and are expressions for regional development policy. Access to education can be seen as a key indicator of human development in the Arctic. Equally important is the content of the education, including how well it fulfils local needs (Johansson, Paci and Stenersen Hovdenak, 2004). Additionally it is important to mention the theory of education or the pedagogy and what kind of develop-

ment of agencies or citizenship it supports. Most people in the Arctic live in rather large urban areas, which are centers for advanced public services, commerce, and scientific research, but most inhabited places in the Arctic are rather small. Increasing connections to the global economy processes seem to be the key role that local governments play in finding modern ways to cope (Aarsæther, Riabova and Bærenholdt, 2004). In the very sparsely populated areas information and communication technology has provided opportunities for connections. ICT has been utilized effectively in education through distance learning, but it has been developed to increase participation in decision-making on the various levels: local, regional, national and supranational. The latest technology has been used when addressing community health concerns and delivering health services throughout the circumpolar North as is known through telemedicine with additional mobile units (Hild & Stordahl, 2004).

The under representation of women in the fields of science, technology and industry has been seen as a problem for equality in the European Union. According to statistics, the biggest gap between men and women by subject area is engineering (Rees, 1998).Teresa Rees has examined the wider socioeconomic context of change within EU labor markets and the relative position of women within them. She finds a link between differing patterns of participation in post-compulsory education and training for women and men. Horizontal and vertical segregation by gender can be seen as an indicator of inequality. An essential component of current EU training and labor market strategy is to develop women's skills in technosciences (Rees 1998.). The gender mainstreaming approach to gender equality entails cultural transformation from the 'androcentricity' or male-as-a-norm model. The aim in this type of approach is to create conditions for women to participate in science, engineering and technology or 'technoscience' on equal terms. This means challenging the gendered nature of power relations (Rees, 1998).

In the Nordic context, desegregation in the labor market and response to the anticipated shortage of labor in the technology sector has appeared as objectives for gender equality work during the past 30 years (Brunila et al., 2005). Brunila, Heikkinen and Hynninen's (2005) survey on equality projects, conducted during the past three decades in Finland, show that there have been attempts to directly influence the choice of the subjects and further education of girls, including pedagogical experiments with the special aim of influencing girls' perceptions of themselves as learners. Various projects have developed training towards better consideration for the growing number of female students. Attention has been paid to methods, policies and contents, creating professional identities and networks of integration that support studies through work in pairs and small groups and mentoring (Brunila et al., 2005) An obstacle to progress towards equality in the field of education and training that still remains practically unaddressed is sexual harassment (Brunila et al., 2005) and especially in the fields of science, technology and engineering. Sexual harassment is prevalent in European Union member states and it functions as a serious barrier to the integration of women in the labour market (Timmerman & Bajema, 1997).

Feminist organizational research focuses on gendered structures, processes and resources in organizations which are specific locations for the production of gender order (e.g. Acker, 1997, 2006). Research on diverse gendered practices in technical settings are conducted including feminist research attempts to change the curricula and methods of teaching in schools and universities which exclude women from technology (Berner, 1997). Boel Berner and Ulf Mellström (1997) took this challenge and focused on gendered forms of practice and experience in which they refer to institutionalized forms of initiation into male engineering roles and the personal and interactive symbolic forms used by men and women engineers to understand their world. The latter refers to everyday interaction and sense-making – genderization of engineering. They argue that the ideal of 'marketplace manhood' in which masculinity, hierarchy and technology are linked still is the dominant one for engineering, despite change in gender recruitment and careers (ibid. 1997, 41). Relations between technology, masculinity and femininity are anchored in social practices, which have some continuity, but which are also open to change. These gendered social practices are expressed in four ways 1) in the gendered use of metaphors, 2) in ideals of mastery of machines, 3) in gendered socialization experiences and 4) in the gendered personal ordering of time and space. They also present gender of the 'significant others' – the early role

models –and conception of time as highly genderized ones (Berner and Mellström, 1997). They do not explicitly point out sexual and gender harassment as being one of the features, but they do mention "…homosocial environment with forms of sociability, talk and behavior which primarily unite men and keep women outside. This is particularly important for everyday informal interaction, in engineering schools and work" (ibid. 1997, 64). Authors also state that "Women are still 'guests' who have to accommodate to a dominating cultural form, stressing mastery over machines, accommodation to organizational hierarchies and their career demands, and to homosocial forms of interaction, talk and competition" (ibid, 65). Minna Salminen-Karlsson (1997) states, applying Yvonne Hirdman's theorization, that a technical university can be regarded as an institution with an institutional gender contract, which means in practice, separation of the sexes with the norm as male. According to her, female faculty does not fall into this since they are often not regarded as 'real women', either by the male faculty or by themselves. Females have shown themselves to be quite as capable as their male counterparts and, even if there are some teachers who do not believe in the intellectual ability of female students, the prevailing opinion is that it is sufficient to pass their exams (Salminen-Karlsson, 1997). Females are expected to be good with people and to have an alternative way of looking at technology – two characteristics that the male faculty say they lack themselves (Salminen-Karlsson, 1997). However, the gendered practices may be challenged in various ways including engineering education reform (Salminen-Karlsson, 1997). The light shift in the focus of the most recent research is visible and discussions of how to tackle with science, engineering and technology from the empowering gender equality perspective have entered the field. For instance, feminist researchers have been calling for the creation of spaces to rewrite the masculine scientific canon and the masculine nature of scientific and engineering institutions, as well as challenging science and engineering subjects (Maynard, 1997). Celia Ng Choon Sim and Robini Hensman (1997) point out that science and technology can contribute very positively to women's lives in several ways, starting from the very principle of providing clean drinking water for all. In the Northernmost Universities successful research projects and processes in waste management research have been carried out by Eva Pongrácz (2002, 2004, 2005). Also Svaldbard's ice core drillings and Teija Kekonen's (2006) study as a part of the research project has provided information on the development of emissions during the past 800 years. These female researchers, among others, have been pointing to already existing environmental issues and are using their intellectuality to find solutions, with the aim of building a viable future in the Circumpolar North. Joanna Kafarowski (2004) emphasizes the importance of ensuring women's access to and involvement in decision-making processes in the contaminant and natural resources arena. According to her gender is highlighted in the contemporary discourse on environmental contaminants, but it should be identified as a critical variable in decision and policy making processes. She also calls for gender-based analyses of environmental management issues. In the context of the Circumpolar North gender equality is a crucial part of environmentally, economically and societally sustainable development. There is a clear need to constantly develop further gender equality policies within universities and also to ensure the development of gender equality policies within transnational, supranational, and global formations.

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Language Policy in Russia: the Case Study of the Yakut Language

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According to the population census of 2002 the number of various ethnic groups inhabiting the Russian Federation is as high as 180 and represent about 28 million people, i.e. about 20 percent of the population worldwide. They occupy a vast area of Eurasia, from the Baltic in the west to the Pacific Ocean in the East, and from the Arctic in the North to the Caucasus in the South. There are large nations represented by millions of people (for example, the Russians comprise 83 percent of the population and are numbered in millions), medium-number population groups – some 50.000 to several hundred thousand (for example, the Yakuts count for 432.290 people), and minority ethnic groups, from less than 50.000 down to a single person. According to data published in 1992 there are 63 of such minority ethnic groups, more than 63 of them living in the North of Russia. (Neroznak, 2000).

