

# 2014 ARCTIC YEARBOOK

## Human Capital in the North

Lassi Heininen  
Heather Exner-Pirot  
Joël Plouffe



# Arctic Yearbook 2014

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## **About Arctic Yearbook**

The Arctic Yearbook is the outcome of the Northern Research Forum (NRF) and UArctic joint Thematic Network (TN) on Geopolitics and Security. The TN also organizes the annual Calotte Academy.

The Arctic Yearbook seeks to be the preeminent repository of critical analysis on the Arctic region, with a mandate to inform observers about the state of Arctic politics, governance and security. It is an international and interdisciplinary peer-reviewed publication, published online at [[www.arcticyearbook.com](http://www.arcticyearbook.com)] to ensure wide distribution and accessibility to a variety of stakeholders and observers.

Arctic Yearbook material is obtained through a combination of invited contributions and an open call for papers. For more information on contributing to the Arctic Yearbook, or participating in the TN on Geopolitics and Security, contact the Editor, Lassi Heininen.

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## **Preface**

### **The New Arctic Human Dimension**

Alexander Pelyasov

This volume of the Arctic Yearbook is devoted to the umbrella topic of Arctic human capital and capacity. The success in the elaboration of the new industrial districts in the Arctic both offshore and onshore, the success with the Arctic Universities, and of Arctic entrepreneurs is highly dependent upon the quality and quantity of the Arctic human capital.

Learning by communicating - as nowhere else the growth of the Arctic human capital is dependent upon the art of communication in the Arctic cities, Arctic forums, and Arctic projects. In 2014 we have had a good deal of such Arctic international events with definite influence on Arctic human capital. To name a few let us remember ICASS VIII in Prince George, British Columbia, the 54<sup>th</sup> European Regional Science Association Congress in St.Petersburg with a strong Arctic focus, and the successful end of almost three years of work under Arctic Human Development Report-2.

The general idea of the numerous presentations and papers in these forums is that under the challenges of rapidly changing Arctic social and natural environment it is critical to provide an adequate and creative reply with Arctic systems of education, Arctic innovative clusters and regional innovation systems. And the engine of all these elements of the Arctic innovative infrastructure is Arctic human capital - these are talents and highly qualified specialists.

Under the contemporary conditions of globalization the whole Arctic looks like one united community of practice when somebody's ideas are immediately picked up by the neighbors to collectively build one united Arctic house, Arctic Mediterranean for all. Indeed the Arctic is absolutely unique as people here are involved in "trade" with each other not with resources, as they have similar resources throughout the Arctic, but with knowledge, ideas, competences and human capital of inter-polar migrants.

Each of the countries from the five economic models of the Northern economy (Russian, Canadian, American, Nordic and island) can contribute to and enrich the common Arctic human capital pool:

Russia – its knowledge of how to colonize the Northern Sea Route under the conditions of climate change; Canada – how to inspire self-development of the isolated small Arctic communities; USA – how to create innovative institutions to share resource rents in the interests of the Arctic people; Scandic countries – how to transfer remoteness into accessibility by the elements of the Arctic infrastructure; Arctic island countries of Greenland and Iceland – how to use the energy of the Arctic sovereignty in new projects for Arctic economic development.

If we compare Arctic and non-Arctic regions we can reveal several distinct differences in the Arctic human capital. First, Arctic human capital is dependent upon the tacit knowledge of the Arctic Natives, the wisdom of elders, the art of living with nature for ages peacefully and sustainably. Second, it is highly connected with resource and land use. Third, it is focused on the art of living on the edge of the land/sea limit, that is combining coastal zone management knowledge and innovations with rapid climate change. Fourth, Arctic human capital is a holistic, comprehensive phenomenon, uniting social and natural knowledge in one common pool. And finally, last but not least, Arctic human capital is embedded into the vibrant and resilient Arctic communities, with collaborative role of its veterans, migrant newcomers, and of course responsible local leaders.

If we look at the papers of this year's Arctic Yearbook authors we can see all these peculiarities of the Arctic human capital in their agenda, study, and description.

## Introduction

# HUMAN CAPITAL IN THE NORTH

Lassi Heininen, Heather Exner-Pirot & Joël Plouffe

The year 2014 has been an uneasy one for the Arctic region in many ways. A ‘race’ for access and control over the North Pole (between Canada and Russia), though played by the UNCLOS rules, and the crisis, and warfare, in Ukraine has wrought tension between Russia and its Arctic neighbours, casting a shadow over Arctic affairs if not outright jeopardizing them. The Canadian Chairmanship of the Arctic Council has attracted attention, but not always the good kind, for its focus on economic development, as well as the (first ever) boycotting of Arctic Council meetings. Following several years of converging interests, cleavages have been exposed between West and East; between those advocating for development versus those for protection; and on whether, and how, to consolidate or expand regional cooperation.

Where unanimity exists is on the issue of enhancing human capital in the Arctic, and throughout the North, at both the local and regional levels. But there again the questions remain: capacity for whom, and for what? While this is not an issue particular to 2014 - the [Arctic Human Development Report](#)’s first edition, published in 2004, documented this a decade ago - it has definitely been a continued area of collaboration between state and non-governmental actors across the Arctic. At the local level, efforts to improve access to education and training have been accompanied by efforts to promote indigenous language use and transmit traditional knowledge, as well as to promote health and well-being. Regionally, the need for better understanding of the Arctic environment and

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Lassi Heininen is Editor, and Heather Exner-Pirot and Joël Plouffe are Managing Editors of the Arctic Yearbook 2014.

the natural resources within it – a precondition for promoting best practices for sustainable development – have led to new investments in science and engineering, as well as new innovations in legal and political arrangements. The Arctic is a region where the needs and opportunities far outweigh the human capacity to address them. But for which needs, which opportunities, and by which processes, will capacity be built?

### **Conceptualizing Human Capital**

The term ‘human capital’ is not a new one in the Arctic, and refers to the skills and competencies, especially those derived from education and other learning, of those who live and work in the region. Current attempts to improve human capacity often seek to address the real and perceived deficits of the region: the unemployment, low educational attainment, and poor health outcomes both in cities and small settlements; and the inability of large resource extraction projects to fill their workforce needs without resorting to imported or temporary labour. Others focus on maintaining and passing along traditional knowledge, from Nunavik’s indigenous language training in primary schools to the Sami Education Institute’s crafts and design program. Does a choice need to be made between an education that prepares Northerners for employment in the 21<sup>st</sup> century and one which passes on culture? Or can the globalized Arctic become a model for a third way, where modernity does not demand homogeneity?

There is legitimate concern that indigenous communities are being prepared to participate in the Arctic boom, but will be ill-prepared to cope with the bust. What will happen to these settlements and environments when the ‘bonanza’ of mass-scale exploitation is over? This is already the case in many non-indigenous northern regions across Russia, Canada and Scandinavia, set adrift following the rapid expansion and settlement of northern resource towns in the mid-20<sup>th</sup> century, which inevitably peaked and declined. Different strategies are needed to address human capacity in the aging, rural areas of the North compared to those in young, indigenous communities, but these are run-of-the-mill regional development problems and garner much less attention from policymakers. And no one is asking what will happen if the boom never comes at all.

There is also legitimate concern that due to the recent and regional crises, in which Arctic states are involved, the current era of high political stability, based on a keen international cooperation and much supported by non-state actors, may be lost. In this environment the human-built stability and peacefulness of the Arctic is an achievement and can, even should, be interpreted as a joint valuable asset by the eight Arctic states and a reserve for the future, the moment when it is, again, needed to calm down and to press reset (see Heininen, *Future Security of the Global Arctic*, Palgrave Pivot: forthcoming). The situation might come sooner than later, when the international community, as well as the entire world order, is facing more serious and irrational warfare or brute violence, such as the threat by ISIS and the exploding middle East, real world-wide epidemic challenges and threats like Ebola, and the impacts of climate change and the Anthropocene. In this situation the Arctic region with its human capital could act as a test ground and a workshop to examine and test new and innovative ways of governance, decision-making and human security. This goes beyond state

sovereignty and nationalistic ways of thinking, as do the existing and emerging challenges and threats.

## **The Arctic Yearbook 2014**

The authors of this volume of the Arctic Yearbook address these and many more issues, with a critical pre-condition for inclusion in the volume being that articles are timely and relevant.

### ***Human Capacity-Building***

Post-secondary education is often seen as a key to building human capital, but achieving both accessibility and context-relevance is challenging in the North. Simpkins and Bonnycastle look at factors that improve success for female students in northern Manitoba, while Lipatov evaluates distance education in Alaska and Russia and Daitch explores how critical thinking is being fostered amongst students in Canada's Northwest Territories and Nunavut. Christensen and Hendriksen further discuss the challenges of offering a traditional, western-style of education that northern economies demand in an environment that it is often culturally unsuited for, using the case of engineering education in Greenland.

A number of articles look at kinds of human capacity. Heleniak evaluates how migration flows, both internal and international, impact human capital in the Arctic both positively and negatively. Petrov looks at creative capital in the Arctic, based on the findings of the Creative Arctic Project and assesses its ability to foster economic development in the Arctic as an alternative or complement to resource-based development. Lahey, Svensson and Gunnarsson bring a critical gender perspective to human capital discourses, noting that in Arctic/northern contexts, the dominant industry sectors mainly occupy men, while often intensifying the social, economic, and political marginalization of women and Indigenous peoples. Following on that, Kotyrlo looks at labour outcomes of migrant women in two counties in northern Sweden, Västerbotten and Norrbotten. Grenoble and Olsen outline the *Arctic Indigenous Language Initiative* which is working to reverse language shift through active engagement and collaboration throughout the circumpolar region.

### ***Regional Economy & Prosperity***

The Canadian Arctic Council Chairmanship has highlighted local and regional economic development efforts, and the Arctic Yearbook provides several articles contextualizing these. The question of natural resource development looms large. Daitch et al assess the need and parameters of a heritage fund for the Northwest Territories, drawing on a recent Canadian habit to try to emulate Norway's success in that regard. Hendriksen, Hoffmann and Jørgensen look at how Greenland is engaging local workforce and planning flexible settlements in the context of its changing mineral industry, while Dingman focuses on the many barriers and cleavages arising with Greenland's discussions on resource development. Suutarinen performs a similar evaluation of Murmansk, looking at the challenges of diversification in a resource-dominated economy. Further down the pathway of economic development, Smits, Bertelsen and Justinussen examine if and how micro-states can develop knowledge-based energy sectors, drawing on the experience of Iceland. Perhaps the resource and knowledge sectors need not be mutually exclusive in the Arctic.

Three articles look at tourism in the Arctic. The first, by Kristjánsdóttir, looks at sustainability practices using case studies from northern Sweden. The second is a product of collaboration between members of the University of the Arctic Thematic Network on Northern Tourism. It focuses on the realities and possibilities of tourism in the Arctic with an ambitious, fully circumpolar outlook. Finally, the contribution by Tommasini examines the varied experiences with tourism in three Greenlandic communities: Ukkusissat, Narasq and Qaanaaq.

The section is rounded out by two articles examining the challenges of balancing environmental sustainability and economic interests. Sojka examines the gaps in management capacity needed to fulfill governance responsibilities in Canada's integrated oceans management framework. Meanwhile Sarkki, Latola, Jokinen and Stepien introduce the concept of 'socio-natural' capital, or the ability of institutions and people to use natural capital in sustainable ways. They illustrate their conceptualisations with the example of reindeer herding and other land use in Fennoscandia.

### *Geopolitics & Security*

Geopolitical factors are top-of-mind in the Arctic region, and a main preoccupation of the Arctic Yearbook itself. Coming on the heels of growing non-Arctic interest and engagement in the region, Bailes examines the United Kingdom's 2013 Arctic Policy, the latest in a series of non-Arctic, or as some prefer, near-Arctic, national policy documents (see Heininen in *Arctic Yearbook 2012*). Coming from a national defence perspective, Rahbek-Clemmensen introduces the concept of 'Arctic-vism' for Danish political-military planners who are seeking to balance between a deterrence strategy for Greenland, continued cooperation in the region, and sustaining good relations between Greenland and Denmark. While Russian military build-ups in the Arctic continue to capture global attention, Padrtová argues that the Kremlin's repeated announcements on increasing its military capabilities in the Arctic should be seen as misleading and financially impossible to materialize for the Russian Federation. It's more about rhetoric and balancing power in international relations; a primary and recurring preoccupation in Arctic politics in 2014. From that perspective – and considering that military rhetoric and misperceptions of state intentions is not unique to Russia – Schaller suggests that there is a need for confidence-building measures in the Arctic to maintain long-term stability. In his view, policymakers could take a closer look at the Organization for Security and Cooperation in Europe as an inspiration for the Arctic states.

### *Commentaries and Briefing Notes*

In addition to scholarly articles, the Arctic Yearbook 2014 boasts a collection of short commentaries from the region's top thought-influencers, policy developers, and experts. These document many of the innovations, issues and developments which dominated discussion on the Arctic region in 2014: the Olympic Flame making its way to the North Pole, drones in the Northwest Passage, and continuing Polar Code negotiations for Arctic shipping; growing mining activities to controversies around food in/security in Canada; the role of the EU, Russian cross-border relations and Chinese Nordic interests; the impacts of the Ukraine crisis on Barents cooperation; and new challenges for the Arctic Council.

Finally, a series of briefing notes and updates of the UArctic and NRF's joint Thematic Network on Geopolitics and Security (the publisher of the Arctic Yearbook) provide technical and instructive overviews of particular case studies that inform our understanding of the larger region. Here, readers will be briefed on the past shipping season in the Northern Sea Route; new broadband technologies for global communications via Arctic waters; particularities of seal hunting in Newfoundland; oil drilling, mining and environmental legislation in the Barents Euro-Arctic Region (BEAR); tourism safety regulation, among others. Finally, 'This Year in the Arctic' prepared by Tom Fries is the Arctic Yearbook's annual interactive timeline that offers an overview of selected major Arctic events that captured headlines (and our attention) throughout 2014.

## **Conclusions**

The stakes are high in the Arctic. Some groups are fighting for their culture, their history and their identity in this world; others are fighting to save the Arctic from would-be exploiters and believe nothing less than the future of the planet is at risk. At the same time, investors in multi-billion dollar capital projects will not be dismissed, nor will the sub-state and national governments that rely upon them to fill the coffers that pay for public education, health care and infrastructure. All stakeholders are intent on building the human capital that will further their interests, and none will be ignored. It is difficult in 2014 to imagine them peacefully co-existing. We will soon enter a situation where it is necessary to ask: what is the future development we want in, and for, the Arctic? Is there an 'ultimate' price that we will accept as the societal cost of further development? That is the challenge ahead of us; the region will need to further improve its human capital if it is to find the answers.

# THIS YEAR IN THE ARCTIC

NEW ARCTIC STRATEGIES

FISHING MORATORIUM

UKRAINE SHELL

NWT DEVOLUTION

SEAL BAN APPEAL

MILITARY DRILLS

NEW SAO CHAIR

POLAR CODE

#SAVETHEARCTIC

G8 > G7 ADM. ROBERT PAPP

#SEALFIE PRIRAZLOMNAYA

CONTINENTAL SHELF CLAIMS

INUIT CIRCUMPOLAR COUNCIL

ROSNEFT

ARCTIC

WINTER

GAMES

GREENPEACE

DROINES

ARCTIC SUNRISE

CNOOC

CHINA

NOVATEK ARCTIC ECONOMIC COUNCIL

This timeline begins in September of 2013 and runs through early September of 2014. The events included are those that captured headlines in this time, as well as some additional, entirely subjective selections by the staff of the Arctic Yearbook.

15 Oct: James Anaya, the UN's Special Rapporteur on the Rights of Indigenous Peoples, meets with representatives of Inuit Tapiriit Kanatami and the Inuit Circumpolar Council before releasing a report saying that indigenous people in Canada are in crisis. (Nunatsiaq News)

17 Oct: The United Kingdom releases the first official formulation of its approach to the Arctic, "Adapting to Change: UK policy towards the Arctic".

1 Nov: Conclusion of US Coast Guard exercise Arctic Shield 2013, focused on Western Alaska and the Bering Strait.

1 Nov: Greenpeace activists held in custody in Murmansk are moved to St. Petersburg. (BBC)

2 Oct: Following a protest at the offshore oil platform "Prirazlomnaya", five Greenpeace activists are charged with piracy and taken into custody - along with their ship, the "Arctic Sunrise" in Murmansk. (BBC)

25 Oct: Germany releases a new overarching Arctic policy.

SEP

30

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02

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15

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23

25

NOV

01

04

06

30 Sep: US Government shuts down, grounding Bering Sea crab fleet, pulling USARC and NOAA websites offline. (Guardian)

12 Oct: Arctic Yearbook 2013 has its official launch at the Arctic Circle Assembly in Iceland.

19 Oct: A signed copy of Arctic Yearbook 2013 is brought to the North Pole by editor and Olympic torch bearer Lassi Heininen.

4 Nov: The Government of Greenland announces major cuts to funding for the Inuit Circumpolar Council in Greenland. (Arctic Journal)

6 Nov: Shell files paperwork to formally bid to drill in the Alaskan Arctic in summer 2014. (FuelFix)

23 Oct: Russia drops charge of "piracy" against Greenpeace in favor of the lighter charge of "hooliganism". (Moscow Times)

29 Nov: Australian Colin Russell, the final member of the Greenpeace crew detained following their actions at the Prirazlomnaya offshore platform, is released from detention in Russia. (Guardian)

8 Jan: Construction begins on Canada's "first highway to the Arctic Ocean" from Inuvik, NWT to Tuktoyaktuk. (Alaska Dispatch)

10 Dec: China-Nordic Arctic Research Centre, based in Shanghai, is launched. (Arctic Journal)

20 Dec: Gazprom announces that oil production has officially begun at the Arctic offshore platform "Prirazlomnaya", the target of earlier protests by Greenpeace's "Arctic 30".

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6 Dec: Canada makes a submission to the UN Commission on the Limits of the Continental Shelf, but does not include the Arctic Ocean.

12 Dec: NOAA releases the 2013 update to its Arctic Report Card.

9 Jan: Amendments to Russian law are proposed including a change that would create a three-mile "exclusion zone" around offshore installations, with stiff penalties for trespassing. (Arctic-Info)

13 Nov: US Department of Defense releases a new Arctic strategy at the Halifax International Security Forum.

25 Dec: The Russian government's charges against Greenpeace's "Arctic 30" are dropped after an offer of amnesty is approved by the Russian Duma. (Bloomberg)

10 Jan: Inuuteq Holm Olsen is announced as the man who will represent Greenland at its "representative office" - analogous to an embassy - in Washington when the office opens at the end of September 2014. (Arctic Journal)

15 Jan: The US Environmental Protection Agency releases a report clearly suggesting that the proposed Pebble Mine in Bristol Bay would pose significant risks to local populations and salmon stocks. (Alaska Dispatch)

30 Jan: Novatek announces that it is planning to build a second LNG plant on the Yamal Peninsula. (Barents Observer)

30 Jan: Alaska's Arctic Policy Commission releases its preliminary report to the Alaska State Legislature.

30 Jan: Shell announces it will not drill in the Arctic Ocean in 2014, making reference to a US appeals court decision on 22 January. (The Hill)

30 Jan: The White House releases the "Implementation Plan for the National Strategy for the Arctic Region".

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16 Jan: Nunavut's chief coroner announces an inquiry into the high rates of suicide in the territory after 45 suicides are recorded in 2013. (Alaska Dispatch)

28 Jan: Norway and Canada appeal a ruling by the World Trade Organization that upheld the legality of the European Union's ban on the importation of seal products. (Arctic Journal)

22 Jan: A US federal appeals court issues a ruling that throws the 2008 sale of offshore leases in the Chukchi Sea into question. Shell, among others, is affected. (Alaska Dispatch)

28 Jan: Canada's Minister for the Arctic Council Leona Aglukkaq announced that an Arctic Economic Council would be formed. (Globe and Mail)

1 Feb: US Secretary of State John Kerry cites the upcoming US Chairmanship of the Arctic Council in remarks at the Munich Security Conference.

14 Feb: Svalbard records 30 days with average temperatures 15 degrees Celsius above normal. (Barents Observer)

5 Feb: Norwegian and Finnish authorities agree to jointly improve two road corridors connecting northern Finland and Norway. (Barents Observer)

19 Feb: The Alaska State Senate unanimously opposes the creation of the proposed Beringia International (US & Russia) Park. (Alaska Public Media)

7 Feb: The European Parliament votes to increase its financial support to Greenland. The funds are largely earmarked for education. (Arctic Journal)

24 Feb: The US Navy releases an updated "Arctic Roadmap" covering the next 15 years of operations in the Arctic Ocean.

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6 Feb: China National Petroleum Corporation (CNPC) makes a USD 20 billion payment - the first installment of several - to Rosneft as part of long-term supply contracts. (Barents Observer)

10 Feb: Rosneft confirms that Murmansk will be central to its Arctic ship-building efforts. (Barents Observer)

10 Feb: The foreign ministries of Russia and South Korea meet for the first time to discuss Arctic cooperation between the two countries. (Russia Beyond the Headlines)

15 Feb: Canadian Armed Forces resumes a dormant cold-weather warfare training program with "Exercise Trillium Response 14". (Arctic Journal)

11 Feb: Russia's Ministry of Regional Development approves a new definition of the Russian Arctic, cutting out many territories formerly considered "Arctic". (Barents Observer)

4 Mar: In partnership with Eykon Energy and Petoro Iceland, Chinese energy company CNOOC lands an exploration license in Arctic waters off of Iceland. (Energy Live News)

12 Mar: The European Parliament adopts a resolution requesting "the development of a proper EU strategy for the Arctic". (EurActiv)

18 Mar: Major insurer Lloyd's of London announces it will produce international guidelines for polar shipping as a "complement" to the forthcoming IMO Polar Code. (Arctic Journal)

5 Mar: The United States cancels its participation in two upcoming naval exercises involving Russia. (Barents Observer)

17 Mar: Inuit leaders weigh in during WTO hearings on the EU's ban on seal products. (Alaska Dispatch)

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6 Mar: In a modest step towards protection of the central Arctic Ocean, the US, Canada, Russia, Norway and Denmark reach a tentative agreement on a fishing moratorium in that region. (KUCB)

15 Mar: The UN Commission on the Limits of the Continental Shelf recognizes an enclave in the Sea of Okhotsk as Russian waters. (RT)

15 Mar: Arctic Winter Games start in Fairbanks, Alaska.

14 Mar: Prime Minister of Iceland Sigmundur Gunnlaugsson states publicly that "Russia's actions in Ukraine may lead to problems for the Arctic Council". (IceNews)

19 Mar: Two US Navy submarines begin exercise ICEX 2014 in the Arctic Ocean. (MarineLink)

21 Mar: Angus King, US Senator from Maine, takes part in a US Navy excursion to the Arctic Ocean. (AP / Portland Press Herald)

21 Mar: Sea ice in the Arctic Ocean reaches its maximum extent for the year, at 14.9 million square km. (Danish Meteorological Institute)

31 Mar: Kuupik Kleist, longtime leader of Greenlandic political party Inuit Ataqatigiit, steps down. (Arctic Journal)

31 Mar: Despite the decline in government relations between NATO member Norway and Russia as the Ukraine conflict continues, Statoil chief Helge Lund and Rosneft chief Igor Sechin meet in Norway to discuss expanded cooperation between their companies. (Barents Observer)

26 Mar: A flurry of Russian fighter jets near the Finnish border causes alarm for some border residents in Finland. (Barents Observer)

26 Mar: An Arctic Council Senior Arctic Officials' meeting takes place in Yellowknife, NWT, Canada.

28 Mar: Former Prime Minister of Norway Jens Stoltenberg is named as the next Secretary General of NATO. (BBC)

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24 Mar: Other G8 leaders cancel a planned summit in Sochi in favor of a G7 without Russia in Brussels. (The Hill)

27 Mar: The Council of Canadian Academies releases a report stating that "people in Nunavut have the highest food insecurity rate for any indigenous population in a developed country at 68 percent." (Alaska Dispatch)

25 Mar: Norway announces it will suspend all bilateral military activities with Russia. (Barents Observer)

27 Mar: A campaign of "sealfies" on Twitter begins, in protest of a major donation to the anti-sealing Humane Society of the United States. The donated funds were generated by Ellen Degeneres's wildly popular Oscar selfie. (Globe & Mail)

25 Mar: UN Secretary General Ban Ki-moon begins a three-day visit to Greenland to examine the effects of climate change. (Shanghai Daily)

27 Mar: A new Arctic information and analytical center opens in Arkhangelsk, Russia. (Barents Observer)

2 Apr: The National Snow and Ice Data Center announces that average ice extent in March was 14.8 million square km, 730,000 square km below the 1981-2010 average. (Guardian)

2 Apr: Nunavut launches a program to bring "tele-psychiatry" to remote communities. (Huffington Post)

2 Apr: Speaking in Montreal, Hillary Clinton expresses concern over Russian "expansionism" in the High North, and argues that Canada and the US should stand together against Russia. (Barents Observer)

9 Apr: As part of a training exercise, a Russian airborne unit lands at the North Pole. (Barents Observer)

18 Apr: The first tanker with oil from the Prirazlomnaya platform in the Kara Sea departs to bring its cargo to market. (Voice of Russia)

11 Apr: Shipping company Fednav pioneers the use of drones as navigational aids in the Arctic. (RCI)

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8 Apr: The first ever winter Barents Games are concluded in Tromsø, Norway. (Barents Observer)

8 Apr: Defense ministers from the five Nordic countries meet in Tromsø to discuss defense collaboration among their countries. (Barents Observer)

22 Apr: Finland signs a deal with NATO expressing willingness to receive assistance from the alliance, should it come under attack from a foreign power. (Arctic Journal)

1 Apr: NATO announces that it will halt all military and civilian cooperation with Russia in light of the situation in Ukraine. (Barents Observer)

1 Apr: The planned devolution of powers from the Government of Canada to the Northwest Territories becomes a reality.

22 Apr: President Vladimir Putin meets with the Russian Security Council to discuss the "fulfilment of Russia's policy in the Arctic in the interests of national defense." (ITAR-TASS) The meeting results in a decision to push for development - including transport infrastructure - large-scale mining and strengthened military presence. (Arctic Journal)

23 Apr: Russia expels Margarita Atanasov, First Secretary at the Embassy of Canada in Moscow, in response to the expulsion of Russian diplomat Yuri Bezler from Canada on 8 April. (Pravda)

16 May: Eni (Italy) and Statoil announce that they will delay the start of work at the Goliat oil field in the Barents Sea until mid-2015 "following technical challenges and significant cost overruns." (Wall Street Journal)

27 May: Greenpeace activists occupy the oil rig called Transocean Spitsbergen, which is working for Statoil in the Barents Sea. (Ecologist)

2 May: US Congressmen Jim Sensenbrenner and Rick Larsen introduce a bill to establish a U.S. ambassador-at-large for Arctic affairs. (National Journal)

26 May: Novatek signs a contract to supply 3 million tons of LNG per year, for 20 years, from the Yamal LNG installation to China's CNPC. (Barents Nova)

22 May: Eighth International Congress of Arctic Social Sciences (ICASS)

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15 May: Chinese real estate magnate Huang Nubo tells Norwegian national radio that he wants to buy 216 square kilometers on the Arctic archipelago of Svalbard. (NRK)

30 May: NATO Secretary General Anders Fogh Rasmussen suggests that the alliance should map out a plan for response to potential future Russian activity in the Arctic. (Wall Street Journal)

20 May: Russian PM Dmitry Medvedev warns that the US and Russia are approaching "a second Cold War". (The Hill)

30 May: Conference "Innovative and Safe Cooperation in the Barents Euro-Arctic Region" takes place in Karelia, with participation of researchers from the Northern Research Forum.