The multiethnic composition of the Russian Federation presupposes state support for the development of all the ethnoses, of their culture and languages. Regarding the subject under discussion it means that there should be an uttered state policy including language legislation.

It is obvious that the purposes and aims of language policy and language planning are dependent upon the individual linguistic content. The article aims to analyze the state language situation and to overview the approach toward the maintenance and development of the national language in the Sakha Republic.

Language Policy and Linguistic Contact

The democratic processes started with the Perestroika in the former Soviet Union highlighted the drawbacks in the national policy of the country, which had been neglected before. Among them were issues concerned with national identity development and maintenance of minority languages. Most minority languages were in the process of extinction or endangered. The strive to revive a sense of national self-identity as well as endangered languages created a feeling of urgency, sometimes leading titular nations to make radical decisions in order to protect their languages and identity. The former Soviet republics started one by one to adopt language laws that proclaimed the languages of titular nations the state languages. Many politicians and sociolinguists are of the opinion that the nationalist and linguistic issues, along with others, became the key stones in the break-up of the USSR and in some cases the language decrees and laws were direct causes of the armed conflicts, for example in Moldova. The language reforms started in the Soviet republics in 1989 has made Russia oversee the linguistic situation and adopt the relevant decrees. Russia was the last to adopt the law on languages after all the other republics of the former Soviet Union. Let us bring to your attention the main documents regulating language policy in Russia in the chronological order.

In the Law "On the languages of the peoples of the Russian Federation" adopted on October 25, 1991, the languages of all the peoples inhabiting this country are declared to be national property, part of the historical and cultural heritage protected by the state. According to the Law on Languages, "On the territory of the RSFSR (former Soviet republic of Russia) the State shall guarantee language sovereignty of a person irrespective of the origin of a person, his or her social and material position, racial and national background, sex, education, and religion"(art.2.2). In the number of the articles of this law the languages of the minority ethnic groups are guaranteed state support, provision of necessary conditions for their preservation and further development (art.6), assistance in providing various forms of education and teaching in their native language, irrespective of the number of speakers but in accordance with their needs (art. 9.5); "any nation … lacking a writing system of his own has the right to introduce and adopt writing in his native tongue" (art. 10.4).

"The Russian language, being the main means of the cross-national communication of the peoples of the RSFSR according to the historical and cultural traditions, has the status of the state language on the territory of the RSFSR" (art. 3.2).

The Law on Education adopted on July 10, 1992 (revised January 13, 1996) makes reference to the Law on Languages, where language policy in the field of education is concerned (art. 6.1), gives the citizens all rights to receive basic education in a mother tongue as well as to choose the language of instruction within the scope of possibilities provided by the educational system (art. 6.2).

The legal regulations concerning the languages of the peoples of Russia and guarantees for their development are confirmed on the constitutional level. The constitution of the Russian Federation adopted on December 12, 1993 prohibits propagation of language superiority (art.29.2), recognizes Russian as the official state language, provides the right of republics within the federation to introduce their own official state languages and guarantees to all the people of the Russian Federation the right to maintain their mother tongues and appropriate conditions for their study and cultivation (art.68).

Two other important documents are the federal law "On general principles to organize local self-government" of August 28, 1995, which relates municipal schooling to local self-government (art. 6.2.6) and the federal law "On national and cultural autonomy" of June 17, 1996, which proclaims state protection of mother tongues (art.8), provides the right to maintain and cultivate mother tongues (art. 9), recognizes the rights to receive basic education in a native tongue and also to choose the language of instruction (art.10, 11, 12).

And finally, the preservation and development of the languages and cultures of the Russian peoples is one of the priorities formulated in the Concept of the State National Policy of the Russian Federation, which was confirmed by the President in 1996.

The diversity and ethnolinguistic situation in Russia alongside with the diverse panorama of different types of bilingualism and multilingualism, unpredictable development of ethnopolitical situations, endless arguments between those who were for and against the language reform – these factors alongside with the other ones did not allow the Russian Federation to elaborate and to start fulfilling the state programs for implementation of provisions of the language acts (Guboglo, 1998).

Linguistic Context

The ethnopolitical situation in Russia is characterized by a historically developed combination of national-territorial and administrative-territorial principles of the state organization. According to the Constitution of 1993 (art. 65), the Russian Federation is composed of 89 subjects including 21 republics (Adygeia, Altai, Bashkiria, Buriatia, Chechnia, Chuvashia, Dagestan, Ingushetia, Kabardino-Balkaria, Kalmykia, Karachaevo-Cherkess, Karelia, Khakassia, Komi, Mari El, Mordovia, North Ossetia, Tatarstan, Tuva, Udmurtia, Yakutia-Sakha), one autonomous region, and ten autonomous areas, six territories, 49 regions, two cities of federal status (Moscow and St. Petersburg).

Russian is the state language and the means of cross-cultural communication, and the Russians account for 83 percent of the population in the Russian Federation. The analysis of the population census reveals some im-

Language of instruction	In towns	In villages	Total
Russian	165	74	239
Yakut	4	352	356
Bilingual	29	56	85

Figure 1. Language of instructions.

portant tendencies in the linguistic process in modern Russia. The difference in indexes of linguistic "russification" of some peoples has turned out to be significant, rising from a small number to 70 percent and more. The highest indexes are those of numerically weak ethnic groups, especially of the aboriginal peoples of Siberia and the Far North. Some representatives of the minority peoples of the North do not use their mother tongues in their everyday life.

The Constitutions of practically all the republics declare two state languages. The exceptions are: the Constitutions of Dagestan, Kabardino-Balkaria, Mordovia – multilingualism, in North Ossetia – Russian and Ossetian (both dialects). The extended language decrees of peoples, living on the territory of a corresponding republic, are adopted in Tatarstan, Adygea, Kabardino-Balkaria, Chuvashia, Sakha-Yakutia, Tuva, Buryatia, Kalmykia, Khakassia, Udmurtia, Bashkortostan.

The language decrees in the republics have been based on the respective federal laws adopting to a great extent their structure, conceptual framework and the interpretation of some articles. In accordance with the language decrees of the republics, the language of the peoples of the corresponding republics enjoy the protection of the state, and the latter provides for the social, economic and legal protection of the languages irrespective of their statuses. Yet the decrees of republics differ from federal ones in their stress on priorities; the former are mainly preoccupied with providing condition for revival, preservation and development of the languages of titular nations.

The main component of the republics concerning the language preservation, development and study are chapters devoted to the titular nation languages, where they provide for the development of the educational system in the national language, the training of scientific and teaching staff, the development of literature, science and art, TV and radio broadcasting.

At present a number of national republics, including the republic of Sakha-Yakutia, Tatarstan, Chuvashia, Buryatia, Kalmykia and several republics of the North Caucasus have worked out their programs concerning the preservation and development of their languages, which may be called national-regional programs.

The Case of the Republic Sakha-Yakutia

In the Republic Sakha-Yakutia, as well as in other subjects of the Russian Federation, the language policy is an important part of the state policy and is aimed at the development of languages and their interaction in all the spheres of the society.

The state languages of the Republic Sakha-Yakutia are : Sakha, also known as Yakut, spoken by approximately 25 percent of the population, and Russian. The Yakut language is Turkic with Mongolian influence and some borrowings from Sakha's Paleosiberian indigenous peoples. Besides, five other languages (Even, Evenk, Yukaghir, Chukchi and Dolgan) are used as official.

On November 19, 2002, the President of the Republic of Sakha-Yakutia issued the decree on forming the language policy Council. The latter is to create better conditions for the state and official languages development and interaction. The Council is also aimed at defending individual rights in the use of languages.

Ethnolinguistic conditions of languages functioning in Yakutia are following. According to the 2002 Census, Yakuts make up 45.5 percent of the republic's popu-

lation. Other groups include Russians (41.2 percent), Ukrainians (3.7 percent), Evenks (1.9 percent), Evens (1.2 percent), Tatars (1.1 percent), Buryats (0.8 percent), Bielarusians (0.5 percent), and a host of smaller groups, each accounting for less than 0.5 percent of the total population. 2.630 people (0.3 percent) did not indicate their nationalities during the Census.

The language of cross-national communication is Russian. It is also the main language used in the educational domain.

According to statistical data presented on April 15, 2002 by the Ministry of Education of the Republic Sakha-Yakutia, there are 680 institutions of secondary education in the republic. In the figure the correlation of schools according to the language of instruction in the town and village schools is illustrated.

In all the schools Russian is taught from the 1st to the 11th class as a compulsory subject. In the schools with the Yakut language of instruction nearly all the subjects are taught in Yakut in primary classes, with the gradual transition to Russian in the 5th class. Beginning with the 6th class mathematics, geometry, physics and chemistry have been taught in Russian since 1965.

The primary language reproduction units are the family and the community, via the classic route of grandparents – parents – children. But grown up people living in towns tend to speak more Russian in their everyday life.

Each of the 34 regions of Yakutia has its own TV and radio broadcasting station. TV and radio shows are broadcast in Yakut in 8 regions, in Russian – in 11 regions, and in both languages – in 15 regions. Since 2002, the national channel, NVK, broadcasts three days a week in Russian and two days – in Yakut.

134 daily and weekly newspapers are issued in the Republic. Nearly half of them are published in Yakut. Many residents of Yakutia subscribe for the central newspapers and magazines in Russian. Also, more books are bought and read in libraries in Russian.

Russian is used during the sessions of the House of the State Assembly, different conferences, meetings, lectures. The texts of laws of the Republic Sakha-Yakutia and other legal documents are published in the state languages. The state languages are used in the activities of the administrative authorities, local government bodies, enterprises, offices and organizations including texts of forms, stamps, seals, sign boards, official papers such as passports, certificates of birth, marriage and death, etc.

Voting and referendum papers are drawn up in Russian, but in accordance with a decision of the Electoral Commission, these papers can be published in Yakut alongside with Russian.

In the cinema, films are shown in Russian. Yet there are several amateur short films in Yakut.

Conclusions

Despite some positive changes in the favour of the Yakut language and culture the situation remains grave. Being legally equal, Yakut and Russian are not functionally equal, divided by the spheres of their application: Russian is mainly used in the official, educational, scientific and informational spheres, while Yakut is important in the sphere of national culture and as a household language and only for part of the population it fulfills educational and informational functions. Of course, the language policy adopted by the local government positively affected the Yakut people by adding to their self-identity, self-esteem, social connectedness and links with their heritage.

Languages are considered to be highly viable and extremely flexible systems, but they should be protected and promoted to effect revival and reversal. Most of minority languages in Russia find themselves in the dangerous situation, that is why they need state protection and support.

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The Culture of Research in the Circumpolar North: A Shift Toward Community-Based Approaches

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This article is based on my observations and experiences in public and private sector research in Alaska over the past twelve years, my general observations of social-science research in the circumpolar North, and literature and electronic source review. I draw from personal experience, observation, and literature to describe the culture of research in the circumpolar North and the shift toward community-based research. I define community-based research, known hereafter as CBR, as research centered on community needs and managed by communities. My focus is on the culture of the circumpolar North research community—a community that I suggest consists of various components that can be described from a cultural perspective. It is an imagined community as Anderson describes because it is a community in which the members may never know even a portion of the membership yet 'imagine' they are part of a greater collective—the community (Anderson 1991:5-6). The information I present illustrates changes necessary to facilitate a paradigm shift from non-community to community-based research within the culture of research in the circumpolar North. Some of the information may seem obvious to community members and indigenous peoples but it is not necessarily obvious to all scientists, researchers, and governments with whom such communities work.[1]

Some participants at the CBR session at the 4th NRF Open Meeting (October 2006)[2] supported disseminating information about the basic tenets of CBR research culture in the circumpolar North. Some attendees said that they still have problems with governments and researchers who do not understand the basic principles of working with communities and their members on research projects. They further indicated that the more often we present the basic tenets of CBR the greater will be people's understanding and the more likely they will be to use this perspective when conducting research. This process may well lead to a paradigm shift. For its implementation, the research community must move beyond stating the obvious and begin to reflect on its current practices and improve upon these practices by adopting cooperative measures among local, research, agency, and government "communities."

Community-based research is hardly a new topic to international non-governmental bodies such as the Northern Research Forum. CBR was a specific topic at the 2004 and 2006 NRF Open Meetings. The agenda at the first NRF Open Meeting in Akureyri, Iceland in 2000 also included the topic of CBR with a presentation by Dr. Aron L. Crowell entitled "New Dynamics of Cultural Research and Representation in Alaska" (Crowell 2000:41-44). The recurring representation of CBR at the Northern Research Forum open meetings and at other gatherings throughout the North is an indicator of its importance in the circumpolar North.

Over the past twenty years in and outside of the circumpolar North CBR has slowly emerged as a priority for the research community as a whole. The shift to this strategy has developed slowly from purely

academic research-centric to community-centered research programs in both the social and natural sciences.[3] The research community has come a long way in fostering CBR agendas during this period but there is still a long way to go. Depending on the discipline, researchers may be more or less familiar with the basic concept of CBR. I have encountered highly experienced researchers that have little understanding of this approach and even less about community-based research in the circumpolar North. Meredith Gibbs recently writing on the subject of collaborative research in New Zealand states research that "addresses the concerns of indigenous peoples and provides for power sharing in the research process… [has] been slow to acquire a degree of legitimacy within academic circles, and in relation to research in the lives of indigenous peoples of New Zealand, culturally appropriate research approaches have yet to gain widespread practical application" (Gibbs 2001:674).

Such issues may indeed be shared throughout the world but the unique political, geographic, and cultural aspects of the North place unique challenges on CBR and contribute to the constitution of a northern CBR research culture.

Where is the North?

Simply defining basic concepts such as the North can be a challenge; its definitions are dependent on purpose, perspective, scientific discipline, and subject matter. Boundary definitions may be arbitrary and are neither static nor uniform; changing over time due to politics, familiarity with a region, and perceptions of remoteness (Holland 1994:vii).