1 May: The Greenpeace ship "Rainbow Warrior" and 44 activists attempt to prevent the tanker carrying Arctic oil from the Prirazlomnaya platform from docking in Rotterdam. They are arrested by Dutch law enforcement officials. (Guardian)

14 Jun: The ruling party in Finland's coalition government chooses minister Alexander Stubb to succeed current Prime Minister Jyrki Katainen. (Barents Observer)

20 Jun: China publishes its first-ever guide for sailing the Northern Sea Route. (Barents Observer)

13 Jun: Northern Research Forum and Arctic Yearbook staff host a workshop in Montreal welcoming President of Iceland Olafur Ragnar Grimsson and other luminaries.

20 Jun: The Canadian Chairmanship of the Arctic Council announces that Patrick Borbey will move from his role as Chairman of the Senior Arctic Officials. He will be replaced by Vincent Rigby. (Nunatsiaq News)

1 Jun: Calotte Academy 2014 brings together researchers from around the Arctic in the Barents region.

17 Jun: Russian security service agents conduct a major joint exercise at one of the country's main Arctic oil installations. (Barents Observer)

1 Jul: Gazpromneft-Sakhalin announces the start of exploratory work at the Dolginskoye field in the Pechora Sea. (UPI)

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10 Jun: The first online atlas of Inuit Arctic trails is launched. (Progressive Geographies)

10 Jun: The Canadian Government grants approval for seismic testing off the coast of Baffin Island in summer 2014. (CBC)

9 Jul: Japan's Mitsui O.S.K. Lines Ltd and China's China Shipping Development Co. announce that they will begin regularly-scheduled shipments of Siberian LNG through the Arctic Ocean to East Asia. (Wall Street Journal)

19 Jun: Word is released that Canadian fighter jets have been scrambled twice in the past two weeks to track Russian bombers near to Canadian airspace in the Arctic. (Globe & Mail)

16 Jun: Despite earlier protestations to the contrary, Lukoil announces it will invest money in Arctic exploration via a joint venture with Gazprom. (Barents Observer)

10 Jul: Norway's Petroleum Safety Authority gives Statoil permission to begin another round of exploratory drilling in the Barents Sea. (UPI)

21 Jul: The Inuit Circumpolar Council's quadrennial general assembly takes place in Inuvik, NWT. At the meeting's conclusion, the ICC releases the Kitigaaryuit Declaration.

16 Jul: US Secretary of State John Kerry announces that Admiral (ret.) Robert Papp will serve as the US Special Representative for the Arctic.

5 Aug: The Russian government hosts a gathering in Naryan-Mar of representatives of the Arctic Council member states and others, including a visit to Prirazlomnaya, the oil installation in the Kara Sea which was the target of earlier Greenpeace actions. (RT)

8 Aug: Canada sends two icebreakers to the Arctic to map the Arctic seabed in support of a bid to extend Canadian territorial claims up to the North Pole. (BBC)

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11 Jul: China's sixth Arctic expedition departs from Shanghai, carrying 65 scientists from China, the US, Germany, Russia and France. (China Daily)

1 Aug: Greenpeace icebreaker "Arctic Sunrise" ends its long sojourn in Russia, departing for Amsterdam. (RIA Novosti)

31 Jul: Energy company Shell announces it has made a deal to share leases and exploration expenses with the Alaska Native corporations of the North Slope. (Alaska Dispatch)

27 Jul: For the first time in 14 years, Chukotkans from Russia make the 70-mile journey across the Bering Strait to visit relatives in Gambell, Alaska. (Alaska Dispatch)

7 Aug: Russia announces that its Northern Fleet detected a foreign submarine, presumably from the United States, in the Barents Sea, and forced it out of Russian waters. (RT)

9 Aug: President Putin of Russia takes part in the ceremonial beginning of exploration drilling at a rig in the Kara Sea via TV link from Sochi. (ITAR-TASS)

31 Aug: Igor Sechin, head of Russian oil major Rosneft, announces that the company plans to invest USD 400 billion in Arctic projects by 2030. (Radio Free Europe)

20 Aug: Russia announces that two of its icebreakers have recently completed a "complex" of geophysical research at the North Pole. (MarineLink)

9 Sep: The Conference of Parliamentarians of the Arctic Region holds its biennial meeting in Whitehorse, Canada.

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21 Aug: Canadian Prime Minister Stephen Harper launches his annual northern tour, including the announcement of a CAD 17 million Arctic research program. (CBC)

21 Aug: The Northern Sea Route's eastern passage opens to commercial shipping traffic a full two weeks earlier than in 2013. (MarineLink)

18 Aug: The US Coast Guard announces that it has successfully launched and landed a drone, or UAV, from an icebreaker in the Arctic Ocean. (KTOO)

2 Sep: The founding meeting of the Arctic Economic Council takes place in Iqaluit. The creation of the AEC is a primary initiative of the Canadian Chairmanship of the Arctic Council. (CBC)

## **Section I**

### **Scholarly Articles**

### ***Human Capacity-Building***

# THE INTERCULTURAL CHALLENGES OF ENGINEERING EDUCATION IN A GREENLANDIC CONTEXT

Kåre Hendriksen & Hans Peter Christensen

*Greenland is a modern society with Self Governance, but only half a century ago it was primarily a fishing and hunting society governed as a colony by a Danish elite. The rapid changes have left Greenland with many social problems, and compared to Western Europe relatively few finish education beyond public school.*

*Since 2001 the Technical University of Denmark has offered a study program in Arctic Engineering primarily targeted at Greenlandic youth, but also students from, for example, Denmark, where the first three semesters are finished in Greenland. There are two main objectives for this program: to educate professionals with a deep understanding of the Arctic, and to give the Greenlandic youth a better chance of getting a higher education. To align the teaching philosophy with the Greenlandic students' cultural background, the curriculum structure has large interdisciplinary courses based on authentic local cases and intercultural group work.*

*This paper will focus on the challenges caused by many of the Greenlandic students' weak academic preparation, and the fact that the cultural background embedded in the Greenlandic language can make it very difficult to comprehend topics at an abstract level. Additionally, the group work and the class teaching are challenging due to the culturally-based reticence and conflict-averse nature of many of the Greenlandic students, which gives the Danish students a dominant position. This often creates a negative spiral, where many Greenlandic students tend to withdraw from discussions, which are an important part of the education. The paper will discuss our experiences with handling these challenges.*

## Background

Up until World War II, the Danish Greenland administration tried to keep Greenland a closed country out of a desire that the Greenlandic population, unlike a number of other Indigenous groups, should have a calm and gradual transition from a nomadic fishing and hunting society to a more modern society. Additionally, a major contributory factor was a desire to reduce the Danish costs of operating a colony (Bang 1940; Grønlandskommissionen 1950; Lidegaard 1961; Hendriksen 2013).

Through the colonial period from the mid 18th century, the Danish administration prioritized education of Inuit children at all permanent settlements. In most places, the teaching was handled by

Greenland 'catechists' with limited educations, who also served as priests. In that respect the Greenlandic children were roughly equal to Danish children in most rural areas, except that the curriculum in both cases was decided upon by Danish authorities (Lidegaard 1993). Unlike the teaching offered by other colonial powers across the world (insofar as they offered any teaching at all), the teaching offered by the Danish administration in Greenland was given in Greenlandic.

During World War II, Greenland was practically cut off from Denmark, while the United States ensured Greenland the necessary supplies and defense against the German occupation that had already befallen Denmark (Grønlandskommissionen 1950; Heinrich 2010). Simultaneously, Greenland functioned as a very important link for the U.S. airlift to Europe, which is why the U.S. established several air bases and military stations in the country, creating a significant interaction between the population of Greenland and the American soldiers.

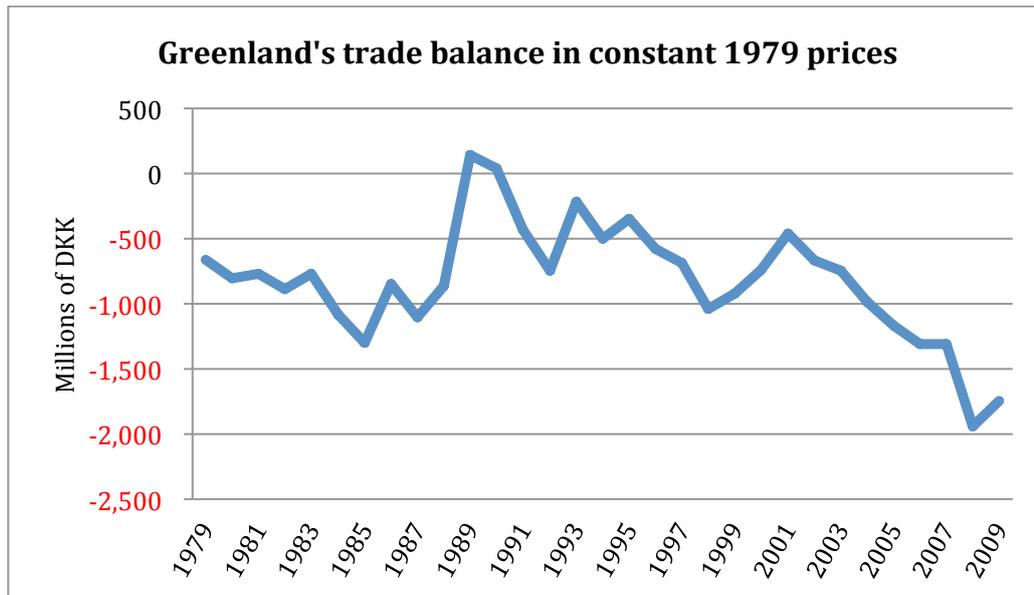
The end of the war marked a turning point in the Danish attitude towards Greenland, and in the following decades a relatively well-planned and very rapid modernization of Greenland took place, where Greenland's status as colony changed to in theory become a more equal part of Denmark. In order to enable modernization, the Danish administration sought to gather the people in fewer and permanent settlements (Grønlandskommissionen 1950; Boserup 1953; Grønlandsudvalget 1964). The motive was partly to ensure better housing and health conditions for the population, which was a major challenge, as many still lived in sod houses and tuberculosis was widespread and claimed many lives. Another important motive was to gather the people at the best fishing places, where the fish processing plants were built, with the intention that Greenland should be financially self-sustaining primarily through fishing (Grønlandskommissionen 1950; Grønlandsudvalget 1964). At the same time massive investments were made in the development of the education system, and in the absence of Greenlanders with extensive formal schooling, Danish teachers were imported en masse. Likewise, it was primarily Danish craftsmen who were responsible for construction and the establishment of infrastructure and Danish health care professionals who staffed hospitals and the smaller settlements' nursing stations.

Greenland experienced increased prosperity and population numbers were doubled within a generation, while the number of permanent settlements was halved (Hendriksen 2013). But many Greenlanders also noticed that they were effectively left out, and were spectators to the development completed by Danes, a development many felt was on Danish terms. Many found it hard to adapt to the new conditions in which life and work were put on 'form' and schedule, and which did not take into account the weather and/or seasonal opportunities for hunting and fishing. In addition to this, new access to beer and liquor meant that many, out of frustration, turned to massive abuse of alcohol (Dahl 2000).

The post-war years changed Greenland for better or worse. Centralization and the fact that changes were implemented by the Danes on Danish terms created a resistance to 'the Danish' in large parts of the population. A political and national consciousness emerged that led to the introduction of Home Rule in 1979 with a democratically elected parliament that assumed responsibility for most of the internal affairs (Bro 1993)<sup>1</sup>.

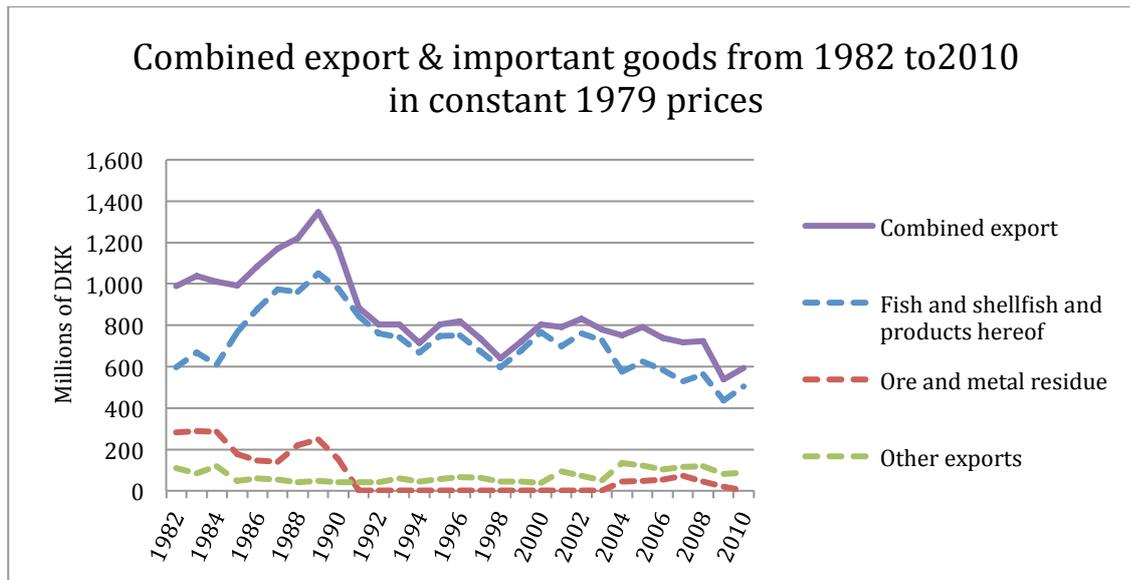
### *A Dependent Economy*

In the decade following the introduction of Home Rule, focus was put on ‘Greenlandization’ and decentralization, while Greenlandic was promoted as the main administrative and educational language. However, from the late 1980s on, cod disappeared from Greenland waters and thus an essential part of the Home Rule economic foundation, and since then a massive and gradually increasing loss on the Greenlandic trade balance has been recorded (Figure 1).



**Figure 1:** Greenland's trade at constant 1979 prices from 1979 to 2009. As can be seen, Greenland has had a significant trade deficit throughout the home rule period, except in 1989 and 1990 when there was a very modest surplus. (Based on Statistics Greenland data date).

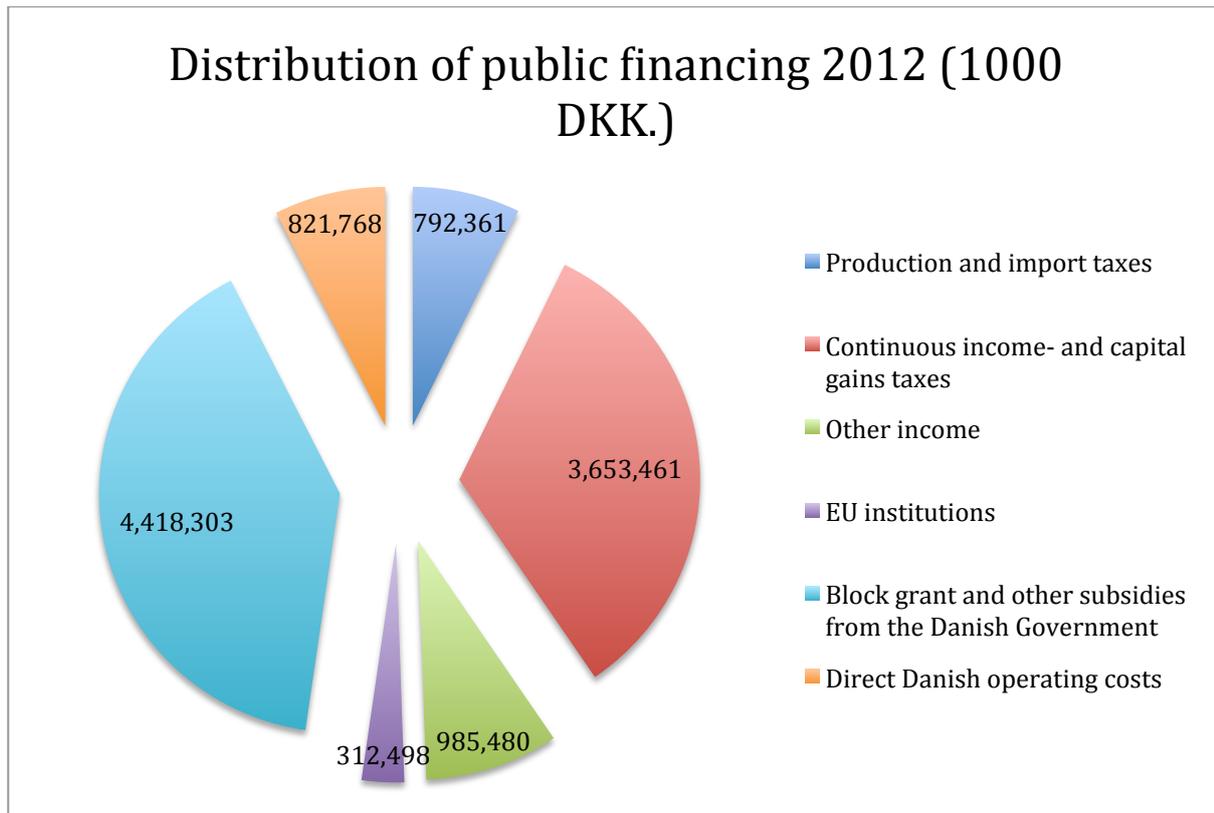
Slowly, societal developments returned back towards increased geographical and economic centralization, and today's population of just over 56,000 inhabitants are distributed between 17 small 'cities' and 58 villages.



**Figure 2:** Key export product groups from 1982-2010 at constant 1979 prices. The only significant exports for the period, in addition to seafood, are lead and zinc ore from the Maarmorilik mine, which closed in 1990.

The geographic and economic centralization has not reduced Greenland's almost mono-product economic dependence on exports of fish and seafood (Figure 2), and the value of exports has been gradually decreasing while imports have been increasing. The overall development has meant that many of the cities and villages are now left without any real business or livelihood besides maintaining the settlement's operation (Hendriksen 2013).

The large imbalance between exports and imports has prohibited the creation of a self-sustaining economy in Greenland, and left Denmark funding half of the public spending through transfer payments (Figure 3).



**Figure 3:** Distribution of the main sources of funding for the public economy of Greenland, which includes self-government, municipal and state government spending for 2012. As shown, Denmark, and to a lesser extent the EU, finances half of public spending. (Source Statistics Greenland date)

### *A Bilingual Society*

The Greenlandic language is far from the Indo-European family of languages and has a fundamentally different structure and organization. It is a language developed by and for a hunting culture. It is particularly suitable for oral communication in relation to the daily life unfolding in a hunting society whereas the practical and topical focus seemingly makes it more difficult to discuss some abstractions e.g. relating to engineering. There is no original written language, and it was Europeans who introduced today's written Greenlandic (Olsen 2004; Lidegaard 1993).

Linguistic developments are constantly going on in which a number of foreign words are partly incorporated, but equally, a number of new Greenlandic words are created in order to describe modern things or situations. Despite this, it remains a technical challenge to translate Danish administrative, academic, legal or technical texts to Greenlandic, and these translations are often difficult to understand for the Greenlandic population. Sometimes different translations of the same texts provide such diverse results that they offer possibilities of quite different interpretations.<sup>2</sup>

Despite repeated attempts to use more Greenlandic as the teaching and administrative language, Greenland has remained a bilingual society with Danish often being prioritized in the administration. Since modernization took off, there has been a significant workforce 'called' foreign, primarily Danish, in the country, which peaked as late as 1988 with more than 9,500 foreign workers including

their families out of a total population at the time of 54,500.<sup>3</sup> Much of the foreign labor only stayed in Greenland for a few years, and very few of those who have lived in Greenland for a longer period of time or even most of their lives, have learned Greenlandic. For these people, language has not posed a major problem, since the primary administrative language, as well as the business language, historically has been Danish, and this has only modestly changed in spite of first the Home Rule and then the Self Rule.

It may be difficult to differentiate between those called Greenlanders and those called Danes. The distinction is officially based on the individual's place of birth. This means that children of Danish parents born in Greenland are registered as Greenlanders, while Greenlandic children born in Denmark are registered as Danes. Furthermore, many children are born into families where one parent is Greenlandic and one Danish. Despite this, the statistics offer a reasonable picture.

The fact that Danish has been retained as the main language among officials and decision-makers is also due to the fact that imported laborers and professionals generally have the highest credentials, and thus fill a number of key positions in society, even though their numbers, including families, are down to around 6,000 out of a total population of 56,000. Whereas more than half of the non-Greenland-born population including children and pensioners have a vocational or higher education, this is only true for less than one fifth of the Greenland-born population. If we look at the number of people with a master's degree or higher, in 2012 there were 714 Danish/foreign against only 279 Greenlanders (Statistics Greenland 2014).

Most Greenlanders with a vocational or higher education are in reality more or less bilingual with Greenlandic and Danish, and many are fully bilingual – especially those with a higher education, but within this group of Greenlanders, there is also some who for different reasons do not speak Greenlandic at all. However, a very large part of the population of Greenland masters the Danish language only at a conversational or basic level, and many not at all.

This means that Greenland is a bilingual society in the sense that a very large proportion of all public information is interpreted respectively into Greenlandic and Danish, and that the press operates in dual languages, with articles being translated. However, although a relatively large group can speak both languages, Greenland is also bilingual in the sense that there are two major populations, some of whom cannot directly communicate with each other. Given this, it is remarkable that the de facto administrative and legal language is that of the minority – Danish.

### *An Unequal Society*

In recent decades, the economic and social inequality in Greenland has increased markedly and Greenland has gradually developed an inequality higher than the U.S., UK and Italy, as measured by the GINI coefficient (Jensen 2008).

The social challenges are many, and a large proportion of the population feels more or less marginalized, while some live in poverty. With these social problems follow personal problems, with many related to alcohol and drug abuse, although total alcohol consumption has been falling and is now below the Danish level. A frighteningly high number of girls and young women – and also boys

and young men – have been subjected to sexual abuse and the number of abortions is very high. Greenland also has a very high suicide rate, with some districts' rates among the highest in the world (Bjerregaard 2004; Bjerregaard et. al. 2008; Bjerregaard & Aidt 2010). There is no immediately clear geographical pattern or pattern relative to the size of the settlement, and the social and personal problems are found everywhere. For instance, the social transfer costs<sup>4</sup> per capita in the country's capital Nuuk corresponds with the national average (Hendriksen 2013).

### *Education – Quality and Level*

Over the past decades, Greenlandic has been prioritized as the main language in the public (K-10) school system, while Danish has become the first foreign language. It has obviously strengthened the young people's Greenlandic skills, although some still find it difficult to read and write Greenlandic. It has also made them vulnerable in terms of societal communication and in particular in relation to further education, as already in secondary schools they are met primarily by Danish teachers, and most of the teaching is conducted in Danish. It is also very demanding as they have to learn English as a third language.

The social and personal challenges faced by many in the wake of modernism and in the continuing unequal context obviously has a bearing on the level of education, as does the challenge of learning in a foreign system and often in a second language. And in practice, this dual challenge means that a large group of parents also have barriers to supporting their children's education.

The combination of the language challenge and the social and human challenges mean there is limited social mobility in the community and it is noteworthy that social mobility in major communities ('towns') is modest, while the social mobility is more prevalent among young people from the smaller towns and villages (Hendriksen 2012; Hendriksen 2013).

The limited mobility means that the gap between the communities is maintained or even deepened both in economic terms and in relation to mutual understanding and frame of reference. The result is that the societal gap tends to be deepened and it becomes harder for the elite, consisting of the strongly bilingual Greenlanders and the educated immigrants, mainly Danish, to understand the living conditions and thus the frame of reference for much of the population. Conversely, it can be said that the Greenlandic-speaking majority has a harder time understanding the elite's frame of reference. Thus, the understanding and communication gap is maintained and extended.

### **The Study Program in Arctic Engineering**

There is a great need to train more Greenlandic people at all levels. Experiences with sending Greenlandic youth to Denmark to receive a higher education have never been particularly good, because dropout rates are relatively high. Furthermore, there are quite a few who choose to remain in Denmark after graduation (Chemnitz 2005). At the same time, there is a great need and demand for engineers who have a solid understanding of the challenges that the Arctic climate causes, and the particular challenges to the Greenlandic society.

In an effort to meet this dual demand the Technical University of Denmark (DTU) established the Arctic Technology Centre – colloquially called ARTEK – in 2001 in cooperation with the Greenland Home Rule (now Self Rule). The primary goal of the establishment of ARTEK was to establish an Arctic engineering education rooted in Greenland, while the center also serves as a coordinating framework for research in Arctic engineering.

It was decided that the program's first three semesters would be taught in Greenland, to give the Greenlandic students a chance to acclimatize to the academic world, while ensuring an Arctic profile and anchoring of the program. Recognizing that it would be difficult to ensure the necessary academic level if the entire program was carried out in Greenland due to the expense of providing qualified instructors and necessary experimental equipment, the remaining part of the program, except a one-semester internship in the Arctic, is located at the Copenhagen campus of Technical University of Denmark (DTU).

This is a Bachelor of Engineering program, which in Denmark usually takes three and a half years. It is basically a civil engineering education, but to give the necessary time and space for an Arctic dimension and to differentiate it from other civil engineering programs, the Arctic engineering program is extended by six months. The Arctic students have studied a semester more than the students they are going to study with, when they move to Denmark. This gives the students whose first language is Greenlandic a better basis for studying in Denmark.

The students have the opportunity to specialize in the following areas: Buildings (building design and load bearing structures), Facilities (indoor air quality, building energy and HVAC), Construction (rocks, permafrost and raw materials), Environment (water, sewage, waste and environmental impact assessment), and Planning (infrastructure, local and regional planning).

To exploit workshop facilities and synergy in educational cooperation the Arctic engineering program and thus ARTEK, was placed physically at Sanaartornermik Ilinniarfik (now Teknikimik Ilinniarfik - KTI) in Sisimiut, which in addition to the vocational school also includes a high school. Sisimiut is Greenland's second largest city with approximately 5,500 inhabitants. The Arctic engineering program accepts 20-24 students per year, of which approximately two-thirds comes from Greenland, while the remainder are primarily Danish. The language of instruction is Danish, as is the case for much of the higher education in Greenland. To ensure the necessary professional expertise in teaching, teachers from DTU and consultancy companies in Denmark, other universities, and from Greenland consultancies and municipalities, are used continuously. In total about 30 teachers account for the three semesters, that is organized with a few major interdisciplinary courses that are run consecutively (Christensen 2008). Teaching at DTU in Denmark usually is run with parallel courses throughout the semester.

The model, where the students are starting with three semesters in Sisimiut then moving to Denmark, combined with the fact that the education in Greenland relies on external instructors, has proven to be an academic success because on the one hand it guarantees a local foundation and on the other hand it has great resources to draw upon to guarantee the quality of the education. The

Self Rule calls it the 'ARTEK model' and recommends it to other institutions of higher education in Greenland (Naalakkersuisut Uddannelsesplan II 2014).

Despite several initiatives over the last 5 years to increase retention rates (Christensen 2014), it has not been possible to achieve a high retention rate for the Greenlandic students. The rate is at the same level as that of the Greenlandic students in other long- and medium-long higher education programs in Greenland and Denmark, which according to Statistics Greenland (2014) can be estimated between 40 and 50%.

That the initiatives have not led to higher retention rates may be due in part to the fact that the past five years have produced a two- or three-fold increase in the enrollment in Arctic Technology, with an increasing proportion of Danish students. It is good to have a few Danish students in a class, but if there are too many then they may completely dominate classes, and the Greenlandic students will fall back.

The decision to start the program in Greenland has also had an unintended effect: many with weak prerequisites are applying, because they cannot get into other programs and are accepted by ARTEK. And many, who do not really know what they want, choose Arctic Technology because the program starts in Greenland. At the same time, some of the most driven and best qualified young Greenlandic candidates who want to learn engineering have the confidence to choose another engineering degree. There are just as many young Greenlanders who take an engineering degree outside of Greenland as at ARTEK (Statistics Greenland 2014).

However, the increase in the number of admissions has been successful in the sense that although retention rates have not increased, there are now significantly more Greenlandic Arctic engineers graduating.

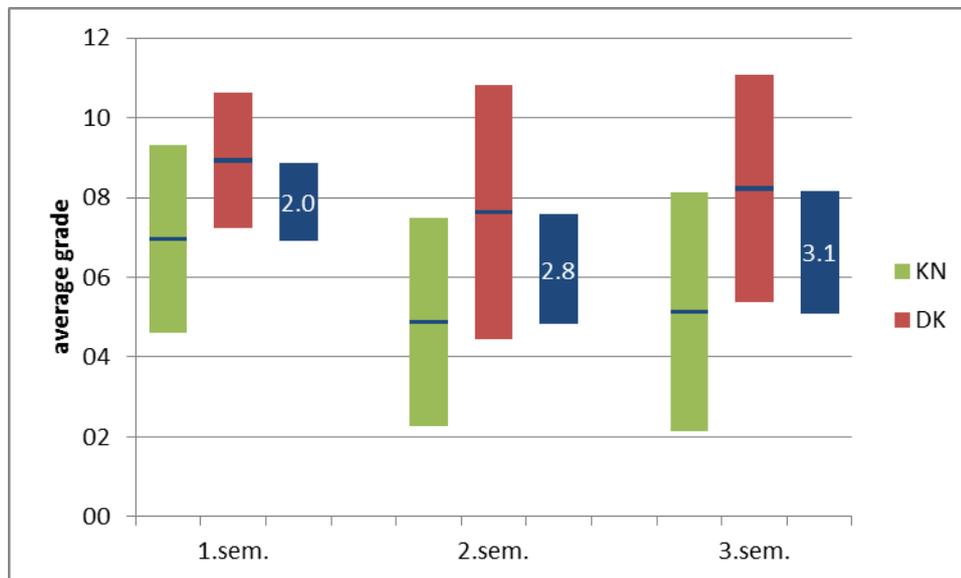
### *The Academic Range*

Generally, there has been a tendency that students from Denmark have been very motivated as it has often been slightly older students who have chosen the challenge of moving all the way to Greenland in order to begin their engineering studies. This may contribute to Danish students performing well in the program and having a higher retention rate than the DTU average.

Among the Greenlandic students there has been a significantly larger dispersion in achievement. The program recruits a small number of highly motivated and focused Greenlandic young people, who are performing comparably with the Danish students. But there is a large group of academically weaker students of which some are also uncertain about their fields of study. For some the choice of an engineering education is based on a limited knowledge of engineering because Greenland is greatly lacking role in models, since there are very few Greenlandic engineers. From talks with all new students it has become clear, that many students have more or less chosen the education because they performed reasonably well in math in high school.

On average, the Greenlandic students have lower grades in mathematics, physics and chemistry from their qualifying exam compared with Danish students. Therefore, it is expected that the average mark for Greenlandic students in the first semester would be lower than their Danish

counterparts, but unfortunately this difference grows from the first to the third semester as shown in Figure 4.



**Figure 4:** Average grades with standard deviation for courses at the first 3 semesters respectively of Arctic Technology for 53 Greenlandic (KN) and 42 Danish (DK) students starting 2007-2012 and completing the 3 semesters. The small bars with numbers indicate the difference between average grades for Greenlandic and Danish students.

It seems that Danish students through their cultural background and language skills are quicker at adapting to university studies.

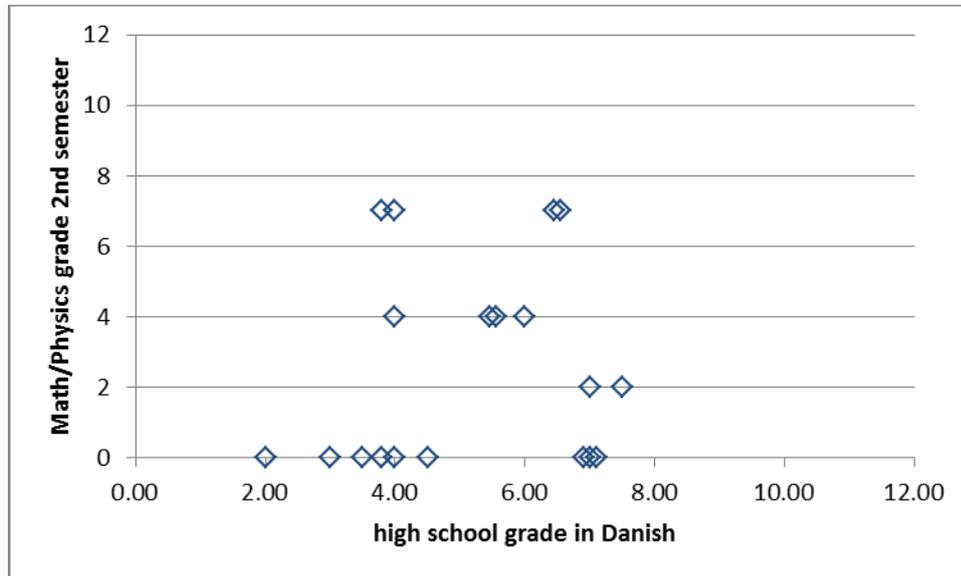
Another major challenge is that some of the Greenlandic students are not what one would call ‘study ready’ and thus academically ‘disciplined’. Although studying in Sisimiut is very structured compared with a Danish university, some students show low or volatile attendance and arrive inadequately prepared for class; circumstances which are naturally reflected by their study results. The Greenlandic students spend on average as much time studying a week as the Danish students, but they spend their time in a slightly different way - they spend on average more time in class and less at home, reading and studying independently (Christensen 2014).

### *The Language Barrier*

For many of the Greenlandic students the fact that the training is conducted in Danish poses a major challenge. Even though they have left the secondary education with reasonable marks in Danish, it quickly turns out that they have difficulty understanding the technical terms used in lectures. Reading academic texts seems difficult and time consuming – even if the texts are available in Greenlandic, as the Greenlandic written language is very complex; it is seen in a class that all students with Greenlandic as first language choose the Danish text over the text translated to Greenlandic.

For some, writing an academic report is very challenging, and the teachers in some cases do not understand what the student is writing. Sometimes, the written work is reasonably readable, but the Greenlandic language’s significantly different structure in combination with a different Greenlandic

narrative style has influenced the writing in Danish, making it difficult to interpret a clear meaning. A study of the connection between the Greenlandic students' Danish proficiency in high school and their grade in the second semester course Mathematics in Physics indicates, as shown in Figure 5, that there is a correlation, although it is far from linear.



**Figure 5:** Grades in the course Math in Physics vs. average high school grades in oral and written Danish language for Greenlandic students starting 2012 and 2013. The character 2 is the minimum acceptable level. Of 9 students with an average high school grade below 5, 6 failed the Math in Physics course. Of 10 students with a high school grade above 5 only 3 failed, of which one did not show up for personal reasons.

There is a more linear relationship between the marks in mathematics and the physics course in the engineering program and marks based on a weighted average of mathematics, physics and chemistry marks from high school. But it is not generally the case that those who have low marks in Danish also have low marks in math/physics/chemistry, so this cannot explain Figure 5.

Since the program's start several attempts have been made to strengthen the Greenlandic students' proficiency in Danish through additional training, but with little effect. The reason may be that the extra lessons have been given in the afternoon, when the students must prepare for the next day's education and also cultivate their hobbies and family life, so gradually the students have dropped out.

More comprehensive Danish lessons will now be introduced to support the students' major written assignments. This will be focused on direct assistance to each student's current written work, with a focus on writing a legible report in 'engineering jargon'.

### *The Intercultural Interaction*

The language barrier often means that the Greenlandic students are very reluctant to speak up in the classroom or during group work and so the Danish students become dominant.

The cultural differences greatly enhance this tendency. Speaking one's mind and debating are ingrained in the Danish culture, something most have learned from childhood, unlike in the Greenlandic tradition where discussions and disagreements are something to be avoided. The Greenlandic cultural restraint is historical – in small communities, disagreements can be unfavourable (Lynge 1977; Hendriksen 2013). This response pattern is still an ingrained part of the culture of Greenland, and especially for the population not from the bilingual elite and for those from the smaller settlements.

This response pattern has been reinforced by the fact that for generations Danes made most of the decisions, and decisions even today are often made from a Danish frame of reference. Many Greenlanders have resigned to this fact rather than trying to change it, because of their cultural reluctance to engage in conflict.

It can be said that this cultural pattern has been and continues to be extremely useful in several contexts, but it is often a disadvantage in the interaction, or rather the confrontation, with the Danish culture. Furthermore it is a barrier in the modern based educational system not at least in the engineering education, where the ability to argue is evaluated highly. When the majority of Greenlanders are silent or withdraw, the Danes, or the Greenlanders who more easily use the Danish frame of reference, end up setting the agenda. Thus the cultural differences reinforce the Danish students becoming dominant in the classroom. It also poses important challenges for group work, because the Danish students experience that they lead, and as they are usually best at writing in Danish, they also soon take over large parts of the writing process. Overall, it means that the Danish students often feel that they do most of the work, and by dominating in the classroom and in group work, they may also be 'taking' a greater share of the learning.

On the other hand, based on our interviews with Greenlandic students, most of them feel that the Danish students control and decide everything, and if they try to raise any objections to the decisions, they feel that the Danish students are more persistent in their argumentation and thereby overrule their inputs. When the Greenlandic students experience this on a continued basis they have a tendency to resign and withdraw from the dialogue and from the group work, which reinforces the negative spiral.

This issue is something that we try to focus on and deal with. Not because the Greenlandic students must uncritically learn the Danish cultural frame of reference, but because the Greenlandic and Danish students should obtain an understanding of the cultural differences and challenges present and in a constructive way seek to work with them as basic for shared learning and synergy (Kahlig 1999). This is not just important for all of them in their further education at DTU in Denmark and in their future engineering work in Greenland or elsewhere in the Arctic, where they will constantly run into challenges and conflicts arising from the interaction between different cultures. It is fundamental for developing an integrative engineering practice that is able to deal with the Greenlandic context.

In addition to the linguistic and cultural challenges of adapting to a foreign system in their second language, some of the Greenlandic students are also burdened by the social and personal problems

they grew up with, largely as a result of the disruption caused by the same foreign system, and it inevitably affects both their commitment to education and their ability to cope with the intercultural challenges.

## **Discussion**

The Arctic engineering education has been a success in the sense that it supplies to Greenland Greenlandic engineers, who exhibit solid knowledge of the Greenlandic society and the technical challenges associated with the extreme Arctic climate. The success is best measured by the fact that all graduates have a job, with 95% of the Greenlandic engineers and a couple of the Danish working in Greenland. There is great demand for the Arctic engineers in Greenland.

However, it has still not been possible to solve the challenges that arise from the fact that some of the Greenlandic students begin with inadequate prerequisites, and many start the program without sufficient academic levels in Danish, mathematics and natural sciences from their primary and secondary educations, the latter of which is still provided in most students' second language. It is very difficult for a higher education institution to raise the level of the basic prerequisite areas, while the students have to follow the rapid progression in the engineering disciplines. As a consequence, the focus is now on guiding the students that are estimated not to be able to complete the program to change to another study before moving to Denmark, in order to avoid the defeat of dropping out of the program while in Denmark.

In order to attract Greenlandic students with better qualifications in the long term, ARTEK has started initiatives to further the inclination of Greenlandic high school students to study natural science subjects. And it is the intention that the initiatives are to be extended to primary school, because this is where the foundation has to be laid, and the need for qualified teachers in math and science is significant. Also, there are plans to introduce language teaching to the supplementary courses many Greenlandic students must complete in order to achieve the required levels in math, physics and chemistry.

The societal problem that primary and secondary schools do not provide youth with the necessary study skills is now widely acknowledged on the political – and administrative level, but there is also a recognition that it will take years to solve this challenge. Therefore, it is crucial that we at ARTEK get better at strengthening the general study skills of the Greenlandic students, and improve their qualifications to continue the program when they, after the first three semesters, transfer to DTU in Denmark. This is a challenge we are constantly working with and where we gradually are figuring out better teaching methods to meet the Greenlandic students.

One of the methods we have tried is to motivate the best Danish students to consciously involve and include the Greenlandic students in group work and draw on their experiences and contacts in Greenland as a way to appreciate and value their informal skills. This has primarily succeeded in subjects where knowledge of Greenlandic society and local knowledge is often a prerequisite for good and holistic problem solving. And in those cases there has been an extremely positive synergy where the students have been able to develop some solutions to problems that neither of the two

cultural groups had been able to solve on their own based on their different frames of reference and thus various formal and informal skills and knowledge.

However, this approach has not always been successful. Group work is difficult, and intercultural group work is a challenge - even if all students attend. Sometimes the intercultural differences created a negative synergy because some of the Danish students were very brash and dominant in their work, and some of the Greenlandic students mentally withdrew from the partnership, choosing to focus on small details so that their knowledge and skills never came into play. Other times, some Greenlandic students' involvement and contributions were so limited that it created conflicts and they retired mentally, and the Danish students in turn felt that solving the whole task depended on them.

Although the program overall is a success, there is clearly room for improvement. It is a delicate matter to take Greenlandic young people with weak Danish language and inadequate study strategies hinged on cultural differences, and force them to adapt to European university studies. At times we need to ask ourselves whether we in fact violate these young people by 'forcing' them through such training and teaching. On the other hand, if more young Greenlanders do not break the cycle of disadvantage and complete higher education, Greenland is stuck in a disproportionate dependence on outside labor and dominance of a Danish born elite, while large parts of the population are excluded from both labor and influence. Thus social inequality is increased and society's social cohesion is challenged.

## Notes

1. From 2009, Greenland transitioned to Self Rule with expanded domestic political powers but still as part of the Danish Kingdom and subject to Danish foreign and defense policy, as well as the Danish legal system and police.
2. Interview with Greenlandic students at the Arctic Engineering education in Sisimiut, Greenland.
3. Based on data from Statistics Greenland.
4. Including a. o. social help, social pension, housing support.

## References

- Bjerregaard, P. (2004): Folkesundhed i Grønland, *Inussuk Arktisk Forskningsjournal* 1: 2004.
- Bjerregaard, P., Dahl-Petersen, I.K. (2008). *Befolkningsundersøgelsen i Grønland 2005-2007, Levevilkår, livsstil og helbred*, Statens Institut for Folkesundhed.
- Bjerregaard, P., Aidt, E. C. (2010): *Levevilkår, livsstil og helbred, Befolkningsundersøgelsen i Grønland 2005-2009*, Statens Institut for Folkesundhed.

- Bang, J., K. Oldendow, & T. Stauning. (1940). Grønland. København: Grønlandske Selskab.
- Boserup, M. (1963). Økonomisk politik i Grønland, Grønlandsudvalget af 1960.
- Bro, H. (1993). Grønland. Kilder til en dansk kolonihistorie. Det Grønlandske Selskab.
- Chemnitz, L. (2005). Greenland: Danish-Speaking Students in Denmark: Language and Identity Conflicts. *Indigenous Affairs*. 3(4): 54-59.
- Christensen, H.P. (2008): Interdisciplinary Just-in-time Teaching – Active Learning in a Multicultural Setting, Proceedings of the Eight International Workshop on Active Learning in Engineering Education (pp. 309-314). Bogotá, Colombia.
- Christensen, H.P. (2014). The Continuous Challenge in Teaching Engineering to Students from a Society with no Tradition for Higher Education, 12<sup>th</sup> Active Learning in Engineering Education workshop, Caxias do Sul, Brazil, 20-22 January.
- Dahl, J. (2000). Hastig kulturel og social udvikling i det arktiske område, Udviklingsforskning, udviklingspolitik og udviklingsentreprise, INUSSUK 1, 2000, Grønlands Hjemmestyre.
- Grønlandskommissionen. (1950): Grønlandskommissionens betænkning.
- Grønlands Statistik (2014). Statistikbank.
- Grønlandsudvalget. (1964). Betænkning fra Grønlandsudvalget af 1960, Betænkning nr. 363.
- Heinrich, J. (2010). Eske Brun og det moderne Grønlands tilblivelse 1932 – 64, PhD afhandling.
- Hendriksen, K. (2012). Skolebørn fra bygder er med til at bryde den sociale arv, Sermitsiaq 09.
- Hendriksen, K. (2013). Grønlands bygder – økonomi og udviklingsdynamik, INUSSUK – Arktisk forskningsjournal 3 – 2013, Naalakkersuisut – Grønlands Selvstyre.
- Jensen, F. (2008). Frank Jensen om Grønland – Behov for opgør med uligheden, Politiken 25. november 2008 (Tidligere juristminister og medlem af Selvstyrekommissionen).
- Kahlig, W. (1999). Grønlands kultur- og samfundsforskning 98/99, Ilisimatusarfik/Forlag Atuagkat.
- Lidegaard, M. (1961). Grønlands historie, J. H. Schultz Forlag.
- Lidegaard, M. (1993). Grønlændernes kristning, Atuakkiorfik.
- Lynge, F. (1977). Tanker i et bulldozerspor, Det Grønlandske Forlag.
- Naalakkersuisuts Uddannelsesplan II (2014). Departementet for Uddannelse, Kirke, Kultur og Ligestilling, Greenland Self Rule Government.
- Olsen, C.C. (2004). Nordens sprog – med rødder og fødder, Nordisk Ministerråd.



# AN ETHICAL SPACE FOR DIALOGUE ABOUT DIFFICULT HISTORY: FOSTERING CRITICAL THINKING AMONGST STUDENTS IN CANADA'S NORTHWEST TERRITORIES & NUNAVUT

Sarah Daitch

*The potential for developing human capital in the North rests on improved education outcomes for secondary school students. As part of Northwest Territories and Nunavut education systems' respective aims towards improved results, new curriculum materials are being developed in the North. One aim for these materials is to overcome persistent inequalities in educational achievement outcomes in the Canadian North. The territorial education departments developed a mandatory curriculum module regarding the history and legacy of the Canadian governments' former policies of assimilation, and forcible removal of Indigenous children from their families to residential schools. This curriculum and accompanying resource module was piloted in high schools during the 2012-2013 academic year. This article presents a study conducted in collaboration with the territorial departments of education in the Northwest Territories and Nunavut, evaluating the curriculum initiative. It examines how Northern Canadian youth connect difficult history with their identity, and become capable of and committed to community and civic engagement in their own lives. Because it is a region undergoing rapid development and governance changes, fostering critical citizenship amongst students is vital. Compassionate students who can think critically will be positioned to improve the Canadian North, and the wider circumpolar Arctic.*

## **Introduction: Improving Education in a Transforming Environment**

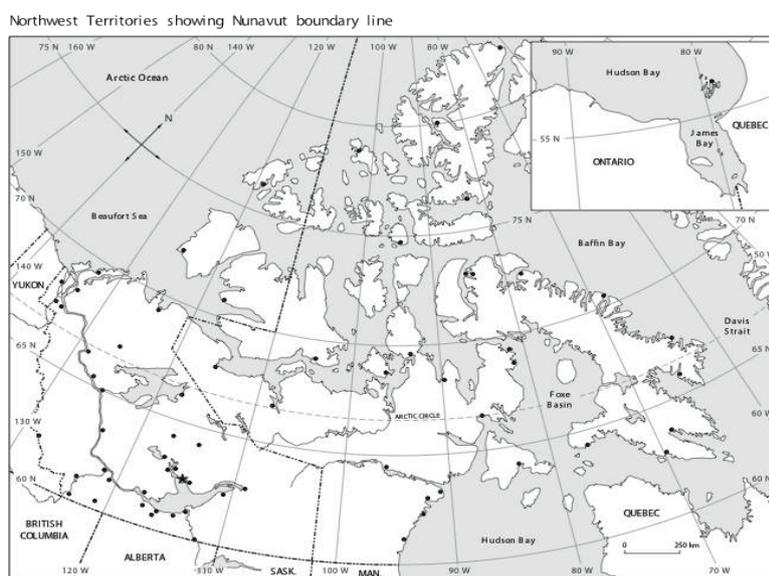
In Canada's Northwest Territories (NWT) and Nunavut, there is a renewed focus on improving secondary and post-secondary education outcomes. These aim towards bridging the notable gap in education achievements with the rest of Canada, and with other circumpolar regions.<sup>1</sup> In Nunavut, the need for improvement in education was a central issue in the October 2013 election (Kennedy Dalseg 2014). The Government of the Northwest Territories announced its Aboriginal Student Achievement Education Plan in 2011, and in 2012, the NWT Education Renewal and Innovation

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Initiative was launched. *The Education Renewal and Innovation Framework: Directions for Change* was tabled in the Legislative Assembly on October 31<sup>st</sup>, 2013, outlining the commitments of the renewal initiative (GNWT 2013). Both territories seek to examine the education system and improve outcomes, seeking to increase both graduation rates and the quality of secondary education through building community relationships, good health and a strong sense of identity. The challenge is to strike a balance between educating healthy, capable and empowered citizens who can make informed choices about their individual and collective futures, and training the future labor force. Establishing this balance is even more difficult given labor market pressures from a growing resource and mining sector (Kennedy Dalseg 2014).

**Figure 1:** Map of Northwest Territories and Nunavut, site of territorial pilot research on new education module



It is against this backdrop that the territorial education departments in Nunavut and the NWT are implementing new curriculum materials intended to better prepare students to face these emerging pressures and opportunities. This paper will focus on the pilot of one new module of curriculum developed collaboratively by the NWT and Nunavut for Grade 10 students. For two years, students in the NWT and Nunavut have been learning about the history and legacy of Canada's assimilation policies and residential schools. The purpose of this paper is to highlight how learning from the new module has developed students' skills in critical thinking, citizenship, and community engagement in the two territories.

### *From "Federal Shackles" to a Globalized Arctic: The Need for Enhanced Human Capital*

On June 5, 2013, in the NWT's Legislative Assembly, elected members voted on their Devolution agreement, a motion allowing the territory to take on new authorities for decision making for land, water, and resources from Canada's federal government for the first time since confederation. Finance Minister Michael Miltenberger addressed the assembly, "we stand here burdened and bowed

by the very many federal shackles that constrain us. We look at the agreement that we have negotiated, that will get us almost shackle-free. Will we be better off tomorrow?... The answer is unequivocally yes,” (GNWT Hansard, June 5, 2013: 2854).

As Miltenberger alludes to in his speech to the Assembly, historically, Canada’s Arctic and sub-Arctic territories have been the site of both economic exploitation and social incursion driven by Southern Canada. Over the last century and a half, these incursions wrought devastation on Northern Indigenous peoples. Exposed to newcomers, northerners suffered epidemics of influenza and tuberculosis (Canada RCAP 1996). As brought to light by the Qiktani Truth Commission’s work and report, Inuit sled dogs were systemically slaughtered by RCMP officers, limiting hunters’ ability to travel and harvest on the land; communities including Grise Fiord were established as the result of ill-considered High Arctic relocation policies from the federal government (2010). The legacy of the residential school system in the Canadian North has far reaching consequences, shaping how communities today relate to the contemporary territorial education system (Canada RCAP 1996; TRC interim report 2012; Daitch 2013). As articulated in the Royal Commission on Aboriginal Peoples,

On one hand, the North is the part of Canada in which Aboriginal peoples have achieved the most in terms of political influence and institutions appropriate to their cultures and needs. On the other, the North itself is a region with little influence over its own destiny. Most of the levers of political and economic power continue to be held outside the North and, in some cases, outside Canada (1996, Ch. 6, vol. 4 para. 1).

Although the Royal Commission report was written in 1996, much of its description still applies to the territorial North today, particularly in a resource driven economy (Conference Board of Canada 2011). In spite of challenges, over the last three decades, northerners in all three territories have worked to exert autonomy within Canada through land claims, self-government and devolution agreements, (Irlbacher-Fox & Mills 2007). Massive resource potential and accompanying plans to develop the North as a resource frontier for Canada complicate this struggle towards autonomy, as rich mineral projections spark interest from around the world (Conference Board of Canada 2011; GNWT Mining Strategy 2013). History has taught us that rapid development will not automatically benefit northerners when the authority for decision-making lies in far removed locations. For example, researchers investigating the legacy of the Giant gold mine near Yellowknife reported that the communities of Ndilo and Dettah saw few benefits from the mine overall. In spite of experiencing limited benefit, due to the location near the mine, community members’ harvesting territory and health were adversely affected by half a century of arsenic exposure. This outcome was a result of decisions that the community had little influence over, but had to live with (Sandlos and Keeling 2011).

An additional example of severe consequence from decisions taken far from the Arctic is thawing polar sea ice. The receding ice has serious implications for Canada’s territorial north. The much hyped “Arctic race” for mineral riches has the potential to bring increased wealth to the North but also threatens resources essential to maintaining Indigenous livelihoods (Plouffe 2011; Allard & Lemay 2012).<sup>2</sup> As schooling improves (despite the need for more improvements) the next generation

of Northerners will continue to increase participation in wage employment, be leaders of community and regional affairs, protect the environment and their cultural heritage, and participate in business (Allard & Lemay 2012). Young northerners are coming of age in an increasingly globalized and challenging environment. They require new skills to ensure that they are positioned to shape the future of the North. Understanding the lessons of difficult history in order to inform choices in the future is increasingly important for students in Northern Canada.

### **Background: The Legacy of Residential Schools and Assimilation Policies**

The century long residential school system perpetuated serious harm to many Indigenous families in Canada. Informed by racist policies designed to destroy Indigenous languages and culture, the residential schools were administered by the government of Canada and run by four denominations of churches. By the time the last school had closed, over 100,000 Indigenous children had been forcibly removed from their homes. Many students suffered systemic abuse and neglect (Corntassel et al. 2009; Canada RCAP 1996). Residential School left a “record of cultural annihilation, chronic underfunding, poor management, systemic abuse, neglect and poor living conditions that had catastrophic impacts on the students who attended” (Milloy as cited in Regan 2010: 39). Tuberculosis death rates at the schools dwarfed those in the rest of Canada: by 1907, 24% of residential school students had died of TB, a mortality rate more than 100 times the national average (Sproule-Jones 1996).

Until recently, Canada’s record of assimilation policies and residential schools was rarely taught in classrooms. There is a significant disconnect between what survivors, researchers and historians have documented about Canada’s dark history of residential schools,<sup>3</sup> and what is taught in many classrooms across the country. As a result, Canadians’ knowledge on the topic is limited. A 2008 Environics Study demonstrated that only 7% of Canadians knew that the goals of the schools were assimilation into the mainstream society (as cited in Regan 2010: 42).

Of even greater concern is the gap in the knowledge of many Canadian school teachers about residential schools history. A teacher educator and researcher at York University reported that none of her several hundred teacher candidates had “substantive awareness of [the federal residential school apology] or of the long history of government denial of wrongdoing...” (Tarc 2011: 358). A step towards filling this gap in both teacher and student knowledge is through mandatory education of high school students in Canada’s public schools system, and enhanced teacher education on the topic. This is what the territorial education departments set out to do when they began developing their pilot education materials.

#### ***Teaching Difficult History in Territorial Classrooms***

During 2012-2013 academic year, territorial education departments in Nunavut and the Northwest Territories concluded a yearlong pilot implementation of a new education module, *The Residential School System in Canada: Understanding the Past, Seeking Reconciliation, Building Hope for Tomorrow*. The module was the first of its kind to be mandatory, for all grade 10 students. It aims to teach the difficult history of the attempted assimilation of Indigenous students through residential schools and

assimilation policies,<sup>4</sup> in order to nurture critical thinking and civic engagement amongst students, and to move into the future with “greater respect and understanding between First Peoples of Canada and everyone else who calls this land home” (*The Residential School System...* 2013: 5).