A number of authors consider the ways researchers define the boundary of the Arctic—definitions that often depend upon scientific discipline or subject matter (see Holland 1994, Mirsky 1970, Nuttall 2005a, Osherenko and Young 1989). Malcolm citing Hamelin presents a "measure of 'nordicity'" which assigns a degree of northerliness to a place (Malcolm 2005:302). For the purpose of discussion here, I define the circumpolar North as lands near or north of 50 degrees north latitude (the southern boundary of the subarctic (Zhirkov 2005:1957)) or one of the eight circumpolar member states of the Arctic Council: Canada, Denmark/Greenland, Finland, Iceland, Norway, Russian Federation, Sweden, and the United States (fig. 1). Research organizations that contribute to the culture of research in the circumpolar North may be located

Figure 1: Arctic Council National Members (http://upload.wikimedia.org/wikipedia/en/6/6a/Arctic_Council_Members.png)

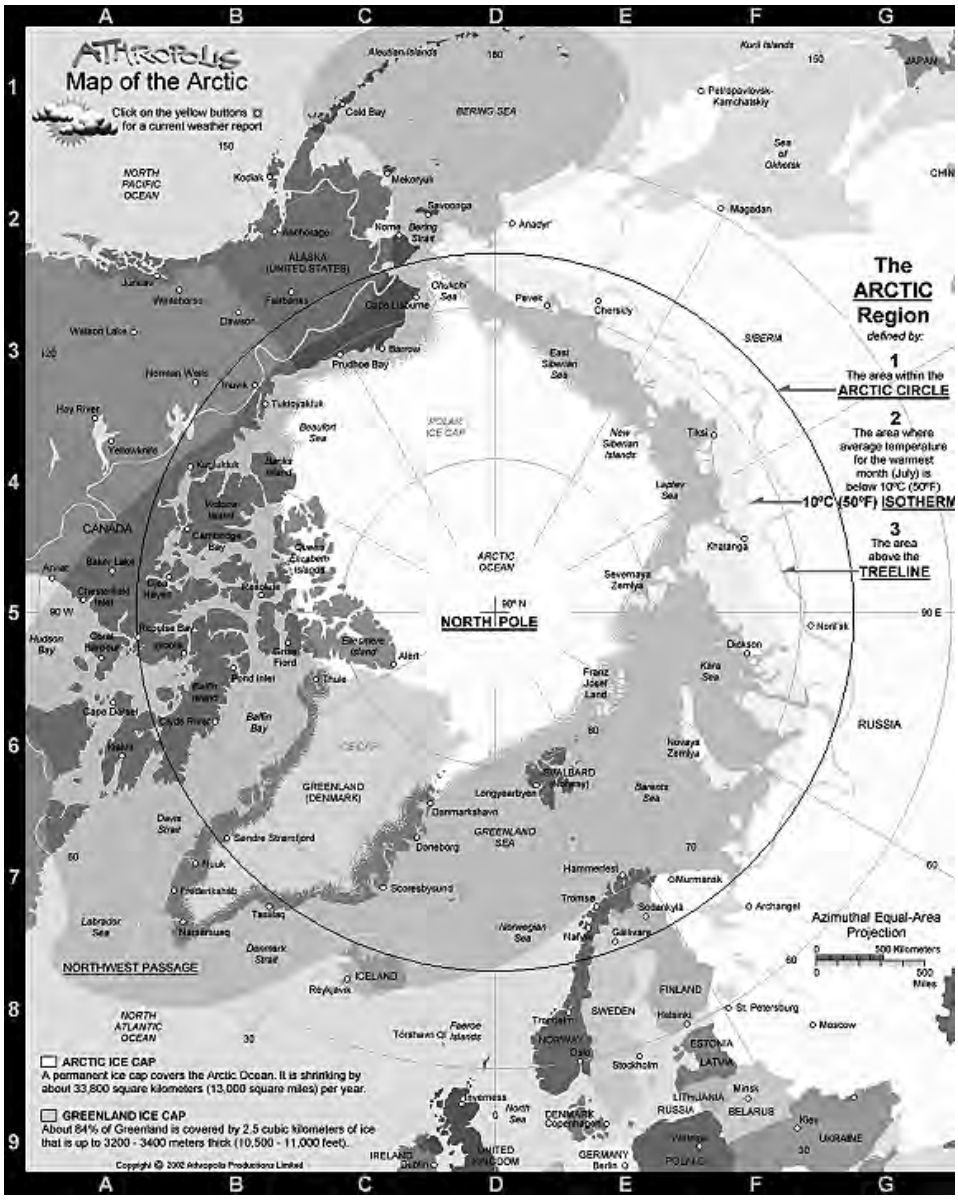

Figure 2: Definitions of the North Compared—Arctic Circle, Isotherm and Treeline (http://www.athropolis.com/map4.htm)

outside of this area but conduct research there. I will refer to the circumpolar North as the North, the Arctic, and the circumpolar North throughout this article.

Researchers often limit the boundary of the North according to definitions that rely on factors such as latitude, tree line, or temperature (figure 2). Definitions are often disciplinary. Geographers, engineers, anthropologists, and epidemiologists may all define the North differently depending on the needs of their research and applicable hypotheses (Nuttall 2005b: xli-xlii) (Watt-Cloutier 2005:xxxvii). For example, I was involved in a utility project that did not define Finland's water and sewer systems as northerly because the Finnish do not have the complicating issues of permafrost present in Alaska and Canada (Colt et al. 2003:3-17) (Katko 2001:e-mail communication). Northerliness, in this case, was defined by specific engineering and weather conditions.

How do local communities define the North? It is important to explicitly define what one is referring to when using the terms "the North," "the circumpolar North," and "the Arctic," but it is also critical to step outside disciplinary norms and ask how local community members would answer the question of "where is the North?" Individual and community perspectives may influence how northerners define northerliness.

The Culture of Research in the North

The overall culture of the circumpolar North research community includes many diverse cultures such as ethnic, political, academic, and geographical cultures, to name a few, and the linkages and interconnectivities between them. These individual cultures are often specific to the countries that comprise the circumpolar North and they can change over time. This concept of community is based on Anderson's example of an imagined community as illustrated by his definition of nation as an "imagined political community…." The circumpolar North research community is imagined because its members and those non-members outside its amorphous boundaries "will never know most of their fellow-members, meet them, or even hear of them, yet in the minds of each lives the image of their communion" (Anderson 1991:5-6). There is no convenient boundary we can place around this community to delineate its borders or comprehensively define its membership.

The culture of research is different in the North. A research institution located in the continental United States asked me to give a presentation about CBR practices in Alaska to help them prepare for future research they will be undertaking in Alaska. The conversation and questions that ensued from the presentation reminded me, once again, that although the circumpolar North may have much in common with other geographical locations (including those that are more southerly) the culture of research in Alaska and the circumpolar North in general, is not the same as that of our southerly neighbors. Here, there is a need for respect of indigenous ways, beliefs, and values; a need to show commitment and foster trust over time; a need to spend time to get to know people and communities; and a need to do things in person rather than from a distance. The research culture in the North and elsewhere must foster a process of building relationships with people and com-