The module was created in consultation between territorial curriculum writers and former residential school students and territorial leaders. The curriculum writers asked, “What would you want your children or grand-children to know, think, and feel about residential schools when they have completed this module?” (Fowler & Willett 2014: 40). The leaders wanted students to understand that this is a complex story where happiness was found in unexpected places, and where tragedy occurred in places where those most vulnerable should have been safe. They wanted their children to know the many truths. However, these leaders did not want their children to feel that they had to carry the burden of the past into their own futures. Instead, they recommended that students learn about what we should do now, and to think about the ways in which Canada can work towards becoming a healthy nation - a place where we can all be proud of who we are and where we come from (Fowler & Willett 2014).

The resulting teaching and learning resource materials were designed with this guidance in mind, and explains the materials’ structure, following twelve learning activities through an ‘arc.’ Activity 1 begins by exploring how young children demonstrated independence and strength before the introduction of residential schools. The activities in the middle section of the arc explore the darker times when many colonial policies and practices at residential schools attempted to destroy people’s sense of identity. In the final activities, the arc moves towards healing relationships, with the goal of returning to that original place of independence and strength.

The Nunavut and NWT approach to engaging its students with difficult history relies on a combination of storytelling, critical and social awareness pedagogies. The territories’ residential schools module uses both conflictual content, which is curricular material that presents multiple perspectives on a political or social issue, and conflictual pedagogy, which is an instructional approach that supports and encourages the student expression of ideas (Avery & Hahn 2004). For example, the teacher’s guide explains, “The purpose here is for students to discuss reconciliation...to think critically about these processes, and to consider their own role in them (*The Residential School System in Canada* 2013: 5).

In Activity 3, students watch video footage of the federal apology, read about and discuss responses to it, practicing group consensus and decision making skills. Students examine the history of residential schools in Activities 4-7, evaluating key policies and perspectives that established the schools’ framework. Activity 4 assigned students a creative project to demonstrate personal understanding of the consequences of residential schools on contemporary communities (*Residential School System...* 2013).

An example of the module’s creative approach to student learning is demonstrated through the wall mounted banner timeline used in Activity 5. The banner displayed the history of colonial and assimilation policies in classrooms. Activity 5’s objective is for students to apply “critical thinking skills to analyze and deconstruct these policies from a historical perspective,” (*Residential School System*

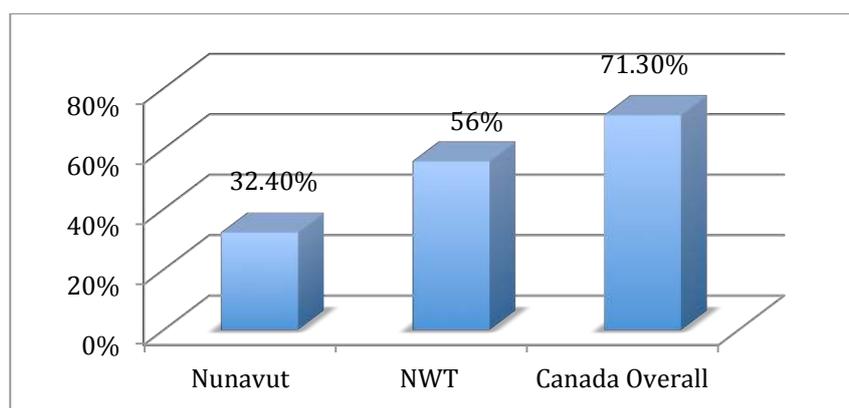
*in Canada...*2013: 68). Students walked through the timeline, recording new vocabulary on a sticky note, and noting what surprised them. Though students found this activity quite challenging, the enactment of a walk through history is a recognized tool of peace building work. It can invite participation to align sensory experience of walking to explore and discover contested worldviews and identities (Arai as cited in Cohen 2011).

Students used visual cues and analysis of photographs to understand techniques residential schools used to colonize in Activity 7. In Activity 8: Survivor Stories, students explored first hand survivor accounts through audio, visual and written formats, and responded creatively to these stories. In Activities 9-12, the module's arc moves towards the future. Activity 9 exposes students to a diversity of people who dealt with residential schools in brave and influential ways at different points in history, as students are asked to make reasoned judgments based on evidence. Activity 10 asks students to evaluate the effectiveness of the *Indian Residential Schools Settlement Agreement*. In Activity 11, students explore the meaning of reconciliation in a written assignment. Decolonization, presented to students as the ways in which people are striving to reclaim culture and identity, is addressed in Activity 12. The module's final project has students demonstrate their understandings of connections between the past and the present in relation to the impacts of residential schools, choosing different mediums to answer the question "How should society respond to the history and legacy of residential schools?" (*Residential School System in Canada...*2013: 206).

Given that these materials were newly developed, teacher training was an important step. In October 2012, all Northern Studies and Social Studies teachers from Nunavut and the NWT came together for a three-day professional development workshop on the history and legacy of residential schools to learn about how to deliver the module in their classrooms (Fowler & Willett 2014).

### *Decolonizing the Education System in Search of Better Outcomes*

The development of new curriculum materials is one strategy to address challenging classroom environments and a struggle to achieve desired education outcomes in the Canadian territories. In the NWT and Nunavut, attrition of students is a problem as students tend to move around and drop-out rates increase in the senior high school grades. In addition, rates of teacher turnover each year are very high; in the NWT, approximately 1/3 of high school teachers are new every school year (*Aboriginal Student Achievement Education Plan*, 2011; *NTI 2010-2011 Annual Report: The status of Inuit children and youth in Nunavut*, 2011).



**Figure 2:** High School Completion Rates for Nunavut and the NWT Compared to Canada Overall (Sources: *Aboriginal Student Achievement Education Plan*, 2011; *NTI 2010-2011 Annual Report: The status of Inuit children and youth in Nunavut*, 2011)

In Nunavut, the new module on residential schools and assimilation policies is one component of rewriting Grade 10 Social Studies, rooted in Inuit culture and knowledge. This new curriculum, being implemented over several years, replaces the Alberta curriculum previously used. Grade 10 Social Studies contains the residential schools module as one of five (Beardsall 2012). At the centre of the curriculum are the concepts of student identity and Inuit *Qaujimajaqtuqangit*, Inuit knowledge and insights. Students are learning who they are as well as expectations of them from society. Nunavut's curriculum writers are developing social studies resources in a bi-lingual manner, writing the document collaboratively in both languages, as opposed to completing literal translation. The name of the Nunavut Social Studies course is *Inuuqatigiittiarniq - Seeking Harmony*. Nunavut curriculum writer Liz Fowler explains, "Inuuqatigiittiarniq [means] striving to live in harmony; being good to one another; or to put it simply: citizenship" (Personal communication, October 18, 2012). According to Fowler, reconciliation is linked to Inuit cultural resilience:

Reconciling today has to begin from people's own worldviews and strengths. When Inuit feel heard, balanced, celebrated and respected, amongst each other and the world, they have so much to give. What was never oppressed will be so highly profiled, shared, and celebrated that it will clearly show the strengths of Inuit and their cultural and linguistic uniqueness. Reconciling in part is feeling balanced and whole (Personal communication, November 10, 2012).

Similar to Nunavut, the NWT has undertaken a process to re-imagine parts of its high school curriculum. In the spring of 2011, a guiding committee of northern leaders, and a Northern Studies Teachers Advisory Committee were formed in the NWT to define the overall goals and objectives that should be reflected in a new Northern Studies curriculum for high school students (Personal Communication, John Stewart, March 13, 2012). The new Northern Studies course, composed of five modules, is one aspect of the Education Renewal and Innovation Plan (2013).

Nunavut's Social Studies curriculum, and the NWT's Northern Studies curriculum, including the module on residential schools, can be considered a step towards internal reconciliation in education. Nunavut and the NWT are able to define citizenship, goals, and how education will develop students to fulfill these goals, as enthusiastic, well prepared participants in global conversations

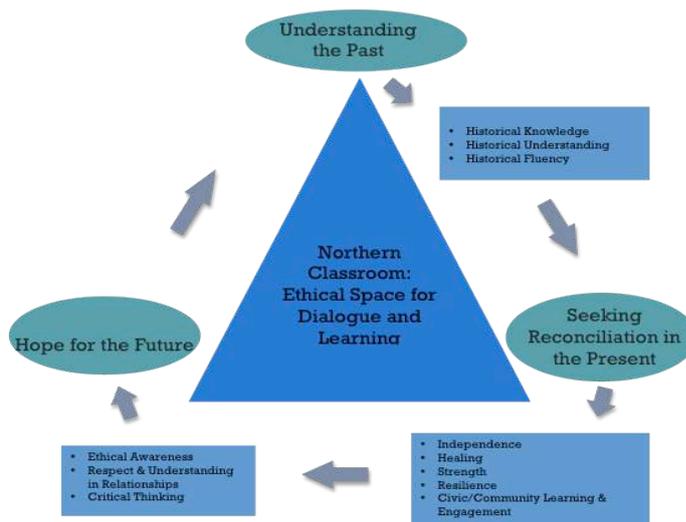
(Beardsall 2012). It remains to be seen whether these developments can help territorial students achieve the improved outcomes in secondary school education that their communities and the government see as necessary.

### *Territorial Module Pilot Research: First Edition and Second Edition*

The objective of the territorial pilot research was to assess the extent to which the new module on residential schools and colonization<sup>5</sup> was meeting the territorial education departments' goals (See Figure 3). A second purpose was to build on previous scholarship about how young people make meaning from difficult and violent history, and how it shapes their engagement in civic and community affairs. Three research deliverables were created for the territorial education departments. The first was a preliminary report to provide early research findings to the module's teacher resource writing team, informing their revision process as they prepared the module's second edition. The second research deliverable was a final report, involving 200 research participants, intended to link to existing scholarship on how students are influenced by learning difficult history, to provide a more fulsome picture for the module writing team as they moved forward. The third deliverable was a report on how the revised, second edition teacher's guide, introduced in fall 2013, was supporting learning objectives, as tracked with NWT teachers.

### Research Design

Research questions were designed collaborating with the territorial module's writing team. They were based on the three key goals of the module.



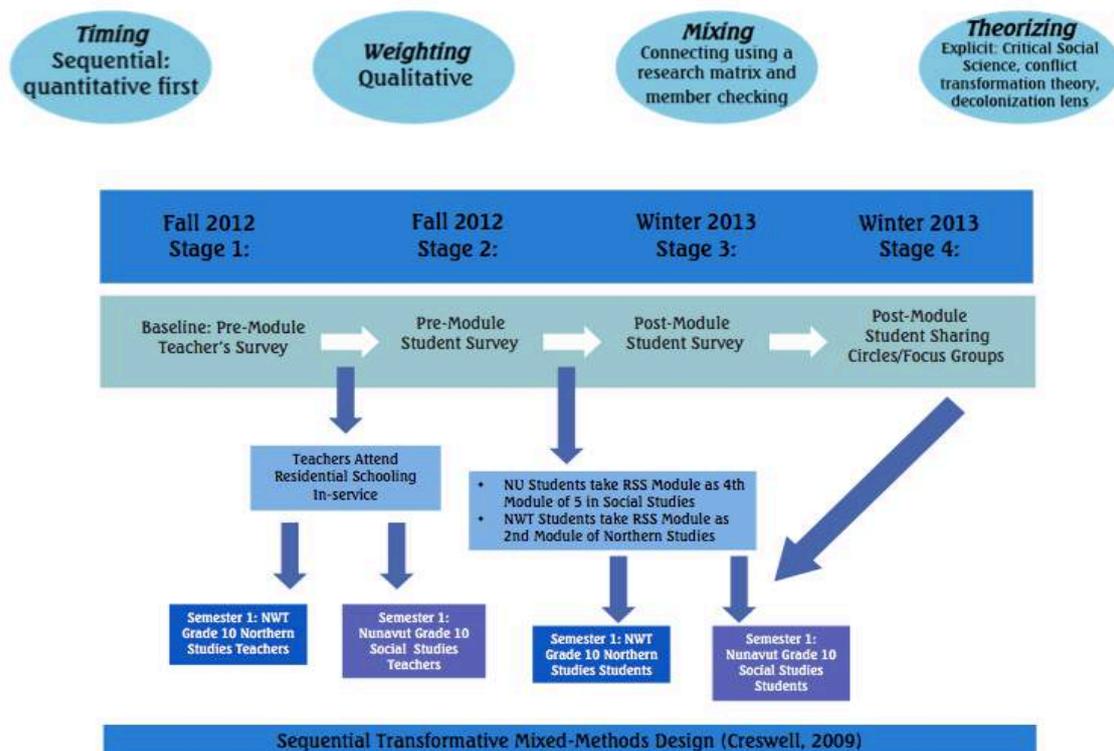
**Figure 3:** Residential School System in Canada Module - Intended Student Learning Outcomes

Questions were crafted to understand how each goal was being met:

1. What are NWT and Nunavut students learning about residential schools through the new module?
2. How is this learning affecting their thinking and their behavior?
3. Can secondary school education about residential schools influence the following:
  - Improve intergroup relationships?
  - Enable students to critically reflect on their own attitudes and behaviors?
  - Encourage students to consider responsibilities towards each other and towards the community?

The research design was a formative program evaluation, carried out during the territorial module's pilot in 2012-2013.

The research design relied on a pre and post-test survey of 203<sup>6</sup> students and 14 teachers before and after the new residential school module was taught, followed by student sharing circles/focus groups involving 89 students across the two territories. Teachers were surveyed prior to their teacher training, and again after they had taught the module for the first time. Students were surveyed prior to the module beginning, and again upon its completion. Surveys were not a test intended to capture what information students had retained, but looked at elements of community engagement, critical thinking, and ethical decision-making.<sup>7</sup>



**Figure 4:** Territorial Pilot Research Design and Data Collection Overview

The final stage of the process was 13 student focus group / sharing circles interviews which took place in 9 communities. This method fits a critical social science research approach, and was designed respecting Indigenous research methodologies. This involved considering the importance of relationship building in the research process, a holistic interpretation of participants' information, and the use of storytelling methods (Wilson 2008; Kovach 2009; Thomas 2008). Collaborating with the NWT and Nunavut module writing team, the author designed research methodology and survey tools, coordinated survey and data collection and facilitated student sharing circles across eight regional school districts in the NWT and Nunavut.<sup>8</sup> The study of the second edition module, conducted in 2013-2014, consisted of surveys and interviews with six teachers representing three regional school districts in the NWT.

## **Findings**

### *Teachers*

Teachers across both territories reported increased confidence in their own abilities. Teachers felt they could develop student understandings of historical significance, foster deliberation amongst their students, support skills that enhance historical perspective taking, and help students develop empathy. Teachers also reported feeling more prepared to build community centered classrooms. The increase in teachers' sense of confidence and skill in being able to facilitate learning for their students, known as teacher self-efficacy, is an encouraging finding in the NWT and Nunavut. There are major advantages of efficacious teachers in the classroom. They demonstrate higher professional commitment, are more likely to persist with struggling students, and to experiment with methods of instruction. Teacher beliefs about their effectiveness are also powerfully related to student outcomes, and influence students' own sense of being capable and motivated (Colardarci 1992; Gibson & Dembo 1984; Allinder 1994; Barr 2010).

The results of the territorial pilot research indicated that in-service training increased teachers' sense of ability to facilitate change in their students. All teachers participating in this study reported that they increased their understanding of the history of residential schools in Canada after receiving training and then teaching the module. For teachers, the most effective aspects of their training were experiences with former residential school students, their training session on getting the module started, and seeing the module's activities modeled. These teacher-training strategies, reported as very powerful, have the potential to be successfully replicated in future teacher-training. In 2013-2014, teachers' perceived growth in their own awareness, enhanced understandings of historical significance, and increase in knowledge about residential schools led them to report more meaningful interactions in relationships with students and parents.

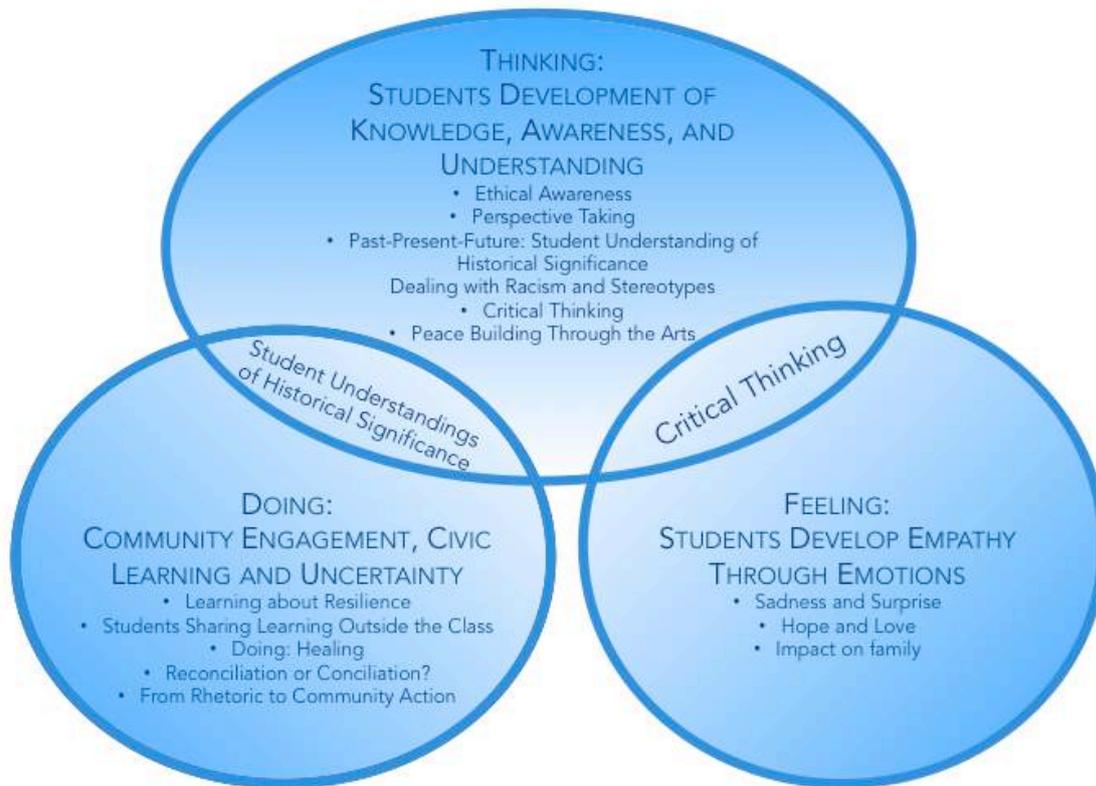
However, for the 2013-2014 year, the territories shifted to a regionally delivered teacher-training model, rather than the territory wide model used at the module's inception in 2012. Teachers reported inconsistencies in training between regions. While some training was perceived as excellent preparation, other teachers noted that the 2013-2014 training would not be adequate for new

teachers in the North. Providing a consistent training model for all regions that adequately prepares new teachers will be a key strategy moving forward.

Overall, teachers felt energized and motivated by their teaching experiences, and felt a sense of professional growth and learning as a result of teaching this module. After teaching the module, teachers had increased confidence in their ability to engage students in civic learning and ethical awareness. The challenge will be how to sustain this level and quality of teacher training given the high rates of teacher turnover in the NWT and Nunavut (*Aboriginal Student Achievement Education Plan 2011*; *NTI 2010-2011 Annual Report: The status of Inuit children and youth in Nunavut 2011*). This will be crucial in retaining the promising levels of teacher self-efficacy, and satisfaction with their professional development and growth that were demonstrated in the territorial pilot study.

### *Student Learning*

Findings indicated that students developed deeper understandings of the significance of historical events and an enhanced ability to understand historical perspectives. After completing the module, students and teachers reported increased student empathy, critical thinking skills, ethical awareness and decision-making strategies through the pedagogies employed. Students reflected on the different experiences of former residential school students, and showed an understanding of the moral and ethical aspects of decision-making in history. The development of empathy towards former residential school students<sup>9</sup> was widespread and strong amongst Indigenous and non-Indigenous students, including in non-Indigenous students who identified themselves as being from families that had recently immigrated to Canada.<sup>10</sup>



**Figure 5:** Student Sharing Circles Thematic Map

Findings indicated that the module's first edition had limited effectiveness in empowering students to take active roles in shaping their communities and connect history to their identities. According to teacher surveys, half of classes sampled completed all 12 module activities; teachers reported insufficient time to complete course components. This was an obstacle to achieving learning objectives addressing civic and community engagement. Notably, half of all student research participants across all regions studied shared portions of their learning outside of class, as reported by students during focus groups. While there was broad consensus amongst students that their learning was important, many expressed deep uncertainty about what role they could play in reconciliation in the future, and in preventing harms from happening again. Other students felt that learning difficult history would play a role in shaping the future.

### ***Response to Preliminary Research Findings: Actions and Results***

The writing team used findings from the territorial pilot study to revise the teaching resource and develop a second edition of the module. One key aim was to enable teachers to complete all 12 activities with their students, towards developing students' capacities to engage in future focused strategies in their communities. The module writing team's adaptations included developing a Health Canada support video on how teachers can better care for themselves and their students in dealing with traumatic subject matter. The writing team also distributed a resource on engaging elders in the

classroom. The team added a new section to the module's second edition, which outlined concrete options for students' final projects. These included art, multimedia projects, a persuasive letter, or an action project, focused on community expressions of reconciliation. Tracking the use of the module's second edition amongst teachers, there was progress on the comprehensive implementation of all 12 module activities, plus students' final project. Teachers were better able to complete all activities. Efforts to support students' roles in reconciliation are paying off: In 2013-2014, classrooms demonstrated more concrete outcomes regarding students' civic and community engagement. Teachers provided examples of students' innovative final project work: these ranged from art, students creating videos depicting historical moments, student generated program and infrastructure proposals, to student led policy debates and mapping projects. This was a notable improvement from the results demonstrated by the module's first edition, where findings on civic engagement were mixed. Some teachers noted they had not yet reached the ultimate goal of authentically engaging the community in the students' learning. Ongoing efforts are needed to support teachers towards this aim. For example, students at lower literacy levels struggled with some activities in the second edition of the module. Teachers identified this as a barrier to full implementation of activities, a finding supported across all regions sampled.

## Discussion

The territorial pilot study resulted in four key themes: empathy, student understandings of historical significance, critical thinking and critical hope.<sup>11</sup> This paper focuses on the latter three themes, which link directly to fostering a critical, engaged and empowered citizenry, necessary for fostering human capital in the Canadian North.

### *Historical Significance: "We Can Understand More and Pass All the Knowledge and History to our Future Generations"*

*...My grandma would always talk about the stuff that she's been through...Mostly how their traditional lives changed, how they lost their language and stuff...I felt devastated. I felt sad and I felt kind of hurt in a way because to think that if that happened, if that were not to happen, I wouldn't be speaking English right now. I'd know more about my culture. I'd be out on the land, I think. I'd do more traditional stuff...Well, people usually don't talk about the stuff that they've gone through throughout their lives, and I think it's really important that they express their feelings and to be able to understand that this is a very important issue that's been going on for years...people should talk more about it, so we can understand more and pass on the knowledge and all the history and all the right answers to our future generations ... then probably [we] will become better leaders for our community. And they would probably try to create a way to bring Aboriginals and other people all together and share and to have a lot of . . . things going on to help rebuild culture.*

- Grade 10 Dene Student, NWT

This student's increased ability to link the past, present and future was shared by students across the North in the territorial pilot. Teachers across five regions noted that students had a better understanding of how history has influenced the present after completing the module. Across sharing circles, students consistently used the historical examples of residential schools and

assimilation policies to shed light on emerging issues in contemporary life. For example, the student in the quote above demonstrated an increased ability to see the present as a result of the past. Students are developing the tools to navigate challenges facing Canadian arctic jurisdictions. These include inequalities in access to education, health services and infrastructure compared to the rest of Canada and to other regions in the circumpolar north (Simon 2014).

In a study of adolescents in Germany, Carlos Kolbl, a German scholar of historical sense and education, found that students moved past historical consciousness from family history to national history, and to history in foreign countries and continents (2009). A student in the territorial pilot study demonstrated this broader historical understanding:

People should know different struggles that people have had with religion, like all over Europe things happened. Hitler destroyed the Jews and until recently people were allowed to shoot Indians in Australia. The Spanish destroyed all the Mayans and stuff like that. It happens everywhere. It's not just a problem here in Canada or in the North. It's everywhere in the world it happens. People should be aware and learn to love each other and not fight so much.

Kolbl (2009) interpreted similar findings amongst students in Germany regarding the relevance that they attribute to history with reference to their own present and future lives. In the territorial study, a number of students in focus groups felt strongly that the experience of human rights abuses in Canada should be addressed beyond the North and linked to global contexts and histories. A student expressed frustration that the history of residential schools and assimilation, and how they have shaped the North, are not universally available to students across Canada, "How they can realize what we went through if they don't even know we exist?"

This students' frustration that the North and its histories are invisible to much of Canada is shared by a group of leading authors who analyzed Canadian policies towards the North. In their book, *Arctic Front, Defending Canada in the Far North*, Coates, Morrison, Poeltzer and Lackenbauer (2008) argue that Canada has misunderstood Arctic sovereignty and what is required to achieve it, which is why the sovereignty debate continues to resurface. In the authors' analysis, Arctic sovereignty could be achieved through investing in communities, northerners, and the institutions that will help them to advance regional and national interests. Noting similar patterns as the Grade Ten student did, the authors trace the history of the Canadian Government's neglect of the region over a century; "Canada has spouted the rhetoric of Arctic engagement in the past and then done nothing" (Coates et al 2008: 189). This long-term lack of constructive engagement from the Canadian state has contributed to the significant gaps in education that territorial education departments are grappling with today.

### ***Critical Thinking: "It's Not Something You Can Hide and Not Learn About"***

*I read the book with my mum a little...she couldn't believe that we were learning it...She thought...it's good to know this since we live in the North, but it's kind of harsh too. But then her and [my stepdad] got in a debate about it because I learned the Holocaust in Grade Six and so it's basically the same thing and people have to know it, so it's not something you can hide and not learn about.*

- Grade 10 Non-Indigenous Student, NWT

The student quoted described his family's reaction to reading a memoir written by a former residential school student. Students were tasked with writing a book review of survivor memoirs and novels, which enabled them to empathize with the characters. Many students who participated in the territorial pilot study demonstrated an enhanced capacity to think critically. Richard Paul and Linda Elder define critical thinking as, "The art of analyzing and evaluating thinking with a view to improving it" (as cited in hooks 2010: 9). Paul and Elder remind us that critical thinkers, "seek to think beneath the surface, to be logical and fair. They apply these skills to their reading and writing as well as to their speaking and listening" (as cited in hooks 2010: 9). Students demonstrated attributes of critical thinkers seeing both sides of a complex issue regarding positive experiences of some former residential school students. Black feminist scholar and educator bell hooks (2010) contends that critical thinking is a process that demands participation on the part of teachers and students. This idea is supported by the findings of the territorial pilot study: Across four regions, NWT and Nunavut teachers experienced an increase in their overall sense of self-efficacy towards building students' capacities to take different perspectives and examine the moral dimensions of history. Teachers viewed their students as more capable of reflecting on different experiences in history, particularly when discussing the positive and negative experiences of former residential school students. Similarly, students also reported an enhanced ability to understand different perspectives and their moral implications. For example, a student explained how the literature he read allowed him to take the residential school student's perspective, "[my book] was surprising because I really don't know what actually happens until you can experience it for yourself, and it let you experience it a little bit because you're kind of walking in the person's shoes in a way."

### Community Centered Classrooms and Fostering Deliberation

Classrooms open to taking different perspectives help students develop the skills necessary to resolve conflicts. These skills, which are central to a healthy democracy, are more likely to be used in adulthood, if they are developed during adolescence (Avery & Hahn 2004). Engaging students on residential schools can transform how the protection of human rights is understood by the students. In one of the module's activities, students are exposed to historical accounts and asked to make a reasoned judgment relying on evidence. Students defend a position from many perspectives and there is no right answer, for example, during discussions on former students who had both good and bad experiences at the schools (*The Residential School System in Canada...*2013).

The findings of the territorial pilot study support the idea that critical thinking can be fostered through a community-centered classroom. This is considered a classroom environment where students treat each other with respect, and supports growth in students' capacities to discuss difficult and controversial topics (Barr 2010). In this study, teachers reported development in students' willingness and ability to debate on meaningful issues covered in the module. hooks (2010) proposes that teachers must be open at all times, and willing to acknowledge what they do not know, which often runs counter to their academic training. This aligns closely with the module's guidelines on "teacher as facilitator" (*The Residential School System in Canada...*2013: 7).

Authors Sylvan Barnet and Hugo Bedau explain “critical thinking requires us to use our imagination, seeing things from perspectives other than our own and envisioning the likely consequences of our position” (as cited in hooks 2010: 10). In open classroom climates, territorial findings indicate that this module is developing young northerners’ capacities for critical thinking, understanding, care and compassion, aligned with the module’s aims. Political philosopher Amy Guttmann identifies deliberation as one of the primary ways that citizens resolve conflicts. She explains, “public discussion and decision making ... aim to reach a justifiable resolution, where possible, and to live respectfully with those reasonable disagreements that remain unresolvable” (as cited in Avery & Hahn 2004: 196).

### *Ethical Awareness and Moral Dimensions of History*

Findings from both teacher and student interviews and surveys in this study demonstrate students’ growth in ethical awareness and moral dimensions of history. Ethical awareness in students, understood as the ability to promote students’ capacity to understand others’ points of view and to coordinate them with one’s own, is developed through the module. For example, after studying the federal government’s apology, a teacher reflected on a student’s careful consideration of the ethical dimension to what she had learned. “[The] student felt strongly that the apology should have directly represented the people who did the wrong, otherwise it doesn’t mean anything.” The student showed competency by considering the perspective of the main actors in the federal apology, and observing the moral implications. According to Peter Seixas of the Historical Thinking Project, when students understand the moral dimension of history, they “should expect to learn something from the past that helps us in facing the moral issues of today” (2006: 11). Students in this study demonstrated that they were able to use their learning about the past to consider contemporary moral issues.

### ***Critical Hope: “Because We All Have Something to Learn From One Another”***

*The other day, my mum and I, we were having a conversation about culture and everything, and my mum, growing up, because my family and I, well, I wasn’t born here, because my mum, she’s always like be proud of who you are, blab, blab, blab, and I was always like, stop, what are you doing. . . so I was telling her the other day how I learned to appreciate who I am and where I come from because for me I can go home and speak my language and eat my cultural food and just do all these things. And I didn’t realize how much of a privilege that actually is and so I was just letting her know that I was learning about this and how residential schools helped me realize that.*

- NWT student

This student identified as having recently immigrated to Canada with her family. The student’s words illustrate a number of notable findings from the territorial pilot, including how reconciliation is understood by students, challenges faced by students in moving from rhetoric to action in community engagement, and the importance students place on resilience when considering healing

from historical trauma, like residential schools.

### Reconciliation or Conciliation?

The module teacher's guide points out that there "are some who argue that Canada is not ready for reconciliation and instead what is needed is the work of conciliation - which means, to bring agreement or respectful relations between two parties" (*Residential School System* 2013: 5). Teachers and students are encouraged to consider whether reconciliation was politically or economically motivated. The guide also points out that there is a long history and many examples of harmonious, mutually-beneficial relationships between Aboriginal and non-Aboriginal peoples (*Residential School System* 2013). In *Reconciliation or Conciliation? An Inuit Perspective*, John Amagoalik, an instrumental statesman who worked towards the creation of Nunavut in 1999, questions whether there has ever been a truly harmonious relationship between Settler Canadians and the original inhabitants of North America:

The history of this relationship is marked by crushing colonialism, attempted genocide, wars, massacres, theft of land and resources, broken treaties, broken promises, abuse of human rights, relocations, residential schools, and so on. Because there has been no harmonious relationship, we have to start with *conciliation*. We have to overcome distrust and hostility, make things compatible, and become agreeable (2008: 93).

Written prior to the federal apology in 2008, Amagoalik's article describes some of the steps Canada should take to facilitate conciliation: Canada must apologize, abandon its culture of denial, stop honoring historical figures who committed crimes against Aboriginal people, address systemic socio-economic disparities, honor its treaty obligations, and acknowledge Inuit contributions to Canadian sovereignty over the Arctic (Amagoalik 2008). Amagoalik also contributed an article to the second edition of the module for students to reflect on. He emphasized that following the federal apology, "our children must learn of this dark period in Canada's history. It must be part of our national school curriculum. They should also learn of our recent history of constitutional and land claims negotiations with our governments, and the agreements we have signed that future generations can use as our people recover from the colonial past." (*Residential School System* 2013: 93).

### From Rhetoric to Community Action: Moving Past Cynicism

Amagoalik (2008) introduces the idea of an unsettling approach to truth-telling and reconciliation in Canada. Scholar practitioner Paulette Regan's work supports this unsettling approach; she argues that struggle and hope are necessary in addressing the past and building the future (Regan, 2010). This posed a challenge for students in the territorial pilot study, as confronting the realities and harms of the policies of assimilation and residential schools led some to feelings of being overwhelmed and paralyzed. As reported in focus groups, 65% of students in the territorial study did think that their learning would result in concrete changes in their communities, others felt stuck. Students from all demographic groups experienced these feelings; in some Indigenous students, the feeling manifested as anger or grief, and in non-Indigenous students the anger was also experienced as cynicism or apathy. A student using the first edition summed up the feeling of being stuck

between awareness and action: “learning about it does make us more aware of things, but not many teens that I know of would take action for it.”

As students become aware of the structures of domination and the role of institutions which reinforce them, in the absence of a coherent social movement to promote an alternative, there is a risk of paralysis and pessimism. Therefore transformative learning can occur only when “critical reflection and social action are part of the same process;” maintaining critical hope reinforces the capacity to understand that although we cannot change the past, we are not held prisoner by it (Regan 2010: 23). Breaking free from students’ feelings of disillusionment requires considering how empowering the effects of students’ small everyday actions towards decolonization can be.

As discussed, the territorial education departments made efforts to bridge the reported gap between learning and action when designing the module’s second edition. The addition of the final project activity was described in a backgrounder in the second edition of the teacher’s guide. For each project option, student examples were provided on a DVD accompanying module materials, to enable students to visualize the influence their work can have (Personal Communication, M. Willett, June 15, 2013).

The changes made for the module’s second edition have made a concrete difference for student civic learning outcomes, interpreted as the students’ sense of ability and confidence to engage in citizenship and create change in their own community.<sup>12</sup> In 2014, Teachers across three regions provided examples of students’ increased understanding of democratic values, though not all classrooms experienced this outcome. One teacher explained the sense of empowerment on civic affairs that his students came away with:

The students also related the history to the current political climate. Twenty some students held a mock vote on rations in the liquor store – the ration system was removed 2 years ago. (The module’s activity) set the stage for proactive political engagement and how to do something about it. One student is actively involved in the local land corporation – they are looking at how this history applies to what is happening now. Some students are being groomed to be tomorrow’s leaders. Aside from the political, the social side was the biggest for me. (All the students) understood or walked away from the course wanting to contribute to a better social climate (in their community).

These findings indicated the teachers were able to create classroom environments which enabled growth in students’ capacities for deliberation on controversial and difficult topics (Barr 2010). A teacher noted that this module began discussions in the community on a taboo topic amongst community members, “I think they had an opportunity to speak with elders and their own family about the issue. It opened up dialogue that may not have happened without this curriculum.”

Henry Giroux explains, “Hope makes the leap for us between *critical education*, which tells us what must be changed; *political agency*, which gives us the means to make change; and *concrete struggles* through which change happens” (as cited in Regan 2010: 216). Supporting high school students in the North to activate their feelings of hopefulness into community engagement requires

understanding the local implications of colonization and residential schools. Scholar Taiaiake Alfred reminds us that all of the world's big problems are in reality very small and local problems. As he puts it, confronting colonialism is a personal, and in some ways, a mundane process (2009). With Alfred's idea in mind, the students' small, but meaningful actions have the potential to build momentum for just and peaceful change (Regan 2010).

## **Conclusion**

The territorial pilot study has demonstrated that to teach students difficult history and prepare them to solve contemporary problems, efforts must go beyond simply producing learning materials for classroom use. Well planned and thorough teacher training, evaluative research, subsequent revision and follow up support, as well as setting courses as mandatory for all students, are all critical steps in enabling students to reach key learning objectives. Changes made from the first edition module pilot to the second edition are meeting learning objectives more effectively. The revised second edition module shows encouraging potential for NWT and Nunavut teachers to become more confident in supporting their students' learning. Use of these materials in classrooms are providing teachers with professional satisfaction and growth, and are developing students' capacities to participate in society as thoughtful, critical and aware citizens. "Canada must acknowledge its past history of shameful treatment of aboriginal peoples," said Inuk leader John Amagoalik. "It must acknowledge its racist legacy. It should not only acknowledge these facts, but also take steps to make sure that the country's history books reflect these realities," (2008: 93). By devoting 25 hours of mandatory class time for every high school student in the NWT and Nunavut to learning about residential schools, the territories have taken up Amagoalik's challenge. Other jurisdictions are following suit with the production of their own materials for the classroom, including Alberta, Yukon and Ontario.

If George Orwell was correct that "those who control the past control the future," (1949: 37) we face a great risk if we do not educate youth about Canada's brutal history. By failing to pass on the lessons we have learned, we are opting out of crucial conversations about democracy and human rights. Through this module, students learn that democracy is fragile. Even at the heart of what we persuade ourselves is a just society, basic human rights can be denied as they were by residential schools and assimilation policies. A healthy democracy, which respects human rights, is dependent on the responsible participation of citizens, lead by young people who are equipped to think critically and empowered to act. This is particularly important in a rapidly developing environment like Canada's North, where the ability to cooperate across sectors and beyond borders is likely to become a necessity.

Discussions of controversial issues in the classroom are not easy but are a crucial step in preparing Northern students for new economic, technological and environmental challenges. The territorial module builds compassion and enhances critical thinking amongst students. Equipped with stronger critical thinking skills, territorial students will be better positioned to shape the future in a globalized, rapidly changing, and challenging Arctic.

## Acknowledgments

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## Notes

1. In 2009, then Governor General Michaëlle Jean noted that Canada is the only Northern state that doesn't have a university in the Territorial North (in Canada, North of the 60<sup>th</sup> parallel) – In this regard, Canada is four decades behind Norway, Finland, Sweden, and the United States in developing Arctic universities (Simon 2014).
2. States demonstrating growing interest in the Arctic include Germany, France, China, Spain and South Korea. International institutions, such as the European Union and NATO are outside the circumpolar region, but are increasingly vocal about their various interests in Arctic affairs (Plouffe 2011).
3. There is an expansive and thorough body of historical literature on the system of residential schools in Canada and its legacy, which is beyond the scope of this paper. For further reference, please refer to Brant, Archibald and DeGagne's edited volume, *From Truth to Reconciliation: Transforming the Legacy of Residential Schools*; John Milloy's *A National Crime: The Canadian Government and the Residential School System*; Paulette Regan's *Unsettling the Settler Within*; and the Royal Canadian Commission on Aboriginal Peoples.
4. The module defines assimilation as "The process in which one cultural group is absorbed into another, typically dominant, culture" (2013: 223).
5. The term "colonization" is defined in the teachers' guide of the module as "the establishment of a settlement on a foreign land, generally by force. It is also often used to describe the act of cultural domination" (2013: 223). Colonization and its consequences are

explored in the module in Activity 5, “Colonial Policies and the Creation of the Residential School System,” in Activity 6, “Perspectives on the History of Colonization,” as well as in Activities 10-12.

6. The student sample was made up of Dene, Inuit, Inuvialuit/Inuinait, Métis and non-Indigenous students, including students of Eurosettler ancestry, other immigrant ancestry, and students who identified as recent immigrants to Canada.
7. To create the student surveys used in this study, I adapted the surveys created by *Facing History and Ourselves*, which researched the influence of Holocaust education on students in the USA. The organization conducted a 5-year evaluation study, aiming to measure social and ethical awareness and civic learning. I obtained permission from the authors of the survey tools from the Harvard Graduate School of Education, and from the authors of the additional scales adapted for the *FHAO* research, to use and adapt the tools for the Canadian North. All survey tools were adapted to replace references in the U.S to Canadian and Northern references (Selman, R. L., Barr, D. J., Feigenberg, L., & Facing History and Ourselves 2007a; Fine, Bermudez, & Facing History 2007; Flanagan et al., 2007; Kahne, et al. 2006).
8. To complete this study, I obtained ethical approval and research licenses from the University of Victoria Human Research Ethics Review Board, the Aurora Research Institute in the NWT, and the Nunavut Research Institute. To obtain a research license in the NWT through Aurora Research Institute, 23 Indigenous governance organizations, regional bodies and municipalities were consulted and had an opportunity to comment and ask questions about the study. With the support of the territorial education departments respective Deputy Ministers, I was granted permission from school superintendents in each region in the NWT and Nunavut to undertake the study informing this paper.
9. In the study informing this paper, none of the student participants are former residential school students. However, 54% of student participants reported that they have family members who attended the schools, and are therefore intergenerational survivors. An additional 22% did not know whether a family member had attended, and 24% did not have a family member attend residential schools; this data is drawn from student survey results.
10. During student sharing circles, some non-Indigenous students self identified as being from new immigrant families; their comments are reported as such in this paper.
11. Each of the key overarching themes discussed begins with a student vignette from a different sharing circle. The vignettes highlight overlapping themes, which appeared across qualitative and quantitative sets of study findings: teacher surveys, student surveys and student sharing circles and focus groups.
12. Student civic learning and community engagement describe the teacher’s ability to promote students’ understanding of key democratic principles and values, including freedom of expression, the protection of vulnerable groups, equity and justice, and the importance of civic participation (Barr 2010; Seixas 2006).

## References

- Alfred, G.T. (2009). Restitution is the real pathway to justice for Indigenous people. In *Response, responsibility and renewal: Canada's truth and reconciliation journey*. Ottawa, ON: Aboriginal Healing Foundation.
- Allard, M., & Lemay, M. (2012). Nunavik and Nunatsiavut: From science to policy. *An Integrated Regional Impact Study (IRIS) of climate change and modernization*. ArcticNet Inc., Quebec City, Canada.
- Allinder, R. M. (1994). The relationships between efficacy and the instructional practices of special education teachers and consultants. *Teacher Education and Special Education*, 17, 86-95.
- Amagolik, J. (2009). Reconciliation or conciliation? An Inuit perspective. In M.B Castellano, L. Archibald & M. DeGagne (Eds.). *From truth to reconciliation: Transforming the legacy of residential schools*. Ottawa, ON: Aboriginal Healing Foundation.
- Avery, P.G., & Hahn, C.L. (2004). Diversity and U.S. 14-year-olds' knowledge, attitudes and experiences. In E.G. Stephan & W.P. Vogt (Eds.), *Education programs for improving intergroup relations* (pp. 195-210). New York, NY: Teacher's College Press.
- Bainbridge, J. (2009). The Nunavut education act: Lessons learned. *Our Schools/Our Selves* 19(1), 1-5. Retrieved from [http://www.policyalternatives.ca/sites/default/files/uploads/publications/ourselves/docs/nunavut\\_interview.pdf](http://www.policyalternatives.ca/sites/default/files/uploads/publications/ourselves/docs/nunavut_interview.pdf)
- Barr, D.J. (2010). *Continuing a tradition of research on the foundations of democratic education: The national professional and evaluation project*. Brookline, MA: Facing History and Ourselves National Foundation, Inc.
- Beardsall, K. (2012). *Nunavut social studies backgrounder*. Rankin Inlet, NU: Department of Education Curriculum and School Services.
- Canada. Royal Commission on Aboriginal Peoples (1996). *Report*. 5 vol. Ottawa, ON: Minister of Supply and Services Canada.
- Castellano, M.B., Archibald, L., & DeGagne, M. (Eds.). (2008) *From truth to reconciliation: Transforming the legacy of residential schools*. Ottawa, CA: Aboriginal Healing Foundation.
- Coates, K., Lackenbauer, W., Morrison, B., & Poelzer, G. (2008). *Arctic front: Defending Canada in the Far North*. Toronto, ON: Thomas Allen & Sons.
- Cohen, C., Guitierrez-Varea, R., & Walker, P.O., (Eds.). (2011). *Acting together: Performance and the creative transformation of conflict volume II: Building just and inclusive communities*. Oakland, CA New Village Press.

- Coladarci, T. (1992). Teachers' sense of efficacy and commitment to teaching. *Journal of Experimental Education*, 60, 323-337.
- Conference Board of Canada. (2011). Territorial outlook February 2011. Retrieved from <http://www.conferenceboard.ca>.
- Corntassel, J., Chaw-win-is, and T'lakwadzi. (2009). Indigenous storytelling, truth-telling and community approaches to reconciliation. *English Studies in Canada* 35(1), 137-159.
- Daitch, S. (2013). An ethical space for dialogue About difficult history: Program evaluation of a residential school education pilot in Canada's Northwest Territories and Nunavut. Victoria, BC: University of Victoria. Retrieved from <http://dspace.library.uvic.ca:8080/handle/1828/5055>
- Fine, M., Bermudez, A., and Facing History (2007). *Civic Learning Survey*. Facing History and Ourselves National Foundation, Inc., Brookline, MA.
- Flanagan, C., Cumsille, P., Gill, S., & Galloway, L. (2007). Survey of Teenagers Opinions. School and community climates and civic commitments: Processes for ethnic minority and majority students. *Journal of Educational Psychology*, 99(2), 421-431.
- Fowler, L., & Willett, M. (2014). Learning about the residential school system in Canada. *Northern Public Affairs, Special Issue*, 36-41. Retrieved from: <http://www.scribd.com/doc/220624038/Special-Issue-2014-Revitalizing-Education-in-Inuit-Nunangat>.
- Gibson, S., & Dembo, M. (1984). Teacher efficacy: A construct validation. *Journal of Educational Psychology*, 76, 569-582.
- Government of the Northwest Territories, Department of Education Culture and Employment, Government of Nunavut, Department of Education, & Legacy of Hope Foundation. (2012). *The residential school system in Canada: Understanding the past, seeking reconciliation, building hope for tomorrow, teacher's guide*. First edition. Ottawa, ON: Nation Media + Design.
- Government of the Northwest Territories, Department of Education Culture and Employment, Government of Nunavut, Department of Education, & Legacy of Hope Foundation. (2013). *The residential school system in Canada: Understanding the past, seeking reconciliation, building hope for tomorrow, teacher's guide*. Second edition. Ottawa, ON: Nation Media + Design.
- Government of the Northwest Territories. Retrieved from <http://www.statsnwt.ca>.
- Government of the Northwest Territories, Department of Education Culture and Employment. (2011). *Aboriginal Student Achievement Education Plan*. Yellowknife, NT: GNWT Department of Education, Culture and Employment.
- Government of the Northwest Territories, Department of Education Culture and Employment. (2013). *Renewal and Education Framework: Directions for Change*. Yellowknife, NT: GNWT Department of Education, Culture and Employment. Retrieved from: [http://www.ece.gov.nt.ca/files/ERI/eri\\_framework\\_-\\_tabled.pdf](http://www.ece.gov.nt.ca/files/ERI/eri_framework_-_tabled.pdf)

- Government of the Northwest Territories, Department of Industry, Tourism and Investment. (2013). *NWT Mineral development strategy*. Yellowknife, NT: GNWT Department of Industry, Tourism and Investment.
- Government of the Northwest Territories. (June 5, 2013). Northwest Territories Legislative Assembly Hansard. Retrieved from: <http://www.assembly.gov.nt.ca/sites/default/files/hn130605.pdf>
- hooks, bell. (2010). *Teaching critical thinking: Practical wisdom*. New York: Routledge.
- Irlbacher-Fox, S. & Mills, S.J. (2007). *Devolution and Resource Revenue Sharing in the Canadian North: Achieving Fairness Across Generations*. Walter and Duncan Gordon Foundation. Retrieved from: [http://www.google.ca/url?sa=t&rct=j&q=&esrc=s&source=web&cd=3&ved=0CCsQFjAC&url=http%3A%2F%2Fwww.tha.gov.tt%2Fdownloads%2Fdoc\\_download%2F25-revenue-sharing-north-provincescanada&ei=I0qzU6jLMZLwoATw34HIAg&usq=AFQjCNHcRivyT-ADomqVGVcy9OjZUTaQgA&bvm=bv.70138588,d.cGU](http://www.google.ca/url?sa=t&rct=j&q=&esrc=s&source=web&cd=3&ved=0CCsQFjAC&url=http%3A%2F%2Fwww.tha.gov.tt%2Fdownloads%2Fdoc_download%2F25-revenue-sharing-north-provincescanada&ei=I0qzU6jLMZLwoATw34HIAg&usq=AFQjCNHcRivyT-ADomqVGVcy9OjZUTaQgA&bvm=bv.70138588,d.cGU)
- Kahne, J., Chi, B., & Middaugh, E. (2006). Building social capital for civic and political engagement: The potential of high-school civics courses. *Canadian Journal of Education/Revue canadienne de l'éducation*, 387-409.
- Kennedy Dalseg, S. (2014). Education in Inuit Nunangat: A fine balance. *Northern Public Affairs, Special Issue*, 4-5. Retrieved from: <http://www.scribd.com/doc/220624038/Special-Issue-2014-Revitalizing-Education-in-Inuit-Nunangat>
- Kovach, M. (2009). *Indigenous methodologies: Characteristics, conversations, and contexts*. Toronto: University of Toronto Press.
- Kolbl, C. (2009). In M. Martens, Hartmann, U., Sauer, M., & Hasselhorn, M. (Eds.), *Interpersonal Understanding in Historical Context* (pp. 81-96). Rotterdam, The Netherlands: Sense Publishers.
- Milloy, J. (1999). *A National Crime: The Canadian Government and the Residential School System, 1879 to 1986*. Winnipeg, MN: University of Manitoba Press.
- Nunavut Tunngavik Incorporated (2011). *2010-2011 Annual Report: The status of Inuit children and youth in Nunavut*. Nunavut: Nunavut Tunngavik Incorporated.
- Nunavut Land Claims Agreement (1993). *See Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada, May 25, 1993*, Retrieved from [http://www.collectionscanada.gc.ca/webarchives/20071124140800/http://www.aincinac.gc.ca/pr/agr/pdf/nunav\\_e.pdf](http://www.collectionscanada.gc.ca/webarchives/20071124140800/http://www.aincinac.gc.ca/pr/agr/pdf/nunav_e.pdf)
- Orwell, G. (1949). *1984*. London, UK: Penguin Classics.
- Plouffe, J. (2011). Canada's tous azimuts Arctic foreign policy. *Northern Review* 33 (Spring 2011), 69-94. Retrieved from: <http://journals.sfu.ca/nr/index.php/nr/article/view/184/198>

- Qikiktani Truth Commission (2010). *QTC Final Report: Achieving Saimaqatigiingniq*. Qikiktani Inuit Association.
- Regan, P. (2010). *Unsettling the settler within*. Vancouver, BC: UBC Press.
- Sandlos, J., & Keeling, A., (2012). *Giant Mine: Historical Summary*. Retrieved from <http://research.library.mun.ca/638/>
- Seixas, P. (2006). *Benchmarks of Historical Thinking: A Framework for Assessment in Canada*. Vancouver, BC: Centre for the Study of Historical Consciousness.
- Selman, R. L. (1980). *The growth of interpersonal understanding: Developmental and clinical analyses*. Orlando, FL: Academic Press.
- Selman, R. L. (2003). *The Promotion of social awareness: Powerful lessons from the partnership of developmental theory and classroom practice*. New York, NY: Russell Sage Foundation.
- Selman, R. L. & Barr, D. J. (2009). Can adolescents learn to create ethical relationships for themselves in the future by reflecting on ethical violations faced by others in the past? In M. Martens, Hartmann, U., Sauer, M., & Hasselhorn, M. (Eds.), *Interpersonal Understanding in Historical Context* (pp. 19-41). Rotterdam, The Netherlands: Sense Publishers.
- Selman, R. L., Barr, D. J., Feigenberg, L., & Facing History and Ourselves. (2007a). *Choices in Context Measure*. © Robert L. Selman and Facing History and Ourselves National Foundation, Inc., Brookline, MA.
- Simon, M. (2014). A time for bold action on Inuit education. *Northern Public Affairs, Special Issue*, 6-7. Retrieved from: <http://www.scribd.com/doc/217975506/Mary-Simon-A-time-for-bold-action-on-Inuit-education>
- Sproule-Jones, M. (1996). Crusading for the Forgotten: Dr. Peter Bryce, Public Health, and Prairie Native Residential Schools. *Canadian Bulletin of Medical History/Bulletin canadien d'histoire de la médecine*, 13(1), 199-224.
- Tarc, A.M. (2011). Reparative curriculum. *Curriculum Inquiry*, 41, 350–372.
- Thomas, R.A. (2005). Honoring the oral traditions of my ancestors through storytelling. In L. Brown and S. Strega (Eds.), *Research as resistance* (pp. 237-254). Toronto, ON: Canadian Scholars' Press.
- Truth and Reconciliation Commission of Canada. (2012). *Truth and Reconciliation Commission of Canada: Interim report*. Winnipeg, MN: Truth and Reconciliation Commission of Canada
- Tschannen-Moran, M., Woolfolk, A. E., & Hoy, W. K. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education* 17(7), 783–805.
- Wilson, S. (2008). *Research is ceremony: Indigenous research methods*. Canada: Fernwood Publishing.

# LANGUAGE AND WELL-BEING IN THE ARCTIC: BUILDING INDIGENOUS LANGUAGE VITALITY & SUSTAINABILITY

Lenore A. Grenoble & Carl Chr. Olsen, Puju

*An indigenous-driven project, the Arctic Indigenous Language Initiative is working to reverse language shift through active engagement and collaboration throughout the circumpolar region. The project is defined and determined by the Permanent Participants of the Arctic Council, who are working to collaborate with researchers, representatives from Arctic Indigenous organizations and Arctic governments, language activists, and policy makers. While the long-term goal is to achieve vitality and sustainability for Arctic indigenous languages, the first measures center around assessment in three key areas: (1) Arctic language policy; (2) language acquisition; and (3) language vitality. We discuss each of these three areas, including the creation of indigenously defined assessment metrics; the establishment of feedback mechanisms from the community, including community-based (peer) review of findings; and the role of academic linguists and community members. Critically, we explore the mechanisms for creating policy changes at all levels, and the measures needed to turn the findings of the assessment teams into action to promote Arctic indigenous language vitality. We address the challenges of working across such broad geographic territories, spanning multiple national boundaries, and the challenges of working with so many stakeholders with such diverse interests.*

## Introduction

For Arctic indigenous peoples, knowledge of their ancestral language is a central component of well-being. Not only is this view taken by external researchers (see Schweitzer et al. 2010), but it is also

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the attitude of Arctic indigenous peoples themselves. The present paper reports on how Arctic indigenous communities are working collaboratively and across national boundaries to change the course of indigenous language shift through the *Arctic Indigenous Language Vitality Initiative: Assessing, Monitoring, and Promoting*. We focus on the three themes around which the project is organized: the assessment of language vitality, language policy, and language acquisition. The circumpolar Arctic is undergoing radical climate change and equally radical cultural disruption. To name just a few examples, some communities are relocated due to coastal erosion, while others are displaced due to an influx of foreign development, and changes in the plant and animal ecologies alter their traditional food sources. Language shift is an integral part of cultural disruption in this region: of the 50 or so indigenous languages spoken in the circumpolar Arctic, all but Kalaallisut (Greenlandic) are endangered.