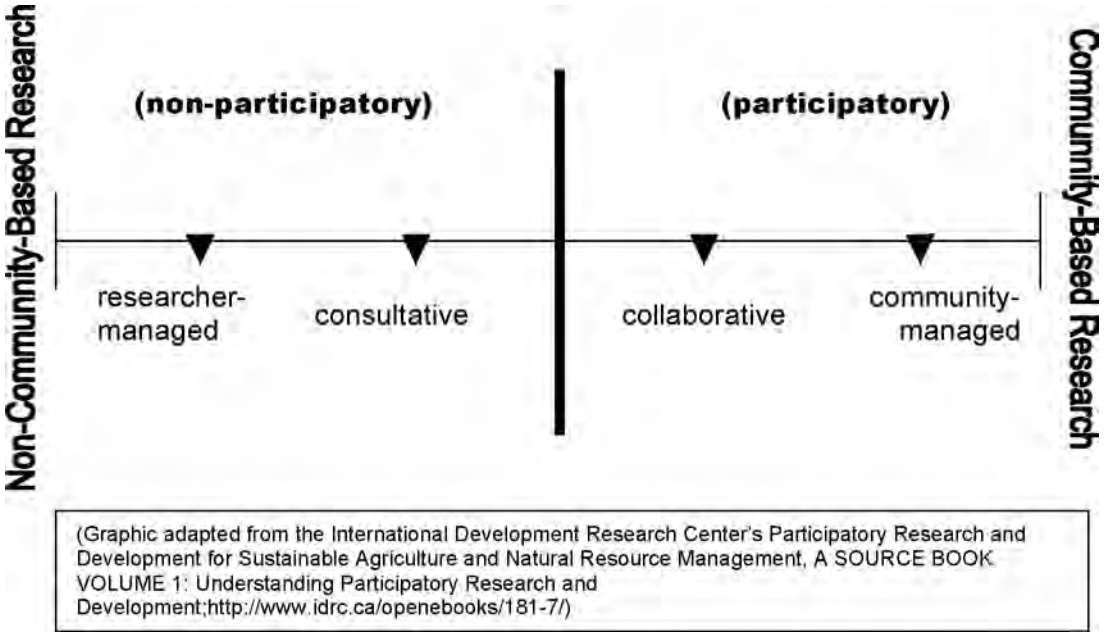

Figure 3: The Research Continuum

munities to work together—not to simply implement a research process. Light and Kleiber discussing community-based participatory research note "researchers are challenged to do research for and with the people rather than on or about people" (St. Denis 1992:56).

What is Community-Based Research?

I am using the term community-based research to refer to research centered on community needs and managed by communities. I am not inclusively or exclusively defining the various forms of research that are encompassed by this definition because there are many titles given to different research methodologies and implementation strategies that include, to some degree, community needs and community management of research topics and projects.
The body of literature on such research is also varied in its terminology and definitions. It includes various disciplines encompassing to some extent all the social-sciences and to a lesser but expanding degree the natural sciences. I have attempted to create a broad definition that will include many of the terms found in the literature and in practice.[4] Ahmed, et al define community-based participatory research (CBPR) as "a collaborative partnership approach to research that equitably involves community members, organizational representatives and researchers in all aspects of the research process" (Ahmed et al. 2004:141). CBR is socially complex and time consuming and "is more demanding than the classical quantitative and positivist research" (St. Denis 1992:69) (see also Gearheard and Shirley 2007, Lassiter 2005, Wolfe et al. 2007).

Community-based research is part of a research continuum that constitutes a continuous range from researcher-managed, non-participatory, non-community-based research to fully community-managed, participatory, community-based research (fig. 3). A research project may fall anywhere in between based on the degree of community management, participation, and ownership of the research design, process, and implementation. Collaborative research, for example, is participatory and may be community-based but not necessarily community-managed. Stoecker notes the "ideal type CBR project organizes grassroots community members, or organization members, to create change that transforms not just the structure of knowledge creation and distribution so that voices previously ignored are better heard, but also transforms the structure of power relations so those without power gain power" (Stoecker 2002:231).

CBR is grounded in community needs and based in "the community" rather than "the university," "the institution," "the government," or "the researcher". Ideally such projects are locally defined, designed, implemented, analyzed, and disseminated research—they are locally managed research. Those involved develop the project within the parameters of community culture and beliefs; form partnerships that involve local capacity building through, for example, education and joint research activities; and promote sharing that is multi-way between researchers, community members, and the community as a whole including both traditional knowledge and "western science" in the sharing process. Sharing may encompass many diverse groups and individuals—such as tribal governments, medical professionals, non-local and local spiritual healers, community health aides, outside interest groups, stakeholders, local community members, government bodies, agencies, academics, schools, local businesses, clinic health care providers, etc. CBR, being grounded in the needs of the community, tends to directly deal with and solve community-based issues. It is generally problem-focused and action or solution oriented (Singer 1994:340). Community-based research is a process of building relationships with people and working together to meet community and research goals. St. Denis states the CBR participatory research process is: time consuming; more an interpersonal than technical process; a process of developing trust; more important than the product; and like a community development project (St. Denis 1992:66-68).

Decision making in research is becoming more localized through locally driven processes that include local input and participation in research design and implementation. Funding sources now often require community collaboration and the dissemination of research results to communities. These requirements, however, do not ensure locally driven active participation by communities or that the information disseminated to communities is in a format conducive to stimulating interest in the research results or in an appropriate format to promote community consumption of the informa-

tion. Community collaboration should include active participation in all stages of the research process from design to the final publication of results. In addition to providing communities with final research findings, researchers should provide communities with interim research updates throughout the research process. The information should address what the community wants to know, in a format they want, and distributed how and when they want. As Lassiter notes, the "tacit goal [of reciprocal approaches to ethnography] is [often] rhetorical: to create better texts that are more often than not designed to impart deeper understanding of culture and meaning for the ethnographer's colleagues, not for his or her consultants" (Lassiter 2005:10-11).

What is research in the north?

There are varying opinions on the relationship between anthropology and colonialism and imperialism and these views depend on purpose and perspective (Garbarino 1983:9-11;43-44) (Tuhiwai Smith 2001:11; 67-74). Riches notes "fieldwork amongst Eskimos, between the 1880s and the 1920s, from which the classic early monographs emanated, like a lot of other anthropological research of this period, took the form of the 'expedition'" (Riches 1990:80). Garbarino continues that decontextualized ethnographic details and biased incomplete and unsystematic data collection were often the results of exploratory endeavors (Garbarino 1983:10-11).

The purpose of polar exploration began to change in 1875 from that of geographic discovery to scientific investigation when Lieutenant Karl Weyprecht, after the discovery of Franz Josef Land, stated that "such data would have tremendous importance far outside the Arctic Circle, for they would aid in the understanding of the laws of nature and so affect all mankind" (Mirsky 1970:185). Labeling a voyage as a scientific expedition did not mean the age of conquest and acquisition had passed. Gray and Gray describe the Canadian Arctic Expedition of 1913-1918 as a scientific expedition in which the southern party of the expedition "returned with thousands of specimens of animals, plants, fossils, and rocks, thousands of artifacts from the Copper Inuit and other Eskimo cultures, and over 4,000 photographs and 9,000 feet of movie film" (Gray and Gray 2005:310). According to them, the expedition had considerable impact on local people and places through the employment of local people, trading artifacts and specimens for new types of tools, establishing new industry, and by leaving schooners behind (Gray and Gray 2005:309-310). The absence of governmental interest in these activities allowed people to pursue their activities with little to no accountability even in contemporary times (Osherenko and Young 1989:159).

A move toward community-based research

Over the years anthropologists have moved from exploratory colonial voyages of conquering people and places to cooperation and collaboration with local communities as an important component of research projects (Ferdinand 1997:15-18) (Gilberg and Gullov 1997:7-14). This movement toward CBR has changed the culture of research in the circumpolar North.