An indigenous-driven project, the *Arctic Indigenous Language Initiative* (or simply referred to as the “project” here) is working to reverse language shift through active engagement and collaboration throughout the circumpolar region. The project is defined and determined by the Permanent Participants of the Arctic Council, who aim to collaborate with researchers, representatives from Arctic Indigenous organizations and Arctic governments, language activists, and policy makers, to assess and promote Arctic indigenous languages. The Arctic Council is an intergovernmental forum made up of the eight Arctic nation states: Canada, Denmark (including Greenland and the Faroe Islands), Finland, Iceland, Norway, the Russian Federation, Sweden and the United States. The Permanent Participants of the Arctic Council comprise the six transnational indigenous Arctic groups: Aleut International Association; the Arctic Athabaskan Council; Gwich’in Council International; the Inuit Circumpolar Council (ICC); the Saami Council; and the Russian Association of Indigenous Peoples of the North (RAIPON).

In this paper we present the views of our collaborators on the project, but our interpretation is in part determined by our own attitudes, experiences and roles. Grenoble is an external linguist who specializes in language shift, revitalization and vitality, with many years of experience working with indigenous peoples in the Arctic, and serves as project coordinator. Olsen is a linguist specializing in the Inuit language, with expertise in Yup’ik and Inuit regional dialects as a whole. An Inuit political leader, he has many decades of service to the Inuit Circumpolar Council from its establishment until the present day. He is Chair of the Greenland Government’s Language Committee and the Place Names Authority, and has served on the Personal Names Committee. He has also been working with language issues in the Nordic context and took part in revision of the Nordic Language Convention and Nordic Language Policy Declaration of 2006. Within the context of Arctic Indigenous Language Vitality project that is the focus of the present article, he serves as the Chair of the Steering Committee under the Sustainable Development Working Group. Throughout the present paper, we strive to present the views of the many different representatives of the Permanent Participants working on this project and so the authorial “we” here represents our collective voice.

## Background

The Arctic is one of the most sparsely populated areas in the world, and yet it is home to a large number of different indigenous groups, representing different languages and cultures. Just what territory the term Arctic references depends on one's definition: some define the *Arctic* as the area above the Arctic Circle, while others take the line drawn by the Arctic Human Development Report as delineating the Arctic, that is, the area roughly above the tree line. By the same token, the exact number of indigenous languages depends on what criteria are used for determining the boundaries between language and dialect; somewhere in the neighborhood of 50 to 60 is generally accepted. Barry et al. (2013) provides a table of 87 languages, of which 21 are already extinct. (Here too the notion of "extinction" is problematic, as Evans (2001) points out.) Regardless of the details, these figures provide an approximate assessment of the number of different Arctic languages. They differ significantly in terms of the size both of the ethnic population and of the number of speakers. Some have a quite small population base (as in the Itelmen of Siberia, with perhaps 80 speakers from a total estimated population of 3200, 2010 All-Russian Census) to quite large (as the Inuit, who total approximately 120,000 across the Arctic). Overall vitality of the languages varies as well, and the parameters of this vitality, the factors involved in increased or decreased vitality, are at the heart of the project. In the Arctic, as in many indigenous communities elsewhere, language is a recognized factor in overall cultural and social well-being (Schweizer et al. 2010); language vitality is seen as an essential component of a healthy society. For the purposes of the Arctic Indigenous Language Vitality Initiative, the Arctic Indigenous Languages it represents are those languages spoken by the members of the Permanent Participants of the Arctic Council.

The Arctic Indigenous Language Vitality Initiative grew out of a meeting called by the Permanent Participants in 2008 in Tromsø to discuss the challenges of fostering indigenous language vitality. Its roots can be traced to the 5<sup>th</sup> Ministerial Meeting of the Arctic Council, held in Salekhard, Russia, in 2006. The Salekhard Declaration, signed by the Ministers representing the eight nation states of the Arctic Council, included explicit statements of support for the Permanent Participants to hold this meeting, specifically stating that all eight Arctic states:

**Encourage** Member States and other parties to support the cultural diversity of the Arctic and especially uphold and revitalize the indigenous languages, **support** the Arctic Indigenous Languages Symposium and **welcome** further projects in this important field.

Salekhard Arctic Council Declaration 2006 (emphasis in original)

The resulting Symposium, the 2008 meeting in Tromsø, was the first meeting ever called by the Permanent Participants themselves, a point that underscores the importance of language to the peoples themselves. In response to a request from the Arctic Council for more information and for more focused requests, a second group was convened in Ottawa in June 2012. This meeting, the *Arctic Languages Vitality Workshop*, included researchers, representatives from Arctic Indigenous organizations and Arctic governments, language activists, and policy makers. Collaborations between stakeholders and these other parties are seen as central to the success of the project; there is widespread recognition of the need to call upon external expertise in the assessment stage of the

project to understand the complex dynamics of Arctic language ecologies. This is accompanied by a belief that policy changes, at the international and national levels, need to be made in order to create an environment that more favorably fosters indigenous language use. The Arctic Indigenous Language Vitality Initiative resulted from this meeting and is a project of the Sustainable Development Working Group (SDWG) of the Arctic Council. Although the long-term goals are to achieve vitality and sustainability for Arctic indigenous languages, the first steps include an action plan with short-term and more intermediate goals, and setting intermediary deadlines. Initial plans to have completed a comprehensive assessment of the vitality of all Arctic languages by this time were re-evaluated as being overly ambitious, and aspirations have been adjusted to more realistic goals. [Proceedings of the 2008 meeting are available at the SDWG website ([www.sdwg.org/media.php?mid=980](http://www.sdwg.org/media.php?mid=980)). Details of subsequent meeting and report can be found in Tulloch (2012), which includes a summary of the findings of the 2008 meeting.]

To clarify the overall organization, the Arctic Indigenous Language Initiative is an indigenous-driven and indigenously defined project, as determined by the Permanent Participants of the Arctic Council, the six indigenous groups who have a seat at the Arctic Council. The Arctic Council organizes its activities in six working groups, which are comprised of a combination of representatives from the various sectorial ministries, government agencies and researchers. One of these six working group is the SDWG; this project is one of a slate of activities of the SDWG that has been approved by the Arctic Council Senior Arctic Officials. It is thus at once an indigenous project and a project operating at a very high inter-governmental level. The project is managed by the Inuit Circumpolar Council, Canada, (or ICC Canada) and more specifically by the President of ICC Canada, Duane Smith, who is also the co-vice chair of SDWG. The workings of the project itself are overseen by a Steering Committee, which consists of one member of each of the Permanent Participants. The authors of this paper are directly involved in this organizational structure, with Grenoble working for ICC Canada as Project Coordinator and Olsen serving as Chair of the Steering Committee. This complex structure represents the complexity of the overall project. It aims to operate at very local levels to foster language vitality in the home, at the level of individual speakers and at the level of speakers within communities. At the same time it also operates in the international arena, reporting to the SDWG of the Arctic Council and working with governmental officials to create the conditions needed for language vitality at all levels.

## **Goals**

The long-term goal of the Arctic Indigenous Language Initiative is to achieve vitality and sustainability for Arctic indigenous languages, but in order to achieve this goal, there are necessary first steps. The project participants have defined three key areas to focus the initial assessment: (1) Arctic language policy; (2) language acquisition; and (3) language vitality. Committees have been established to analyze each of these areas and make recommendations for improvements or changes as needed. We discuss each area separately in the next sections. The first years of the project are focused on the effort to assess existing resources and identify both gaps and strengths. Each of the three committees is currently assessing existing resources (human, material, and financial), and policies and practices, along with possible impediments and challenges, in each of these areas. In this

context, human resources are understood to include speakers (with varying levels of fluency); motivation to teach, learn and use the language; and the numbers and qualifications of teachers. Materials include pedagogical and reference materials, and programs and applications that enable digital use (e.g. spellcheckers, dictionaries for mobile phones, applications for tablets, digital games). Funding to support language use goes into a wide variety of venues, teacher-training workshops, salaries for language commissioners and their staffs, subvention funds for publishing, funding to support radio and television media, for signage, and so on. There is a wide array of measures that communities can undertake to bolster the visibility and use of their language, but many of these cost money.

In this first stage of the project, the objective is to create a language profile of each indigenous language. This snapshot profile can and does vary in different regions, even from village to village. This work is pre-requisite to taking any measures to bolster language vitality. A foundational principle of the project is that it must be indigenously driven; its goals and parameters indigenously defined; and all work must be conducted according to indigenous principles. This represents a basic recognition that the ultimate responsibility for indigenous language vitality rests with the communities themselves.

In the remainder of this section, we turn to a brief discussion of each of the three focal areas.

### *Arctic Language Policy*

Arctic language policy is viewed on multiple, intersecting levels. One aspect of this project is gathering and assessing existing policies and their implementation to determine where improvements can be made. On an international level, instruments such as the United Nations *Declaration on the Rights of Indigenous Peoples* (United Nations, 2007), *International Labour Organization (ILO) Convention No. 169* (ILO, 1989), and UNESCO's *Convention for the Safeguarding of Intangible Cultural Heritage* (UNESCO, 2003) are important symbolically and can be used to support indigenous language rights. Yet the only one of these documents that is legally binding is ILO No. 169. From among the eight Arctic states, it has been ratified by only two of the Arctic nations, Denmark (22 February 1996) and Norway (19 June 1990) (ILO, 2014). To date the UN Declaration has been ratified by all Arctic nations except the Russian Federation, but despite their signatures, it is viewed as advisory, not legally binding. During the 68<sup>th</sup> General Assembly of the United Nations, on 13 October 2013, James Anaya, special rapporteur of the Third Committee (Social, Humanitarian and Cultural) issued a statement that implementing the Declaration on Indigenous Rights would be "difficult or impossible without greater awareness" of the value of human rights (Anaya, 2013).

Policies can be positive, negative or neutral, and participants recognize that even the most supportive policy is ineffective if it is not enforced. By the same token, there are limits to the positive effects that international and national policies alone can achieve. Language usage is determined at a local level, by speakers themselves. Thus as part of this project, the Permanent Participants are encouraged to develop their own language policies. This puts the responsibility for language vitality with the communities whose languages are at stake. The Permanent Participants can take ownership of how the languages develop for their members, and be in a position to develop

strategies and resources for language vitality in a focused way, if they have their own language policies.

### *Language Acquisition*

Within this project, language acquisition is understood broadly to encompass the different methods used to teach the language, the different language learners and educators. Many Arctic languages are no longer learned “on the mother’s knee,” but taught more formally in the schools. The language acquisition committee seeks to find out who teaches the languages, who studies them, what materials are available for language learning and what kinds of resources (pedagogical and reference) exist. As one concrete example, pedagogical materials have historically been designed with a single target group in mind, such as school-age children or college students. Language shift in Arctic communities has created challenges for teaching a language to adult learners versus very small children; these needs have not been adequately addressed. There is recognition that different materials and different methods are needed for different age groups, and for different educational experiences. (Immersion-based learning may be realistic in preschool, on the model of Language Nests, but not for middle-aged parents who juggle family responsibilities with full-time jobs, for example.)

The committee is exploring different teaching and learning models, including the Master-Apprentice Program, immersion learning, and the use of technology in language learning. Technology can be used for dictionaries and other mobile apps on cell phones and tablets; internet-based communication systems (such as Skype) can be used to connect speakers separated by great distances, or to link teachers to learners. As one example, nomadic schools in parts of the Russian Arctic make it possible for children in some regions to stay with their families who are actively engaged in reindeer herding and still obtain an education.<sup>1</sup>

One area of concern that quickly emerged is the need for more adequate teacher training. In some areas where language vitality is low, there is an additional challenge of finding teachers with adequate language proficiency to teach. Pan-Arctic challenges include providing sufficient training in modern pedagogical methods; in training teachers to incorporate traditional knowledge and traditional methods in the classroom; and finding new models for sustained training. At present, many regions host short (one- or two-week) workshops for teacher training and for language revitalization. They have clear benefits but longer programs are needed as well.

### *Assessing Language Vitality*

Existing measures of Arctic indigenous language vitality are insufficient. They rely heavily on census data and/or report outdated findings. Examples include the *Ethnologue* (Lewis et al. 2013), and the UNESCO Atlas of Endangered Languages (Moseley 2010), and the *Survey of Living Conditions in the Arctic* (SLiCA), well-known in the Arctic but lacking the detailed information the Permanent

Participants seek, and already somewhat dated, since the survey was conducted in 2008. Data from official census sources are synthesized in Barry et al. (2013), which arguably gives the most comprehensive snapshot of language vitality today. Such reports provide, at best, a broad overview of indigenous languages but draw on official census data, which rely on self-reporting of language proficiency and use. Self-reporting is notoriously unreliable, with problems in terms of both under-reporting and over-reporting language proficiency. Speakers often interpret questions about their “mother tongue” as referring to their heritage language, and thus may inadvertently signal that they “know” a language that is the ancestral tongue known by previous generations although they themselves are monolingual speakers of a majority language. Alternatively, in cases where use of a language has low prestige, speakers may under-report to avoid negative repercussions, perceived or real. Census data reports fail to give the kind of detail and accuracy needed to make the best decisions possible about how to leverage resources.

The language assessment committee plans to create a “language profile” for each indigenous language. The assessment profile should include both linguistic and sociolinguistic information, such as data on language proficiency as well as domains of usage and language attitudes. Specifically, the group intends to collect information on proficiency across generations, and in different domains and conversational situations, recognizing that some speakers may fluently discuss some topics and not others. One goal is to create an indigenously defined metric for proficiency, something that is currently in development. An assessment of attitudes should include the attitudes of a wide range of different people: individual speakers, communities, states, and academics about the language, about language standardization and other language survival strategies. Recognizing that indigenous language ecologies are situated within a complex social dynamic of speakers of one or more other languages, the assessment group is interested in the attitudes of community members as well as those of external, non-community members. Included here are members of the majority language(s) group and speakers of other indigenous languages who are in contact with the target language. Another important component of the assessment is information about domains of use. A vital language is used by all generations in all domains (Fishman, 1991). The assessment committee seeks to identify language usage across domains, defining relevant domains with input from the communities themselves. Two concrete examples illustrate the importance of this principle. One is that in many Arctic indigenous societies, language usage is highest in domains associated with subsistence activities, such as hunting, fishing, or berry picking, in addition to traditional folklore and ritual activities. At the same time, participants are interested in assessing language usage outside of traditional activities, that is, in the home, on the street, in public spaces. People have a general sense that usage varies according to such factors as the proficiency of both and the interlocutor(s), the relationship between them, topic of conversation and the setting, and seek concrete data about such variables. Finally, detailed information about speaker proficiency levels is needed in order to make decisions about what measures are needed to foster vitality. Current metrics provide numbers of speakers, recognizing speakers and non-speakers. The project participants are interested in determining a greater range of speaker abilities.

A full assessment of Arctic indigenous language vitality is a multi-year project, requiring significant financial and human resources. Beyond the general lack of funding for such a project, we currently

lack adequate numbers of trained specialists who are sufficiently proficient in the indigenous languages to conduct the surveys. More realistically, the committee is striving to create an adequate survey and pilot test it in a handful of communities for a proof-of-concept trial which can subsequently be leveraged to apply for funds to conduct a full-scale pan-Arctic survey. There is a deep commitment to gathering the necessary data to make informed decisions for action. Finally, community members must have opportunities to provide input into assessments and to peer review findings before they are finalized. This last requirement comes from the experience of participants of many years of outsiders painting inaccurate pictures of their communities, and from a desire to make this a true indigenously enterprise, defined in terms of indigenous models of inquiry.

The second set of challenges facing the assessment group is more intellectual in nature. Through firsthand experience and past surveys, in particular those conducted by linguists in close collaboration with community members (see especially Vakhtin 1992, 2001), and information from indigenous community members,<sup>2</sup> we know that the details of micro language ecologies differ in the Arctic, and language vitality can vary from village to village, even within the same region. Yet policy makers, administrators and leaders often do not have the time, interest in or patience for fine-grained, detailed accounts; they need summaries upon which they can base broader conclusions. It is unclear how assessment protocols can balance the desire for details to account for complex communities with the desire for a snapshot view of vitality in each community across the Arctic. Last, the need to keep the project defined within indigenous models of inquiry and research while at the same time having sufficient academic rigor to stand up to the scrutiny of policy makers and other individuals with European understandings of data. This places the project in larger discussions in the Arctic of how to balance traditional knowledge and Western science, but the impact of the potential balance (or imbalance) may have direct repercussions for language vitality, and so there is much at stake.

### **Indigenous Principles**

What distinguishes an indigenous-driven project from other, non-indigenous projects? In part of course this means that the stakeholders themselves have control of and responsibility for the project itself, its goals, methods and outcomes. This is an important aspect of indigenous self-determination in a post-colonial era. But the implications extend beyond this, as the project is driven by an adherence to indigenously defined principles for research and ethical conduct. These include decision-making processes that depend on consensus, broad and ongoing consultation, and collaboration between all parties. Transparency about process and outcome is critical. One novel aspect of the project is the implementation of a peer-review process for the assessment. This goes beyond the standard ethical conduct for linguistic research that involves sharing results with communities. In this project preliminary results will be taken back to communities so that they can review them in a community-referee process. The idea here is that the assessments should be in line with the experience and knowledge of the communities, who have an opportunity to provide more input before results are finalized. It is our hope that this process will insure more accurate results, and will engage community members in the project in a deep and meaningful way.

Three key fundamental principles that guide the overall conceptualization of the work include networking, collaboration, and communication.

### *Networking and Collaboration*

A core principle in this project is the commitment to networking with others throughout the Arctic. The goals include sharing information on existing research, policy and practice, with continuing information about best practices for collaborative community-based research in Arctic contexts, and best practices for enhancing language vitality. There is a deep commitment to overall transparency and open exchange of information. To that end, the project website has become an important hub of information; in the future more interactive features will be incorporated into the site to encourage participants to submit their own materials and findings. The project also aims to establish parameters for effective collaborations, including effective interagency and international collaborations. External researchers may receive official endorsement from the project if they agree to follow the indigenous guidelines for ethical conduct and make all their data and findings readily accessible.

### *Communicating and Sharing Data*

Transparency, in terms of both the process and dissemination of the results, is an important aspect of the project. The distribution of reliable and comparable data for the status of all Arctic indigenous languages in a centralized, accessible format is a standard for all findings of the project, and adherence to it obligates the committees to report their conclusions in a format that is accessible to community members. Thus, for example, terminology must be comprehensible and clearly defined. The aim is to facilitate the local, regional, and international sharing of best practices in addressing Arctic indigenous language vitality. Concretely, this means open access of data and results. At present such open access is managed through the project website (see the discussion on **Data Management and Information Access**).

### *Governance and Project Management*

Project management is in the hands of the Permanent Participants themselves, and the overall governance structure is built upon the foundational principles of consensus and collaboration. At the same time, management is needed to keep the moving forward and to insure clear reporting structures, since this is an Arctic Council project. At the request of the Arctic Council, ICC Canada is responsible for managing the project, with President Duane Smith overseeing the initiative. The Steering Committee is advisory to the President. It is chaired by Carl Chr. Olsen, puju, of ICC Greenland and a member of the Sustainable Development Working Group of the Arctic Council, and consists of representatives from each of the six Permanent Participants and an external linguist (Grenoble) as project coordinator, working closely with the Steering Committee and reporting to the President of ICC Canada. The Steering Committee members provide a mechanism for their members to have direct input into the project, and serve as an important bridge for information among the different Permanent Participants.

The organization here underscores the importance of consultation and collaboration at every stage of the project. Success depends on close working relationships, open communication, commitment to the project's goals, and a large measure of trust and respect. The governance structure is central to keeping the project indigenous-driven and organized along principles of collaboration and consensus building, while still being able to make progress on assessment and meeting goals. The principles of collaboration and consensus require broad consultation with stakeholders.

### **Data Management and Information Access**

The project website ([arcticlanguages.com](http://arcticlanguages.com)) serves to link project participants, provides centralized storage for information, including publications, language-learning resources, listing of events, and the like, and provides accessible information about the project to outsiders and community members alike. In a multi-party, international initiative like this, a vibrant website is an important tool for creating a cyber-community of users. Our site features several innovative features. One is a digital library (constructed as a Zotero database) with a collection of hundreds of publications, citations, and links to publications, on Arctic languages, language policy, and educational practices. The website also includes links to surveys of language vitality and other relevant databases. Finally, it serves as a centralized portal for language-learning resources and reference materials. At present, such resources consist primarily of existing web-based resources, and our site provides links to them (organized by language). Ultimately, researchers with project endorsement will deposit copies of their recordings and documentation corpora on the site, making them available and accessible to speaker communities, language learners, and other researchers. Currently, linguists generally deposit their recordings at their academic institutions or in archives specially designated for language deposits. In the Arctic, one such archive is the Alaska Native Language Archive (<http://www.uaf.edu/anla/>). To the best of our knowledge, it is the only archive dedicated to Arctic indigenous languages. Often the recordings and other documentation of Arctic indigenous languages are inaccessible to the speaker communities; one goal of the project is to make these materials both known and available to indigenous communities who often want them for revitalization purposes and as part of their cultural heritage.

### **Challenges**

The overall scope of the project can be overwhelming. The circumpolar Arctic, with a total area of 14,056 million km<sup>2</sup> (or 5.4 million mi<sup>2</sup>), encompasses eight nation states, with eight covering multiple time zones. The sheer size of the territory, geo-political differences of the states involved, varying local demographics and language contact situations, and relatively disparate, isolated populations create certain specific challenges for this project. In some cases speakers of the same or closely related languages live in different countries, and so come in contact, often on a daily basis, with different majority languages. Such is the case of the members of ICC, whose speakers are in contact with Danish, English, French and Russian, or Saami speakers, who are in contact with Finnish, Norwegian, Russian and Swedish.

Differences in time, space and language mean that communication is a major challenge. Although English cuts across all these territories as a major global language, and is often the lingua franca for international meetings, information needs to be delivered to participants in a great number of different languages. The problem is compounded by the fact that many Arctic indigenous peoples continue to live in relatively remote areas. A large percentage of the stakeholders do not have easy internet access; in some regions there is no mobile phone service. Engaging speakers in remote communities can be challenging. Digital language resources are thus only part of the solution.

In many parts of the Arctic, language shift is a legacy from colonial regimes that actively suppressed the use of indigenous languages. Elders in Alaska, Canada and the Russian Federation alike report the carryover of trauma from their experiences in the boarding or residential schools, a situation which has affected their choices about which languages to use with their children, and their own self-esteem. Healing is an integral part of the process of language reclamation in the Arctic. Many of the project's leaders believe that healing is underway, but there is still much work to be done.

The project is first and foremost conceived of as an indigenous-driven initiative, formulated on indigenous terms. Yet collaboration with multiple partners, including academic (and often non-indigenous) linguists, policy makers and political leaders, seen as critical to success, is labor-intensive and time-consuming. The commitment to collaboration comes from acknowledgement that there is insufficient capacity and expertise within indigenous communities alone to do all the necessary work, and a recognition that changing some aspects of the language ecologies requires outside support, in particular from governmental agencies. How can we balance these different perspectives and approaches? One major challenge is to bring the indigenous values and collaborations together with external partners in a seamless fashion.

Last, there are the pressures of time and money. The kinds of assessment that people desire take considerable resources and are very time-consuming; creating a full language profile of each Arctic indigenous language would be expensive and would require many years to complete. Meanwhile, many of the languages are in advanced stages of shift, and measures need to be taken immediately to revitalize them. The aspirations for thorough evaluation to inform language practices and policies are at times at direct odds with the needs to take immediate action.

## **Conclusion**

The ultimate goal of this initiative is to promote and maintain the vitality of Arctic indigenous languages. In some cases revitalization work is necessary, while in others measures need to be taken to insure ongoing vitality. The current design of the project is aimed at identifying the needs of all Arctic language communities, determining where new initiatives are needed and where existing work needs to be enhanced and supported. Language is a living part of human culture, and is as dynamic as the cultures themselves.

This project provides communities with opportunities for revitalizing their languages. The overall responsibility resides with them. In part the project offers people the challenge of directly confronting the issue of taking control of language vitality themselves.

## Notes

1. An overview of nomadic schools in the Republic of Sakha/Yakutia is given at <http://www.nlib.sakha.ru/knigakan/tematicheskie-kollektsii/kohevaya-shkola.html>; UNESCO has a brief description of Siberian schools in English on its website: [http://www.unesco.org/education/FollowingtheReindeer\\_eng.pdf](http://www.unesco.org/education/FollowingtheReindeer_eng.pdf)
2. There is much debate among researchers in the Arctic as to how to incorporate local or indigenous knowledge into Western scientific models. Within the workings of this project, participants on both sides are eager for both kinds of information, and standard language vitality surveys rely heavily on the knowledge of the community members.

## References

- Anaya, J. (2013). Implementing Declaration on Indigenous Rights will be difficult or impossible without greater awareness of human rights values, Third Committee told. [Press release on special rapporteur report to the Third Committee.]. Retrieved from <http://www.un.org/News/Press/docs/2013/gashc4074.doc.htm>
- Barry, T., Grenoble, L.A., Friðriksson, F., Olsen, C.Chr., Mustonen, T. (2013). Linguistic diversity. In *Arctic biodiversity assessment. Status and trends in Arctic biodiversity* (pp. 431-441). Akureyri: Conservation of Arctic Flora and Fauna (CAFF), Arctic Council.
- Evans, N. (2001). The last speaker is dead? Long live the last speaker! In P. Newman & M. Ratliff (Eds.), *Linguistic fieldwork* (pp. 250-281). Cambridge: Cambridge University Press.
- Fishman, J. (1991). *Reversing Language Shift*. Clevedon, UK : Multilingual Matters.
- ILO 2014. *Convention No. 169*. Retrieved from <http://www.ilo.int/indigenous/Conventions/no169/lang-en/index.htm>. (accessed 24 April 2014)
- ILO 1989. *The Convention concerning Indigenous and Tribal Peoples in Independent Countries*. International Labour Organization Convention No.169. Retrieved from [http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO:12100:P12100\\_INSTRUMENT\\_ID:312314:NO](http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO:12100:P12100_INSTRUMENT_ID:312314:NO). (accessed on 24 April 2014)
- Lewis, M. P., Simons, G. F. & Fennig, C. D. Eds. (2013). *Ethnologue: Languages of the World, 17th ed.* Dallas, Texas: SIL International. Retrieved from <http://www.ethnologue.com>.
- Moseley, C. Ed. (2010). *Atlas of the world's languages in danger, 3rd ed.* Paris: UNESCO Publishing. Retrieved from <http://www.unesco.org/culture/en/endangeredlanguages/atlas>.
- Salekhard Arctic Council Declaration* (2006). Retrieved from <http://www.arctic-council.org/index.php/en/document-archive/category/31-5th-ministerial-in-salekhard-russia#>.

- Schweitzer, P., Fox, S.I., Csonka, Y. & Lawrence Kaplan, L. (2010). Cultural well-being and cultural vitality. In J. Nymand Larsen, P. Schweitzer, & G. Fondahl (Eds.), *Arctic social indicators. A follow-up to the Arctic Human Development Report* (pp. 91-108). Copenhagen: Nordic Council of Ministers.
- SLiCA. *Survey of Living Conditions in the Arctic*. Retrieved from <http://www.arcticlivingconditions.org/>.
- Tulloch, S. (Ed.) (2012). *Proceedings of the Arctic Indigenous Languages Symposium*. ICC Canada. Retrieved from <http://www.arctic-council.org/index.php/en/arctic-peoples/languages>.
- UNESCO. (2003). *Convention for the Safeguarding of Intangible Cultural Heritage*. <http://www.unesco.org/culture/ich/index.php?lg=en&pg=00006>
- United Nations. (2007). *The United Nations Declaration on the Rights of Indigenous Peoples*. Retrieved from <http://www.un.org/esa/socdev/unpfii/en/declaration.html>.
- Vakhtin, N. B. (2001). *Iazyki narodov severa v XX veke*. Saint Petersburg: D. Bulanin.
- Vakhtin, N. B. (1992). K tipologii iazykovykh situatsii na krainem severe (predvaritel'nye issledovaniia). *Voprosy iazykoznanii* 41 (4). 49-59. Available at <http://www.ruslang.ru/agens.php?id=vopjaz>.

# MIGRATION IN THE ARCTIC

Timothy Heleniak

*People have been migrating to, from, and within the Arctic regions for centuries. Because of the small overall population size and small size of settlements, migration has a significant impact on overall population change and changing human capital in the Arctic. Much of the migration in the Arctic is driven by changing resource availability. This is true of the migration of Arctic indigenous peoples as well as the movements of outsiders. The various booms and busts of resources drive much of the migration in the Arctic, though climate change is having an increasing impact in some settlements. This chapter examines both internal and international migration movements in the Arctic. Internal flows are those within Arctic countries and regions and include movements up the urban hierarchy from smaller to larger settlements which is the predominate trend. International migration are flows to and from the Arctic from other countries. Flows of people from outside the Arctic to work in resource extraction projects have increased in recent years. Movement of Arctic natives to outside the Arctic has also become common resulting in a large Arctic diaspora population. Following discussion of broad migration flows is a disaggregation of those flows by age, gender, and level of education, key factors affecting human capital in Arctic regions and settlements. The focus of the paper is on how migration flows impact human capital in the Arctic both positively and negatively. Policies of Arctic countries and regions towards migration is examined as the state plays a larger role in impacting the spatial distribution of the population than elsewhere.*

## Introduction

Since the time when the first humans crossed the Bering land bridge following the retreat of the last ice age, migration has played a large role in shaping the size, distribution, and composition of the Arctic population. The overall population of the Arctic is quite small and the sizes of even the largest settlements are not very large compared to those elsewhere in the world. Thus, the movement of people into or out of the settlements or regions in the Arctic has an enormous impact on the size and composition of the populations. This chapter provides an overview of recent trends and patterns of migration in the Arctic. It begins by examining some of the main factors influencing

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migration in the Arctic, followed by a comparative look at migration across the region, followed by a region-by-region analysis of migration across each Arctic region.

### **Factors Influencing Migration in the Arctic**

Migration is defined and usually measured as a permanent change in residence. Migration is referred to as an investment in human capital across space - people migrate in order to improve their quality of life. People migrate to, from, and within the Arctic for the same reasons they migrate elsewhere in the world. The neoclassical economic approach is the oldest theory of migration and holds that income differentials between regions are why people migrate from low-income to high-income regions (Weeks, 2008). Among Arctic regions, and between them and the southern regions of the Arctic countries, there are enormous income differences which drive people to migrate to and from the Arctic. The overall gross regional product (GRP) per capita in the Arctic in 2005 was \$30,000 (USD) (Glomsrød & Aslaksen, 2009). In the Khanty-Mansiy okrug of West Siberia and the Northwest Territories of Canada, the GRP was over \$70,000 per capita. Using the example of the Russian Arctic, the Khanty-Mansiy okrug is the main region for the oil extraction in Russia which is driving so much of the country's overall economic growth. The per capita GRP is \$65,000 in the Yamal-Nenets okrug in West Siberia, the main region for natural gas production in Russia. Because of the high incomes in these two West Siberian regions, they are the only two regions in the Russian Arctic which have experienced net in-migration in the post-Soviet period, while the rest of the Russian Arctic has had considerable depopulation from out-migration. The per capita GRP in much of the rest of the Russian Arctic is less than \$15,000, evidence that two divergent northern economies have developed leading to quite different migration patterns.

Incorporating climate change and the impact that it could play in migration in the Arctic is rather new and thus less well-studied, though the body of knowledge is increasing rapidly. The diversity of potential impacts of "climigration" across the world have hindered development of a unified theory and has also lead to a wide variety of policy responses. Climate change can make some Arctic regions more accessible while rendering others nearly uninhabitable because of reduced sea ice destroying coastal communities or thawing permafrost ruining the infrastructure of inland settlements. Many of the coastal communities in Alaska are facing threats from increased erosion and will likely be forced to move their entire communities in the near future but rising costs, bureaucratic inertia, and lack of community consensus as to destinations are preventing movements (Schweitzer & Marino, 2005). Eighty-six percent (184 of 213) of all villages in Alaska are experiencing problems related to flooding and erosion (Harwood, Carson, Marino, & McTurk, 2011). Some of these communities are receiving considerable national and international attention and are held up as poster children for climigration (Arctic Council, 2004). Many of the coastal villages probably should not have been selected as the sites of permanent settlement as the ancestors of the current residents only used these sites seasonally (Bronen & Chapin, 2013). However, decisions were made by the U.S. government in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries to consolidate populations into these locations in order to build schools and provide schooling to Native children. Barge accessibility to be able to ship in construction materials was a key factor in site selection. There is currently no agency with the authority to relocate all the public and private infrastructure of

a community threatened by climate change hazards and to assist with effective relocation in a new location. In large Arctic urban centers such as those in Russia, rapidly thawing permafrost is causing infrastructure to collapse and become unusable at an increased rate (Jaycen, 2014). While this doesn't lead to immediate migration, if a large enough portion of the infrastructure becomes uninhabitable, it could lead to the need for relocation. It should be noted that in both the cases of coastal Alaska and urban centers in Arctic Russia, that the impacts of climate change on migration are more of a future threat and that the populations of some of the most erosion-threatened Alaskan communities are currently stable or are growing in population (Hamilton L. , 2014; Hamilton & Mitiguy, 2009).

The state plays a role in attempting to influence the spatial distribution of the population everywhere but more so in the Arctic, especially vis-à-vis indigenous peoples who have been forcibly moved, consolidated into unfamiliar urban settlements, and had their children placed into boarding schools. Since Arctic regions are peripheral to the main population and economic centers of the Arctic states and costs are high, the subsidization or lack thereof of transportation, consumer goods, and wages plays a role in migration and the distribution of settlements across the Arctic. For example, in the Canadian North, decreases in federal transfers in recent decades and the withdrawal of the state from economic and social planning led to increased hardship in smaller villages, which lead to their abandonment and concentration of the populations into larger communities (Southcott, 2010).

Migration is a rather complex phenomena and there is not one unified theory to explain why people migrate. Different disciplines approach migration differently, have different research questions, and approach the study of migration at different levels of analysis (Brettell & Hollifield, 2000). Thus, in addition to income, climate, and the role of the state explaining migration, there are a variety of non-income factors that need to be considered such as the availability of housing, education, health care, and other social services, the availability of jobs appropriate to one's skill level and preferences, and social and family ties.

## **Comparisons of Migration Across the Arctic**

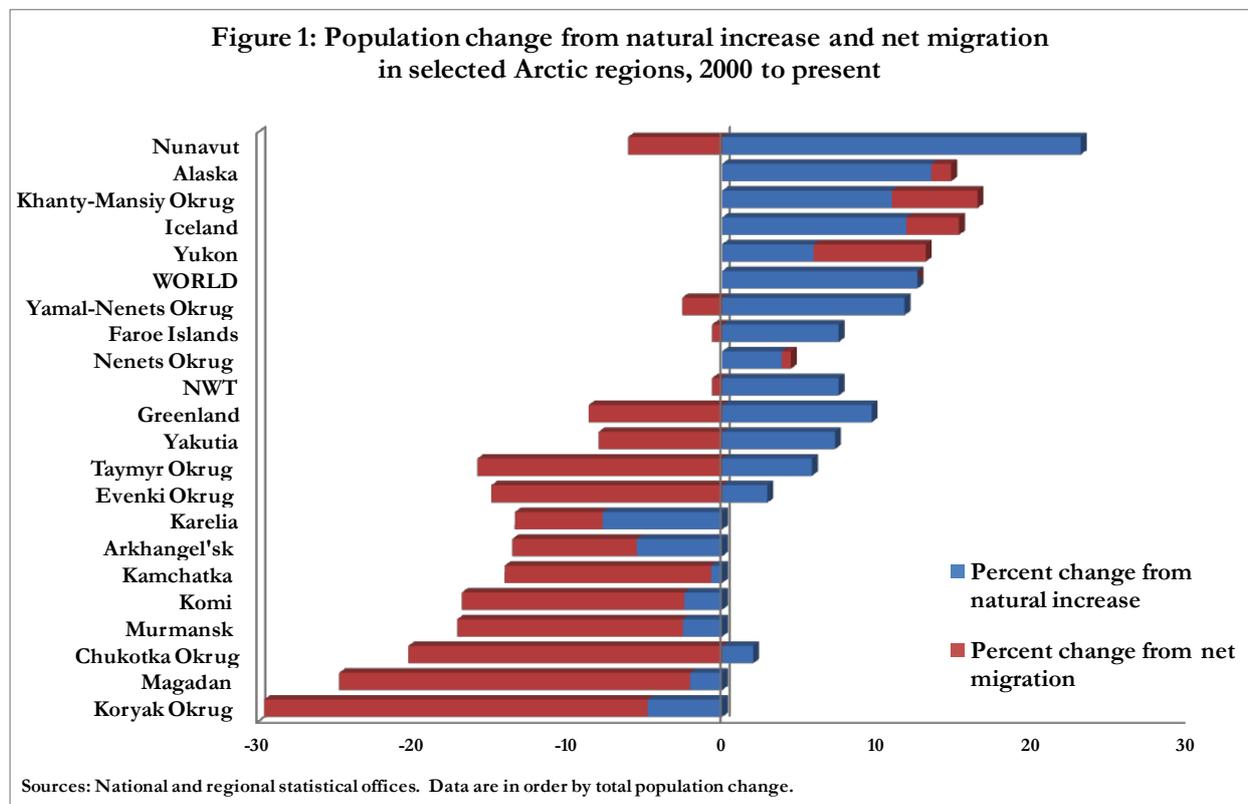
This section compares migration across the Arctic for several key indicators – net migration and natural increase, place of birth, age and gender.

### *Arctic Regions by Natural Increase and Net Migration*

Population growth, or decline, for any settlement, region, or country can be disaggregated into natural increase or decrease and net migration. Natural increase is the difference between the number of births and the number of deaths while net migration is the difference between the number of in-migrants and out-migrants. Whether net migration is positive into a region (more people coming into a region than leaving) or negative (more people leaving the region than coming into it) has primarily to do with economic opportunities in the region versus opportunities elsewhere, as noted above. Because migration tends to be age selective among people in the young-adult ages when mobility is highest, Arctic regions gaining people from migration tend to gain large numbers of people in the young-adult ages, and their children since the young-adult ages are also the

prime child-bearing ages. Depending on the nature of economic activity there might be a significant imbalance in the gender ratio among the incomers, which is certainly the case in many Arctic regions and communities. Demographically, this tends to keep the population of a region quite young, in addition to other economic influences such as being a boost to economic growth. On the other hand, regions experiencing population declines from migration are losing large numbers of people in the young adult ages, exacerbating population decline and serving to dampen economic dynamism. As will be illustrated, many Arctic regions and settlements are on the extremes of population change from high rates of in-migration or out-migration.

Figure 1 shows population change in the Arctic disaggregated into natural increase and net migration for selected Arctic regions since 2000.<sup>1</sup> Nunavut has grown the most of any Arctic region because its young age structure and high fertility have led to high natural increase, which is slightly offset by net out-migration. Alaska, the Khanty-Mansiy okrug, and Iceland have similar patterns of high natural increase and moderate in-migration as all three regions have rather prosperous economies. (It should be noted that Alaska is a large and demographically heterogeneous region with a majority of the population residing in a few large sub-Arctic urban centers. Generally, the North Slope, Nome, and Northwest Arctic boroughs are considered Arctic for analytical purposes. These, along with other rural boroughs generally have high natural increase, combined with net outmigration. See Hamilton, Lammers, Glidden & Saito, 2014.) In Yukon, population growth was due equally to natural increase and net in-migration. These were the only three Arctic regions which grew faster than the global rate, which was all obviously due to natural increase.



The population of the Yamal-Nenets Okrug grew because of natural increase due to its younger age structure. At the same time, there was net out-migration from the region in spite of its strong economy from gas production. The Northwest Territories also had a similar pattern of natural increase combined with out-migration and is actually seeking to attract workers (CBC News, 2014).

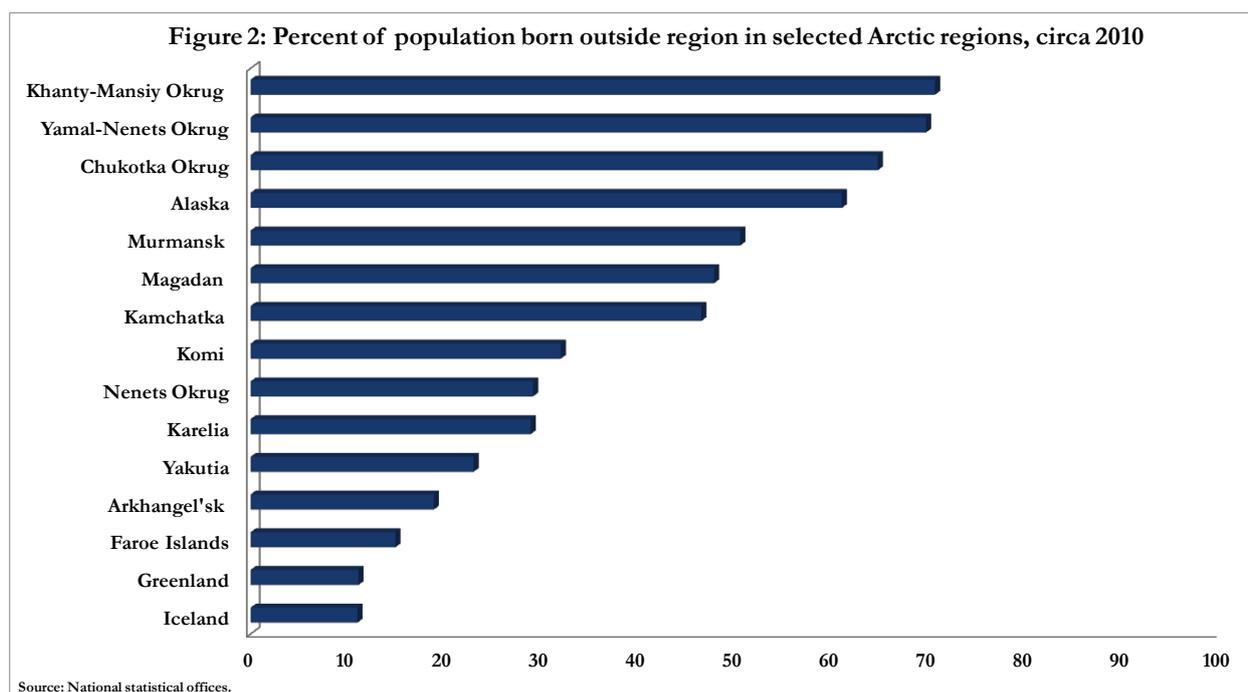
Greenland's population stayed about the same over the period because the natural increase of the country's young population was offset by the same amount of net out-migration. Yakutia has a similar pattern to that of Greenland. All other regions of the Russian Arctic had population declines, some quite steep, mostly due to the continued large exodus of peoples from the region. In a few of the smaller homelands of Arctic indigenous peoples such as the Taymyr, Evenki, and Chukotka okrugs, moderate natural increase slightly offset the large out-migration. In addition to overall population decline, the populations of these regions are aging because much of the migration is among the highly mobile young working ages and losing some of its most highly-skilled people.

### *The Arctic as a Region of Outsiders*

The populations of the Arctic are made up of large numbers of people who originated from outside the region. This has both positive and negative consequences. On the positive side, migrants tend to be younger, better educated, and more entrepreneurial thus bringing new energy and ideas to the region. On the negative side, people who migrate once tend to use migration as a strategy of adaptation in the face of changing circumstances or declining economies. Of the 1.4 million persons who migrated from the Russian North during the first decade of the economic transition that so transformed the region, 1.3 million were people who were born and had social ties elsewhere (Heleniak, 2009).

In 2010, in the highly mobile United States, 41 percent of the population were born outside the state where they are currently residing, including 13 percent who are foreign born (Ren, 2011). In Alaska, 61 percent of the population were born outside of Alaska, including 7 percent who were born abroad (Figure 2). Among U.S. states, only Arizona, Florida, and Nevada had higher shares born outside of these states. According to data from the 2006 Canadian census, all three Arctic regions have had higher portions of their populations migrate over the previous 5-year period than the national average. Globally, 3 percent of the world's population resides outside their country of birth. The data for Greenland, Iceland, and the Faroe Islands show that percent of the population born outside of these countries are respectively 11, 11, and 15 percent, much higher than the global average.

Like the other Arctic countries, Russia has a large foreign-born population. The 11.2 million foreign-born persons in Russia are the second-largest stock in the world after the United States. The regions of the Russian Arctic have large numbers of people who were born either elsewhere in Russia or outside of Russia.



In 2010, for all of Russia, 31 percent of the population were born outside the region they were living in, of which 8 percent were foreign-born. For all Arctic regions, the percent born outside the region were much higher. The highest shares of outsiders were in the Khanty-Mansiy and Yamal-Nenets okrugs, where 70 percent were born outside the region. All of the Arctic regions also had much higher foreign-born populations. Along with Moscow and St. Petersburg, many of the periphery regions in the Arctic and Siberia have the highest rates of migration turnover. In these regions there are high levels of both in-migration and out-migration and there is a high correlation between the two indicating considerable migration turnover in the Arctic regions, and a quite footloose population.

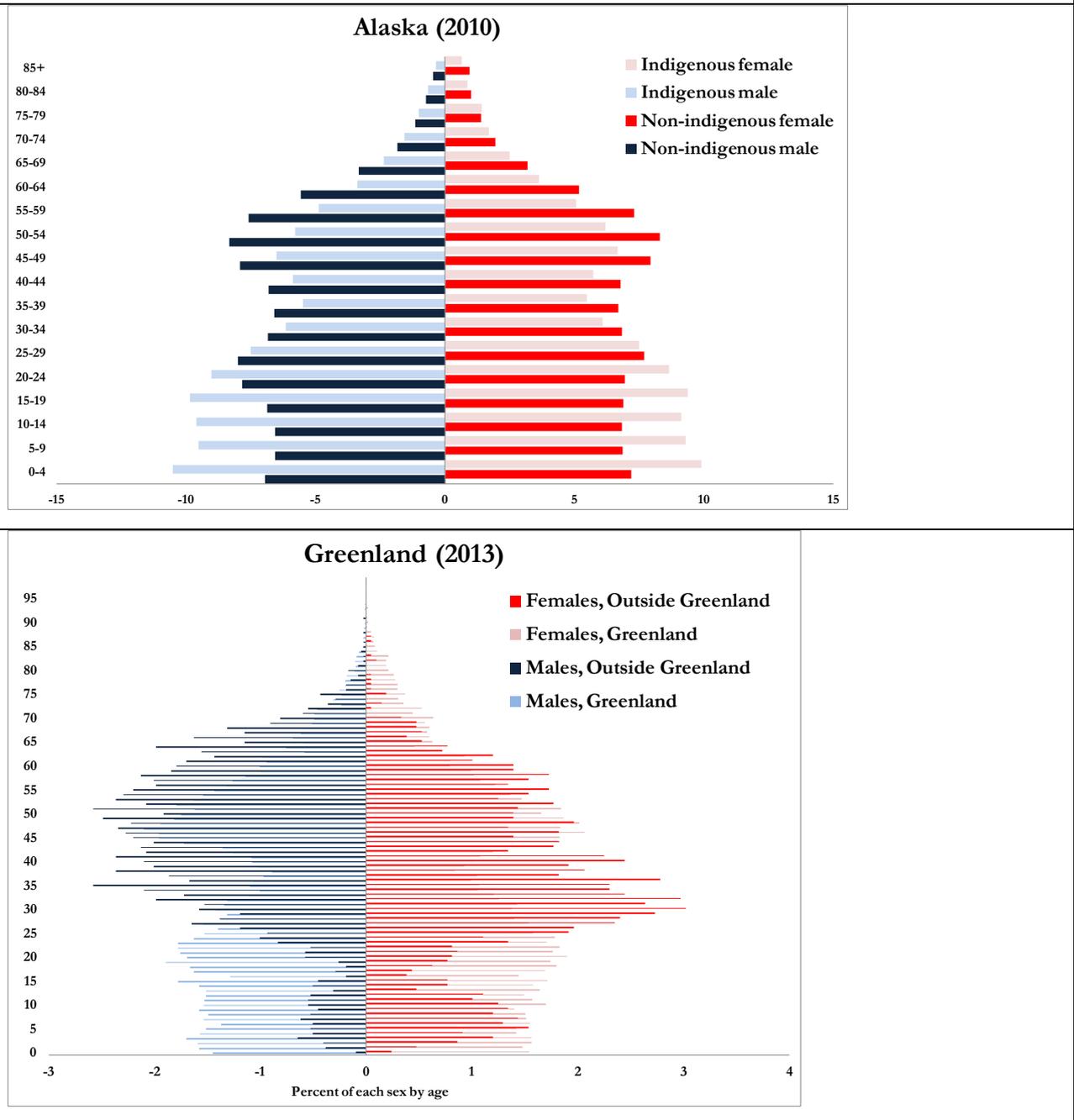
### *Age Structure of Migration in the Arctic*

People who migrate are quite selective and distinct by age, level of education, level of risk taking and entrepreneurship, and in some cases, gender, from populations who do not migrate. People are most mobile in their young adult ages when they are starting their careers and starting families. This high mobility of migrants to the Arctic can be seen by contrasting the age structures of 'natives' and migrants in two Arctic regions – Alaska and Greenland (Figure 3a & 3b). The two examples are meant to be illustrative and not necessarily comparable. Because of the different ways 'native' is defined in Alaska and Greenland (and elsewhere in the Arctic), a strict comparison cannot be made.

The Alaska Native population has a much younger population as indicated by the much larger cohorts of persons under age 20, 39 percent of all Alaskan Natives against 27 percent of non-natives. Starting at age 20, the non-indigenous population becomes relatively larger in part because these are the most mobile age groups when young people begin to migrate to Alaska in large

numbers. Non-indigenous males also have a higher male sex ratio than indigenous, 110 males per 100 females against 102, as migrants to Alaska remain predominantly male.

**Figure 3: Age-sex composition of Natives and non-natives in Alaska and Greenland**



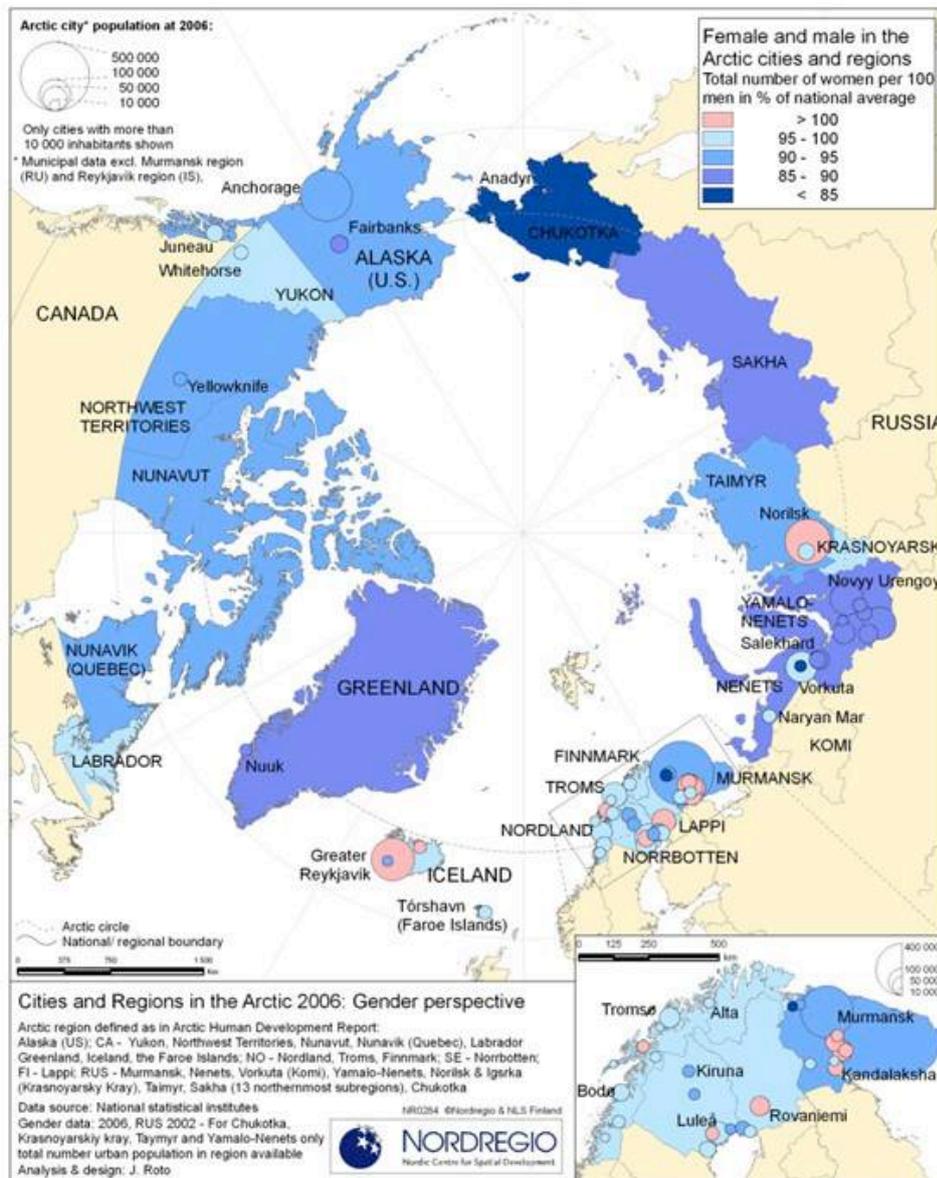
**Sources and notes:** Alaska, Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; U.S. Census Bureau; and National Center for Health Statistics. The indigenous population in Alaska are those who designated themselves to be American Indian or Alaskan Native in the census. Greenland, Statistics Greenland.

There are similar differences in the age and sex compositions in Greenland, between those born in Greenland and migrants who were born outside of Greenland. Thirty-one percent of those born in Greenland are below 20 against only 12 percent of those born outside. For persons not from Greenland, it is obviously a place of work as 80 percent of those born outside Greenland are in the working ages of 20 to 64, versus 61 percent of those born in Greenland. Further demonstrating that Greenland is a place of work for those from outside the country is that the male-female gender ratio is 200 males per 100 females for those born outside the country while it is a more expected 104 males per 100 females for those born inside Greenland. These differences are especially pronounced from age 38 and older as the gender ratio for those born outside the country is 2 or 3 males per each female.