In the first few lines of Linda Tuhiwai Smith's Decolonizing Methodologies she argues that research is grounded in imperialist and colonialist approaches and aptly points out the power of research for indigenous peoples as "…so powerful that indigenous people even write poetry about research" (Tuhiwai Smith 2001:1).[5]

Whatever the topic of research, it nevertheless belongs to someone. It is someone's culture, someone's home, someone's way of knowing, and someone's geography. To think that we, whoever we may be, are exploring and researching something unknown is arrogant as is illustrated in Lynge's poem.

In a discussion of the intersection between poetry, politics, and archeology in Greenland, Inge Kleivan states Lynge's poem is:

Sarcastic…with the object of ridiculing foreign scientists and exposing their motives….He [Lynge] uses sarcasm to describe the foreigners who gain glory by traveling in an inhabited country. The message is spelt out: you gain honour by returning home and telling about what is new to you but what we are familiar with. But reality is not that simple (Kleivan 1997:190). Hastrup notes, the self-evident cultural knowledge is not the same as genuine anthropological understanding or archeological or other scientific understanding (Kleivan 1997:190).

Kleivan's is a superficial and narrow view of what cultural knowledge is. I would also point out this is a recent comment and is a current illustration of bias in research.

Kleivan's work was published in 1997 and the argument he uses of Hastrup's in 1993! Not all contemporary research operates within this modus operandi but apparently it does still exist. The research community must work together with local communities to value all forms of knowledge and research by working together and learning from one another—researchers from one discipline learning from those of another, researchers learning from community members, and community members learning from researchers.

Social-science research in the circumpolar North is becoming more collaborative—with local residents and other scientists. This is a positive change in the culture of research in the North. The northern research arena is striving for scientists to partner with local residents rather than work in their communities and on their lands in isolation. Alia argues that "there has been a revolution in research methodology in the past two decades. In place of the old pattern in which researchers descended on Arctic communities and left with artifacts and information, today's physical and social scientific research is conducted in close collaboration with Arctic residents and sometimes has considerable impact on Arctic policy and community projects and programs" (Alia 2005:1559). This is a promising statement but is not always the case. The authors of the report from the symposium entitled Northern Dimension—Expanding Circumpolar Cooperation noted participants raised the key point that "the Arctic cannot—and the northern peoples are not willing to—act as an uncontrolled test laboratory to the rest of the world" (Northern Research Forum 2004:6). Recently there has been a minimal acknowledgement of non-Western ways of knowing and lifeways as they pertain to research. Again, this signifies a paradigm shift toward CBR within the culture of research in the circumpolar North. Circumstances are improving but, often times, forming local partnerships is still a process of ensuring political correctness for a project to facilitate implementation rather than forming effective working partnerships with local experts.

Research: A Policy Perspective

Government priorities implemented through academic, governmental, and political organizations affect research implementation including that of CBR. Government organizations such as the U.S. National Institutes of Health and National Science Foundation play a key role in what research is funded based on their funding priorities and initiatives. There has been a push from the U.S. government at the national level to improve the U.S. standing in innovation and technology research as a result of U.S. policy on international relations. Throughout history, research priorities have been guided by government policy. Striking examples of this are found during times of war when government research priorities shift dramatically and are focused on immediate needs. As Mead Treadwell, Chair of the U.S. Arctic Research Commission, noted in a plenary session at the 4th NRF Open Meeting and as Crawford, Shinn and Sorlin note, world politics such as World War I and II and the Cold War influence the culture of research through the nationalization or denationalization of research through specified research agendas, the status of country to country relations, and research and development needs (Crawford et al. 1993:11-25) (Treadwell 2006:no page; conference presentation).

Country-specific policy statements about Arctic research exemplify the influence government has on the subject matter and amount of research in the circumpolar North through funding controls. It is important to examine whether policies are guided by current community needs or national political needs. Policies direct funding, funding directs research opportunities, and research opportunities direct options available to researchers and communities, thereby affecting the research conducted by communities. The key point is not just that policy affects funding but that government relations affect CBR and the culture of research in the North. These politics affect how regionalism within a discipline is defined and how it comes to exist, as well as how research institutions and various approaches to, and traditions in, research are formed (Fardon 1990:24-27) (Garbarino 1983:1-5; 9-17).

Proposed amendments to the American Innovation and Competitiveness Act of 2006 (S. 2802) further illustrate the efforts of politicians to dictate research agendas. The original proposed amendment to S. 2802 called for the NSF to direct its resources primarily to the physical sciences, thereby putting social/behavioral science funding at risk. Social scientists throughout the nation took the threat to funding seriously, vigorously protested, and launched campaigns against the amendment. The threat was averted through negotiated compromises to the amendment language and the current social/beha-

vioral science research funding at the NSF has been given the same priority as that for the physical sciences. The initiative is a clear indication of the affects policy can have on research.

There is an ongoing need for international collaboration to share research experiences and expertise to advance social-science research throughout the circumpolar North. Issues of interest in circumpolar research do not limit themselves to political boundaries, e.g., climate change, migratory activities of plants and animals, and pollution. Peoples of the circumpolar North have jointly shared concerns (e.g., the impact of government policies on cultural survival and heritage). Comparative studies can advance knowledge of the overall circumpolar influence and expressiveness of a particular research question. Social scientists are addressing questions of circumpolar wide interest such as rapid social change. The National Research Council notes a pool of circumpolar data and research experiences may better advance the social-sciences as a whole throughout the circumpolar North. This would allow for larger data sets and comparative analyses facilitating a better understanding of how human change and adaptation is occurring in various locations and amongst various peoples throughout the circumpolar North (National Research Council 1993:13). I suggest the research community must implement this research within a CBR framework where local communities manage and have control over the research being conducted in their communities, have control over the dissemination of research findings, and retain ownership of research data.

Saarnisto notes the United States and Russia "increased their cooperation in Arctic environmental issues within the framework of the Gore-Chernomyrdin commission" and that the NSF "'Russian-American Initiative on Shelf-Land Environments in the Arctic' has many points of contact with European projects in northern Eurasia…" (Saarnisto 1998:49-50). The U.S. Arctic Research Commission notes the increase in the number of "international bilateral and multilateral agreements for Arctic research (now about 450 [2003]) signals the rising importanceand breadth of both governmental and non-governmental international collaboration" (U.S. Arctic Research Commission 2003:27). There is, however, still a noted need for international cooperation between the U.S. and other Arctic nations (Northern Research Forum 2004:4-6) (Sillanpaa 2005:144-145).

Organizations, institutions, and communities throughout the North are striving to integrate research, policy, and community needs. Caspar de Bok with Utrecht University and the International Science Shop Network, in a presentation entitled Global Connections for Community-Based Research, Creating U.S. - European Linkages, notes the European Union's goals to connect science, policy, and community. "The European Commission is determined to bridge the gap between the scientific community and society at large. The 'Science and Society' theme within the European Research Area supports activities that bring together policy-makers, researchers, and citizens" (de Bok 2006, ppt. slide 16).

The Northern Research Forum, a non-governmental organization conceived in 1998 by Dr. Ólafur Ragnar Grímsson, the President of Iceland, has been working to bring scientists, politicians and community members together throughout the circumpolar North. The NRF's bi-annual open forum meetings have been a key means for bringing diverse groups of people together for open discussion about topics of importance to the circumpolar North. The NRF open forum format and emphasis on the inclusion of diverse peoples—students to community members to political dignitaries—facilitates an open dialogue between all participants in a hospitable environment. Such open dialogue is key to furthering CBR.

From inside this policy-driven funding arena researchers have the task of collaborating with communities to find common ground to meet the needs of the community while accessing available funding. Ideally, this process is driven by community needs which are then paired with available funding. But more often, the reality is that funding sources are identified and community needs are then fit within those funding opportunities—often times creatively.

Government policies and relations influence funding and research priorities through national agendas that specify research priorities. These priorities dictate funding allocations. The funding allocations influence the type of research available for funding. This then influences what community-based research communities conduct. Incongruence between government needs that set policy and funding priorities and local community needs contributes to a disconnect between government and community research agendas.

Who's Research Ethics?

Ethics is another component that influences the culture of research in the North. Culture can influence perceptions of ethicality. For example, traditional community culture, academic disciplinary culture, and professional culture may each result in different definitions of what is considered ethical. Researchers and communities may perceive ethics differently. Researchers must embrace ethics as a shared process where they tailor it to community needs with community control of research consent and protocols rather than simply implementing a step-wise list of tasks of informed consent. Researchers' perspectives should focus on community needs, not just research needs, and fostering community trust through respect. As a member of the Alaska Area Institutional Review Board said, "consent is a process, not a signature."

"By the 1980s all of the major social science organizations had defined more specific ethical codes" (Lassiter 2005:85). Communities, governmental organizations, Native organizations (local and international) and professional organizations are publishing research codes of conduct to hold researchers to a standard of full community collaboration in projects. Institutional requirements such as those of academic institutions and the U.S. National Science Foundation are supporting these codes by requiring research involving human participants to conform with the U.S. Federal Policy for the Protection of Human Subjects (see Williamson 1974) and by requiring research projects to garner approval from or proof of exemption from review by review boards, e.g., Institutional Review Boards, of academic and Native organizations (The Arctic Research Consortium of the U.S. 1999:27-34).

Kozaitis notes anthropologists are informed by a code of ethics where people come first and work is conducted in the best interest of the people with whom anthropologists work including local collaborators, colleagues and students (Kozaitis 2000:45). She argues that some anthropologists execute this code of ethics with more intent than others. The Arctic Research Consortium of the United States notes research in the Arctic is based on the Principles for the Conduct of Research in the Arctic, approved in 1990 and developed by the Social Science Task Force of the U.S. Interagency Arctic Research Policy Committee. The principles apply to the conducting, sponsoring and reporting of research. The principles "address the need to promote mutual respect and communication between scientists and northern residents"; state the need for cooperation "at all stages of research planning and implementation in projects that directly affect northern people"; and that this "cooperation will contribute to a better understanding of the potential benefits of Arctic research for northern residents and will contribute to the development of northern science through traditional knowledge and experience" (The Arctic Research Consortium of the U.S. 1999:55). Many researchers throughout the circumpolar North are working toward building a culture of research with norms supporting the promotion of community-based research.

Organizations throughout the North are facilitating positive relationships between researchers and communities (The Arctic Research Consortium of the U.S. 1999:27-29). Tuhiwai Smith notes a "practical reason for adopting collaborative approaches [to research] is that many indigenous groups now require it" (Gibbs 2001:676). Communities are now focusing on their own research protocols and guidelines. Organizations are facilitating the process to develop research as an integrated part of the North—research processes that are collaborative, driven by the needs of local communities, and conducted by local residents. "For many years, northerners have participated in research designed to meet the needs and priorities of others, and it is only fair that now we have an opportunity to see research that meets our needs"—The Honorable Richard Nerysoo, former Minister of Education, Culture and Employment NWT, 1994, as cited in England (England 2000:208). Contemporary times have changed the culture of research in the circumpolar North. Indigenous peoples of the circumpolar North have organized to control their land, lifeways, ways of knowing, and government. They are leaders who are bringing the rights of their own indigenous peoples—people who's land the north was before colonization—to the forefront of the world dialogue on international and Arctic affairs (Osherenko and Young 1989:72-109).

In 1979, the U.S. National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research produced the Belmont Report summarizing the ethical principals that form the foundation of biomedical and behavioral research involving human

participants with a focus on the protection of the individual (Department of Health Education and Welfare 1979:summary). The Belmont Report's principals of justice, respect, and beneficence in research with a focus on the individual are not an adequate directive for the ethical conduct of CBR. Research must apply the Belmont report principals at the community as well as the individual level in community-based research. Justice, respect, and beneficence must focus on, and embrace, community needs, beliefs, and values, and maximize the benefits and minimize the risks of research to the community. Researchers must foster trust through mutual respect and honesty where the best interest of the community is always foremost.

Conclusions

Research and decision making in the circumpolar North is changing with the formation of institutions supporting the conduct of research in the North and facilitating cooperative research activities with communities in the North (The Arctic Research Consortium of the U.S. 1999:27-29). Decisions are becoming more localized with local input and participation in research planning and implementation. The Arctic Research Consortium notes:

"As Arctic communities become increasingly accessible through changes in communication, transportation, and political systems, social scientists working in the Arctic can anticipate a new confluence of research opportunities. Social science now must engage in the challenge of developing effective partnerships with Arctic residents, contributing to education programs in and outside Arctic communities, and advocating for needed collaborative agreements and investments in logistics" (The Arctic Research Consortium of the U.S. 1999:34).

Within the culture of research in the circumpolar North, research must genuinely focus on community-based research needs. Social-science research is becoming more collaborative, with local residents and local scientists having active roles in research. This is a positive and necessary change in the culture of research. Often, however, researchers form local partnerships as a process of political correctness to facilitate research implementation rather than to foster effective working partnerships with local experts. Some researchers do not take the time to get to know the local community with whom they want to work; they do not spend time in the community; they neglect to disseminate research findings to communities in a culturally appropriate manner; and present and publish findings without community involvement. Some implement research at their convenience, arriving in communities during warm weather months and busy times of subsistence activities—not during times when it may be better for the community such as in the dead of winter. They employ indigenous peoples to secure community approval rather than to build community capacity. Project coordination may focus on approvals at the governmental level rather than collaboration at the local community level.

The culture of research in the circumpolar North shares commonalities with the culture of research in other locations, but also has its unique attributes. The people, the land, the community structures, the geography, the climate, the transportation, the policies, and local ethics, are but a few of the components in the circumpolar North that constitute a research culture unlike that of our more southerly neighbors.

People must be educated in northern research practices. As Gearheard and Shirley note, "we need to move beyond rewriting research guidelines and look at the way the research process itself is constructed. Both communities and researchers need more than guidelines: they need the capacity to work together" (Gearheard and Shirley 2007:73). Scientists, consultants, local communities, and community leaders must advance CBR within the culture of research in the North and outside the North by acting as ambassadors—educating others on the fundamentals of community-based research in the North. Many researchers from outside the North working here do not have a thorough understanding of our research culture, community culture, beliefs, needs of the region, and community-based research. Increased education will facilitate an increase in the proper implementation of CBR.

The "enduring commitment to recognizing the reality of other perspectives and taking them seriously keeps cultural anthropology a vibrant, exciting, and compelling discipline with great potential for allowing human beings to come to know and understand themselves better" (Lavenda and Schultz 2003:221-223). The research of cultural anthropologists, and others, throughout the circumpolar North is facilitating this increased

understanding and is able to do so in cooperation with local communities through local collaboration and the incorporation of local needs, knowledge, and expertise within the research process.

Community-based research takes effort and time. It is the responsibility of scientists conducting research in the North to bridge the gap between national policy mandates, outside research interests, and local research needs. The culture of research in the North must further CBR—uphold community needs and uphold the various mandates to first and foremost serve the local people who are the research participants and collaborators. It must strive to reduce the various borders and barriers that exist between government policies, the research arena, and local community interests to develop a borderless research community.

Notes

1. I would like to thank the Northern Research Forum (NRF) for the opportunity to participate in the 2006 NRF Open Meeting as a young researcher and present portions of the information in this article. I would also like to recognize all the researchers from inside and outside the North collaborating with communities and conducting community-based research in the North. I extend special thanks to Dr. Molly Lee for her insight, perspective, and editing expertise and my husband James Wiita for his untiring help reading drafts and providing invaluable suggestions.
2. I presented a portion of the information included in this article at the 4th NRF Open Meeting (2006) during the Community-based Research session.
3. For a discussion of the paradigm shift toward CBR in natural science research see, for example, Gearheard, Shari, and Jamal Shirley. 2007. Challenges in Community-Research Relationships Learning from Natural Science in Nunavut. ARCTIC 60:62-74.
4.Terms such as action research, participatory action research, community-based participatory research, community action research, collaborative research, collaborative ethnography, cross-cultural collaborative research, feminist research, critical theory research, participatory rural appraisal research, participatory technology development, gender and stakeholder analysis, community-based resource management, sustainable livelihood approaches to sustainability research, and traditional ecological knowledge to name a few.
5. An example for the North is the poem "Honor and Glory" by Aqqaluk Linge with its reflection on exploration and research in the North and the ethnocentrism embodied: In Honour and Glory By Aqqaluk Lynge:"They travelled [sic] and travelled/in a country where they thought/that no human beings could settle and live - They travelled and travelled/and when they arrived they found people/who did not know anything else/about human beings than themselves. – They travelled and travelled/and the hospitality was big/the curiosity without limits/but the guests could not be satisfied. – They travelled and travelled/and everywhere they came/people were examined/their clothes, sledges, and equipments were brought up. – They travelled and travelled/to a country so big/that there cannot be people enough/to name that many places. – They travelled and travelled/and each island or fjord/headland or mountain was named/in honour of this or that or themselves. – They travelled and travelled/and returned with maps of the country, and the way of life described—to gain honor and glory/medals et cetera/for having travelled in a country where people are settled and living" Kleivan, Inge. 1997. "Poetry, Politics, and Archeology in Greenland," in Fifty Years of Arctic Research Anthropological Studies from Greenland to Siberia, vol. 18 Edited by R. Gilberg and H. C. Gullov, pp. 187-194 Copenhagen: Department of Ethnography, The National Museum of Denmark.

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About the Northern Research Forum

The Northern Research Forum (NRF) is an international forum and platform for open and productive dialogue between researchers of different disciplines, including a wide range of other Northern stakeholders. According to the NRF Rules of Procedure (see www.nrf.is), which the NRF Steering Committee accepted in March 2007, the Northern Research Forum:

"provides a platform for an effective dialogue among members of the research community and a wide range of stakeholders to (a) facilitate research relevant to issues on the contemporary Northern agenda and (b) engage researchers, the policy community and other stakeholders to discuss, assess and report on research results and application."

Although not "Davos" of the North, the four Open Assemblies (former Open Meetings) have revealed a new kind of lively forum for an issue and policy oriented intensive dialogue addressing the challenges and opportunities facing Northern peoples and regions in the context of social and environmental changes and economic globalization. For more details see NRF Mission & Activities; Proceedings of the NRF Open Meetings in 2000, 2002, 2004 and 2006 on the NRF web-site – www.nrf.is.

A biennial Open Assembly (earlier Open Meeting) is the core of the NRF activities. It is first of all a platform for open discussion and dialogue between the participants, who (either as a panellist, a speaker, a young researcher or another kind of participant) are the most important actors of the NRF Open Assemblies. In NRF sessions there is always time enough for an discussion, dialogue and debate both between the panel and the audience, and in general between the participants of a session. In order to both maintain this position in the future and to fulfil new expectations and opportunities, we must continue to develop the essential cross-sectoral dialogue needed to advance the NRF both as a forum and a more institutionalized and established process.
Further, the NRF Assemblies bring together senior professionals and young researchers with their expertise and scientific knowledge with an aim that this inter-relationship creates fresh ideas and unconventional approaches. This reflects the idea that "NRF is a gathering of minds" like one of the students of the NR Master Degree Program at the University of Lapland put it at the 4th Open Assembly. As an achievement of outreach the 4th NRF Open Assembly managed to attract a several established young researchers (mostly from Russia and North America) with substantial and qualified presentations which covered many of the Assembly's sub-themes; indeed, the NRF Young Researchers are a significant human capital in the NRF context.

The Northern Research Forum is also a pro-cess including the following additional activities: (1) theme-workshops that lead up to or follow the Open Assemblies; (2) various sub-forums which NRF organizes or promotes in collaboration with other actors such as the Calotte Academy; (3) Town Hall meetings on human development and impacts of climate change; (4) Theme Project Groups consisting of experts covering relevant northern issues and global themes such as legation, economics, energy, transportation, climate change, cooperation and security; and (5) the NRF Network of Young Researchers.
Finally, the NRF is an international research project aiming to take into consideration all disciplines of science through its established knowledge-based network welcoming young researchers.

Steering Committee and Honorary Board

The operational work of the NRF and the international preparations of NRF Open Assemblies are done by the NRF Steering Committee, consisting of eleven people from nine nations and chaired by Dr. Lassi Heininen Adjunct Professor (Docent) at University of Lapland and University of Oulu, Finland.
The NRF has also a Honorary Board, chaired by Dr. Ólafur Ragnar Grímsson, president of Iceland which consists of five other distinguished individuals.

Secretariat in Iceland

Dr. Guðrún Rósa Þórsteinsdóttir, Director of the NRF Secretariat, University of Akureyri, Iceland (gudrunth@unak.is), Dr. Jón Haukur Ingimundarson, Senior Scientist, Stefansson Arctic Institute (jhi@svs.is); and Lára Ólafsdóttir, Office Manager, Stefansson Arctic Institute (larao@svs.is).

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Northern Research Forum

THE FOURTH NORTHERN RESEARCH FORUM

The Fourth Open Assembly of the Northern Research Forum (NRF) "The Borderless North", which took place in Oulu and Tornio in Finland, and Haparanda and Luleå in Sweden in October 2006, had a wide range of northern stakeholders, including community leaders, regional and national policymakers, heads of state, civil society activists, business people, members of the research community and university students. Based on the main theme "Tech-knowledgy in Economies and Cultures", a wide spectrum of relevant subject matter was covered during the sessions in dynamic discussions and dialogues among the participants. These discussions focused on cross-cutting themes, interdisciplinarity, policy-oriented discourses and analytical dialogues and thereby, confirmed a number of existing ideas and procedures as well creating innovative approaches and concepts.

One of the outcomes of this NRF meeting is this publication, which consists of 25 articles based on the background papers and presentations of the meeting. Its content is organized under the following themes, which were broadly discussed in the meeting, "Tech-knowledgy and its Application", "Borders, Barriers and Borderlands", "Legal Challenges in the North" and "Gender, Citizenship and Human Security".

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