Arctic regions tend to have higher male sex ratios than the southern regions of the Arctic countries because of gender-specific in- and out-migration trends. Figure 4 shows the gender composition of the population by region in the Arctic (using the regions used in the Arctic Human Development Report and shown relative to the national averages). Regions in blue have higher male sex ratios; the darker the shade of blue, the higher the male sex ratio relative to females. Regions in pink have higher female sex ratios. As can be seen, the majority of regions in the Arctic have significantly higher male sex ratios than the national averages. Only a few of the larger urban settlements, with more diversified economies, have high female sex ratios.

This is due to two gender-specific migration trends. The first is that because of the economic structure of the Arctic, with an emphasis on resource extraction, transportation, construction, and fishing – typically more male occupations – more males tend to migrate to the region than females. In the early days of outsider migration to the Arctic, the flows were significantly more male. According to the 1900 census for Alaska, at the time of Alaska Gold Rush, there were 258 males per 100 females. The male sex ratio steadily declined as more families moved to the area but then increased again to 162 males per 100 females in 1950 with the migration of predominantly-male military personnel during World War II and the onset of the Cold War. Again, a pattern of more permanent settlement followed including wives and children which lower the male sex ratio. A similar pattern of high male gender ratios in the period of initial contact and exploration took place across the Arctic. However, as the economies of Alaska and other Arctic regions have diversified the percent male has declined. The second trend is that many females in the Arctic are becoming more educated than males and seeking jobs in the larger cities or even outside the Arctic (Rasmussen, 2011). Women across many Arctic regions are gaining the necessary skills to compete in the knowledge economy. This allows women in the Arctic to compete in a different and wider labor market, which often takes them out of the Arctic. This outmigration of women can have negative consequences on life in smaller, rural areas in the Arctic where the deficit of women is most pronounced.

Figure 4: Gender composition of the Arctic, 2006



## Major Migration Trends in Each Arctic Region

This section reviews past and current migration trends in each Arctic region.

### Alaska

Between the time of the purchase of Alaska from Russia in 1867 and the Alaska gold rush in 1897, the population grew very little. In the first census conducted in 1880, the population of Alaska was 33,426 of which only 430 were white settlers (Sandberg, 2013). The discovery of gold in Alaska

caused the first of many huge influxes of people into the state. Because mining primarily attracted men, this also caused a jump in the male-to-female sex ratio from 150 males per 100 females in 1890 to 258 in 1900. While the male sex ratio has since declined, with the 109 males per 100 females in 2010, this is the highest male sex ratio of any state in the country.

The influx of outsiders starting with the gold rush would cause a steady decline in the percent Alaskan Native (Figure 5). The percent Alaskan Native was 93 percent in 1819 and steadily declined to 73 percent in 1890 (Levin, 1991). It dropped considerably in 1900 to 46 percent with the influx of outsiders following the gold rush, when the population more than doubled. There would be another large decline from 45 to 26 percent between 1940 and 1950 when the population increased from 72,000 to 129,000 with the influx of military during WW II and the start of the Cold War. Many soldiers sent to Alaska during the war decided to stay. The population has steadily increased to currently 710,000 as a result of the oil pipeline in the 1970s and other factors. The percent Alaskan Native currently stands at 17 percent, which while low by historical standards, is a slight increase over recent decades.

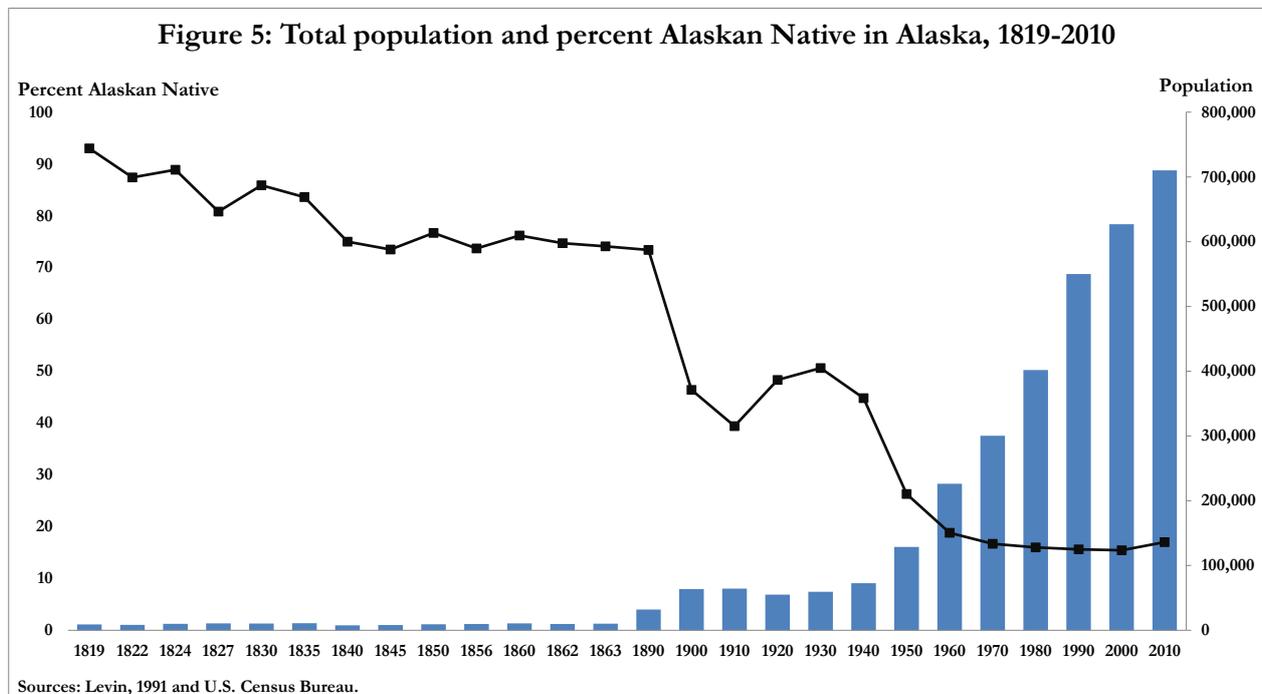
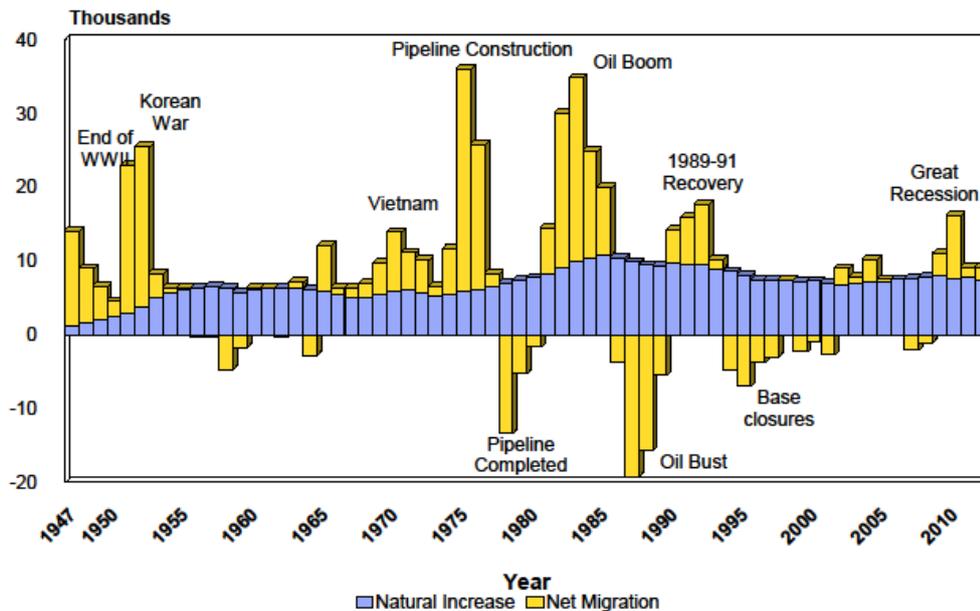


Figure 6 illustrates the importance of migration as a component of population change for Alaska. Even with a relatively larger population than many other Arctic regions, migration is a much larger and more volatile component of population change than natural increase. A number of trends in the economy of Alaska and the rest of the United States drive patterns of migration in the state. Historically, Alaska has gained from migration from the rest of the United States when unemployment in the rest of the country is high. The economy of Alaska tends to be counter-cyclical to that of the U.S. as a whole. After World War II, there was a build-up military personnel in the state. There was another buildup during the Vietnam War followed by a high influx during the construction of the Alaska pipeline in the 1970s, followed by a large outflow when construction was

completed. The state had another large influx of migrants during the oil boom of the 1980s when prices were high, followed again by an outflow when prices fell. There was a smaller outflow from military base closures during the 1990s. Alaska experienced a small inflow during the Great Recession of the late 2000s.

**Figure 6:** Components of Population Change for Alaska, 1947-2012

### Components of Population Change for Alaska, 1947-2012



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

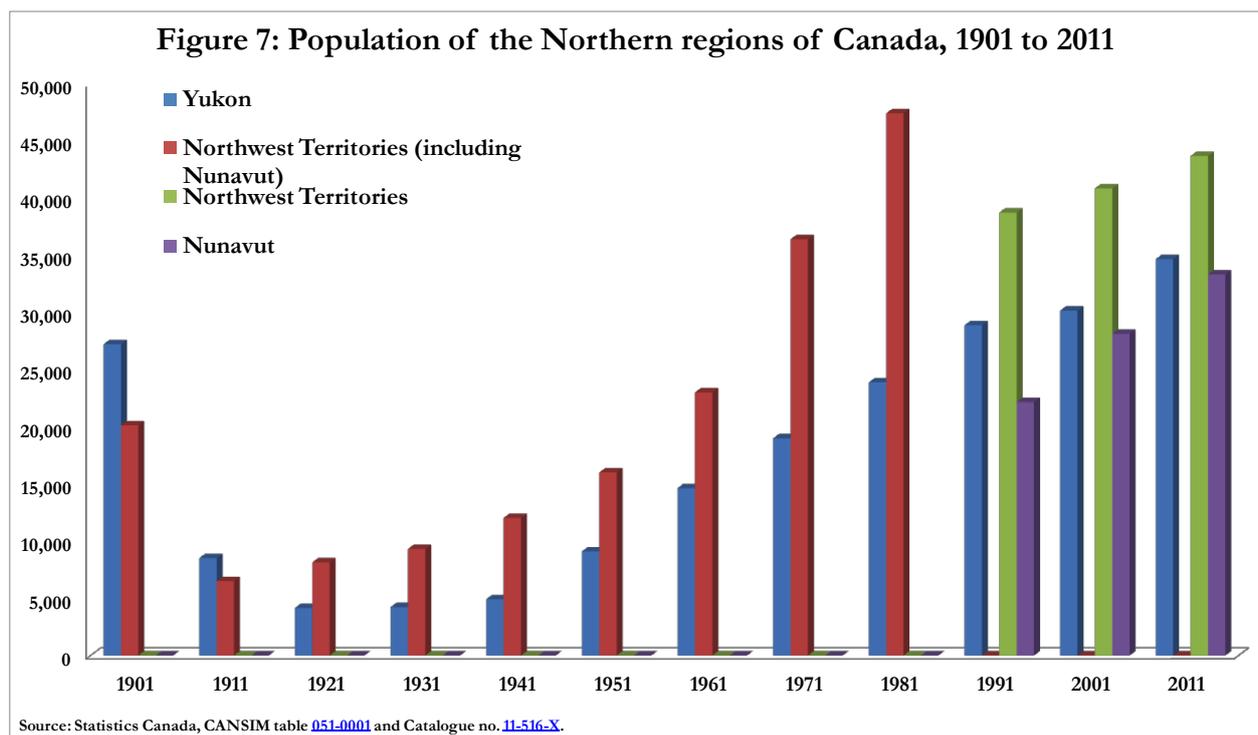
Like other Arctic regions, there has been increased concentration of the population into the largest urban settlements. In 1960, 36 percent of the population of Alaska lived in Anchorage. This share has steadily increased to about 42 percent currently. Anchorage's share has leveled off as there has been increased population growth in the Matanuska-Susitna Valley, which is basically a suburb of Anchorage. Combined with Fairbanks, 55 percent of Alaska's population resides in these two settlements. There has been a long-term trend of depopulation of rural areas in Alaska from a combination of high energy prices, high living costs and large Permanent Fund dividend payouts (annual payments to all residents of Alaska from oil tax revenues). The share of Alaskan Natives who reside in the five most-populous boroughs increased sharply from 42 to 49 percent between 2000 and 2010 (Sandberg, 2013). This is not to say that Alaskan Natives are completely abandoning subsistence lifestyles and villages for wage jobs in urban centers but with improvements in transport and communications, there are certainly becoming more aware of opportunities elsewhere. Similar to other Arctic regions, it is women who are moving out of the villages in large numbers, a trend which continues (Hamilton L. C., 2010; Martin, 2009; Howe, Huskey, & Berman, 2014). According to both survey and census data, young women in villages tend to view their future career paths

leading them towards larger urban centers in Alaska and elsewhere. They tend to gain more education, which many young men view as a more female activity. In four regions of rural Alaska – Bethel, Nome, the North Slope, and Northwest Arctic – the bulk of settlements of less than 1,000 people have less than 50 percent female among those ages 20 to 39 years. In the hub towns in each of these regions – Bethel, Nome, Barrow, and Kotzebue – women outnumber men in this age group as young women take advantage of job and educational opportunities more than young men.

In a trend seen elsewhere in the Arctic, there are growing numbers of Alaskan Natives residing outside of Alaska. In 2010, more than a quarter of persons who identified as Alaskan Native lived outside of Alaska, with 9 percent of the national total residing in Washington State, the closest state and the first stop of many flights to and from Alaska (Hunsinger & Sandberg, 2013).

### *Canadian North*

Population growth from migration in the Canadian North is subject to the same boom and bust patterns found elsewhere in the Arctic. In the first population census following the Klondike Gold Rush, the population of Yukon had swelled to 27,219 and that of the Northwest Territories (which then included Nunavut) to 20,129 (Figure 7).



In what had been previously been a largely indigenous population (including North American Indian (First Nation), Métis, and Inuit), the percent non-indigenous was 85 percent of the population. Following realization that most miners would not make their fortunes in the North, the population fell to less than one-third of its 1901 level by 1911. The percent non-indigenous would continue to decline, reaching a low of just 14 percent of the northern population in 1931. The population of the NWT would not reach the levels seen during the Gold Rush period until 1961 and the Yukon would

not reach that level until 1981. In recent decades, both territories have experienced continued population growth fueled in part by migration and also from having high fertility because of their younger age structures from having large migrant populations. The newly-formed territory of Nunavut is also growing but because of the higher fertility of the predominantly indigenous population as there has been steady out-migration from the region. With increased migration, the share indigenous has declined and the entire Canadian North is now roughly half indigenous and half non-indigenous.

Due to an increase in migration, Yukon had the highest population growth of any Canadian province or territory between the 2006 and 2011 censuses, growing by 11.6 percent (Yukon Bureau of Statistics, 2013). While some of this high growth is due to its small population base, mostly due to expansion of mining, Yukon has had consistent population growth over the past 50 years, declining only between the 1996 and 2001 censuses due to the closure of the Faro mine. Over the decade since 2003, Yukon has had positive net migration into the region each year (Yukon Bureau of Statistics, 2009). An illustration of the sizeable impact of migration on small Arctic populations is that in 2009 in Yukon, natural increase added 586 people to the population (380 births and 206 deaths), while migration added 652 (2,785 in-migrants and 2,133 out-migrants) (Yukon Bureau of Statistics, 2010). In 2010, 25 percent of females and 28 percent of males had not been residents of Yukon five years earlier (Yukon Bureau of Statistics, 2013). Showing the age selectivity of migration, young adults between 25 and 35 are the least likely to have been in the population five years earlier. In a trend similar to other Arctic regions, 80 percent of this growth was concentrated in the capital of Whitehorse. In 1971, the number of people in Whitehorse surpassed the number of Yukoners in the rest of the territory; that ratio has been growing ever since. Currently, 68 percent of the territories population resides in Whitehorse.

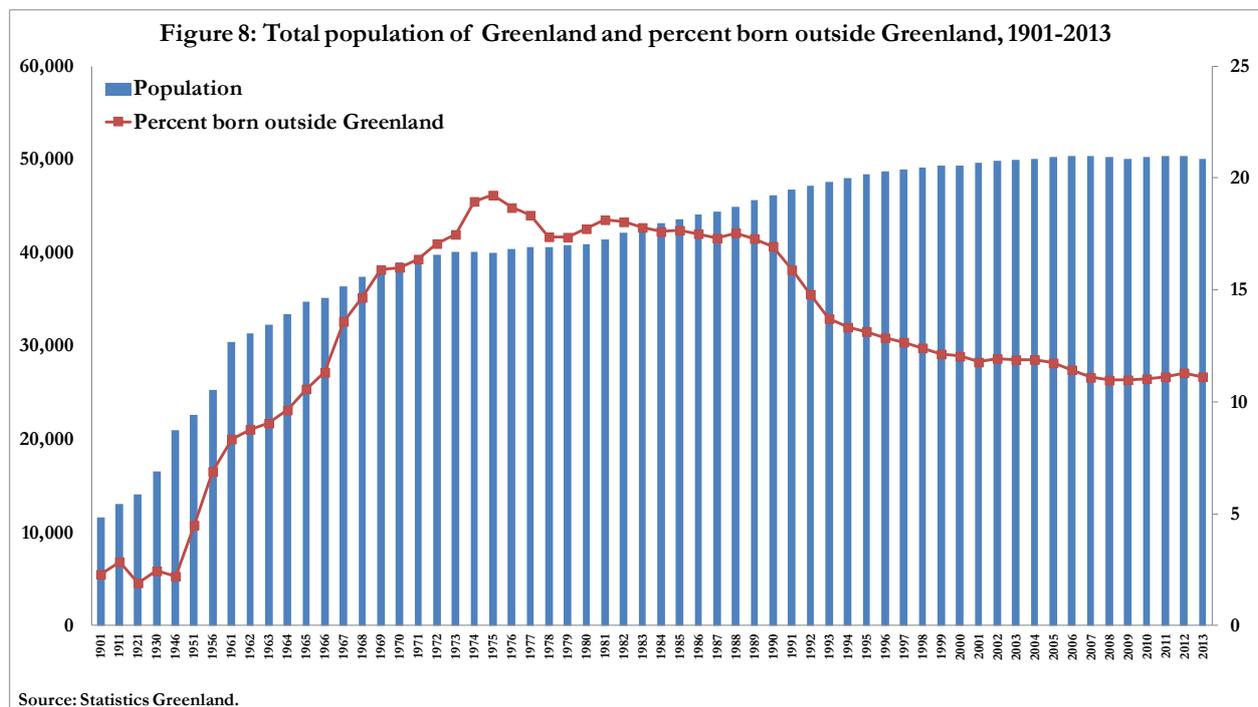
In the NWT, the population has remained at the same level since 2006 as natural increase has been offset by approximately the same amount of net out-migration and the population now stands at 43,459 (NWT Bureau of Statistics, 2014). The high natural increase is attributable to the NWT having one of the youngest populations of all provinces and territories of Canada. Going back further to 1992, there have only been 5 of 22 years in which there has been net in-migration to the region and there has been an overall net out-migration of 7,474 people over this period, which is a remarkable amount for such a small population. The general pattern over the past decade has been population losses from migration to the other provinces and gains from international migration. Diamond and gold mining projects which drive a lot of the migration are proceeding slowly or are being cut back. Similar to the trend in the Yukon, there has been increased concentration of the population into the capital of Yellowknife. The share of the territory's population residing in Yellowknife has increased from 32 percent in 1981 to 46 percent in 2011 (NWT Bureau of Statistics, 2012 February 8).

The migration and population patterns in Nunavut are similar to those in the NWT. Over the past decade, there have been 6,374 more births than deaths, attributable to the young age structure and high fertility of the largely Inuit population. This has been combined with a net out-migration of 1,671 causing considerable population increase. Nearly all of Nunavut's migration exchange is with

other provinces of Canada as there is very little international migration. Ontario is a large and increasingly important source and destination of migrants from Nunavut. In 2013, 32 percent of inter-provincial in-migration was from Ontario and 37 percent of out-migrants went to Ontario (Nunavut Bureau of Statistics, 2014). Because of a quite deliberate policy to decentralize jobs in Nunavut, Iqaluit's share of the territory's population has declined from 21.1 percent in 2006 to 20.3 percent in 2013, thus bucking a pattern seen in most other Arctic regions.

### Greenland

The population of Greenland grew slowly and remained largely Inuit until Danes started to migrate to the island. In 1901, the population was 11,893 and only 2.3 percent were born outside Greenland (figure 8).



The population grew largely because of the higher fertility of native Greenlanders and improved mortality but also partially due to the influx of outsiders from Denmark. The percent of the population born outside Greenland peaked at 19 percent in 1974 when home rule was introduced and there were fewer positions available for Danes. This period of a large share of Danes also marked the beginning of high female outmigration when Greenlandic women married Danish men who tended not to stay in Greenland permanently (Hamilton & Rasmussen, 2010). The percent of the population born outside Greenland has continued to decline as Greenlanders assert more control over their economy and government affairs and now stands at 11 percent. The population of Greenland reached 55,000 for the first time in 1989 and has grown quite slowly since then as natural increase has been almost exactly offset by out-migration. The total population size has remained remarkably stable at just over 56,000 for the past fifteen years. With increased contact with Denmark and Danish citizenship, it has been relatively easy for Greenlanders to migrate to Denmark. In 2007,

there 13,482 Greenlanders living in Denmark, meaning that roughly one-quarter of the Greenlandic-born population resides outside the country. Again, this is a predominantly female out-migration as the ratio is 70 males to 100 females among this diaspora population, contributing to the relatively higher percent male in Greenland. With 112 males per 100 females, Greenland has the highest male sex ratio of any region in the Arctic (Heleniak, 2014).

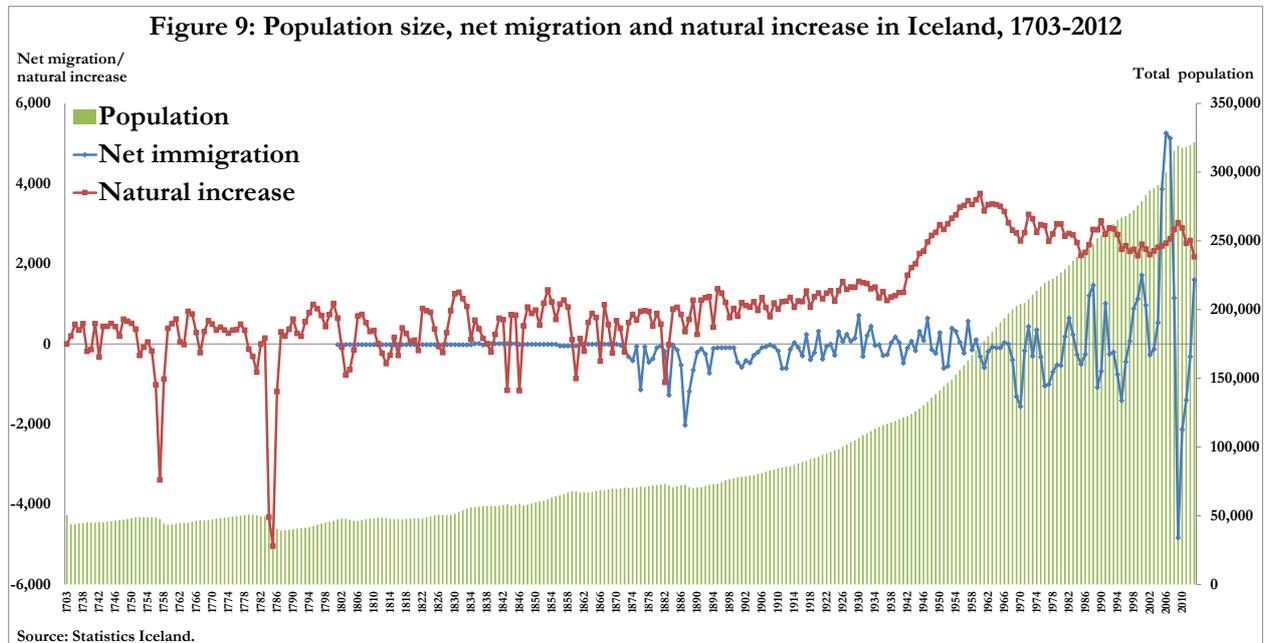
Greenland has had a similar internal migration pattern as many other Arctic regions with depopulation of many rural villages and increased concentration into larger settlements, usually the capital. One factor driving this trend in Greenland has been a deliberate government policy towards centralization of government services because a decentralized system of settlements is expensive and faster and more dynamic growth can be achieved by focusing on the larger urban settlements. The policy of equal prices for consumer goods in all settlements was abolished in 1994 and in 2005, the equal price system for electricity and water was replaced by a more market oriented system causing huge price increases in smaller settlements and inducing some to migrate. The percent of Greenland's population living in Nuuk has grown from 17 percent in 1977 to 29 percent in 2013 (Statistics Greenland, 2014).

### *Iceland*

Throughout its history, Iceland has had wild swings in both natural increase and net migration (Figure 9). The years of large excesses of deaths over births were due to periodic crop failures and epidemics. Because of low natural increase, population growth was rather slow and Iceland's population did not reach 100,000 until 1926. Because of Iceland's geographic isolation, migration did not play a very significant role in population change in most of the 1800s (recording of international migration started in 1801). In the late 1800s, there was a similar emigration to the United States that took place from much of Europe. Starting in 1945 after the end of World War II, when Iceland became independent from Denmark, a period of relative prosperity and economic transformation began as did much higher natural increase which resulted in relatively rapid population growth, with the population reaching 200,000 in 1968 and 300,000 in 2007. In recent decades, migration has swung rather wildly between periods of net immigration and emigration depending on the fortunes of the Icelandic economy relative to others. During the boom years from 2004 to 2008, prior to the 2008 banking crisis, there was a net immigration of 15,921. In the years, 2009 to 2012, following the crisis, there was a net emigration of 8,692. Between 1961 and 2013, there was a net emigration of 23,658 Icelandic citizens and a net immigration of 27,524 foreign citizens. The foreign-born population in Iceland has increased from 4.6 percent in 1998 to 11.8 percent in 2009, before declining to 11.0 percent in 2013 (Statistics Iceland, 2014). In 2013, the largest group of foreign-born citizens were from Poland (9,404 or 2.9 percent of the entire population), many of whom came to work in various construction projects such as the aluminum smelter and associated hydroelectric development in east Iceland. This is down from a peak, as about 20 percent of the Polish-born population in Iceland left following the financial crisis of 2008.

The trend in internal migration in Iceland is similar to other Arctic countries with increased concentration into Reykjavik and the larger capital region. Reykjavik's share of Iceland's population

went from just 8.5 percent of the population in 1901 to 38.2 percent in 1990 and the larger capital region going from 10.5 to 57.1 percent over the same period (Statistics Iceland, 2014). Reykjavik's share peaked in the early 2000s at 39.4 percent and has declined slightly to 37.2 percent in 2013 in part because of continued growth in the larger capital region, which now contains roughly 60 percent of the country's population.



### *Russian Arctic*

The manner in which the centrally-planned economy of the Soviet Union went about developing the resources of its Northern and Arctic periphery regions was quite different from that of other Arctic countries (Hill, 2003). This resulted in a much larger overall population and much larger cities than in comparable Arctic regions elsewhere. According to Marxist theory, nature existed to serve the needs of humans. The Soviet Union had a number of examples throughout its history where this concept was put into practice. Probably the greatest example was its attempt to overcome the harsh climate and remoteness of the Arctic in developing the rich natural resources of the region which were so crucial to the Soviet economy and which remain vital to the growth of the Russian economy.

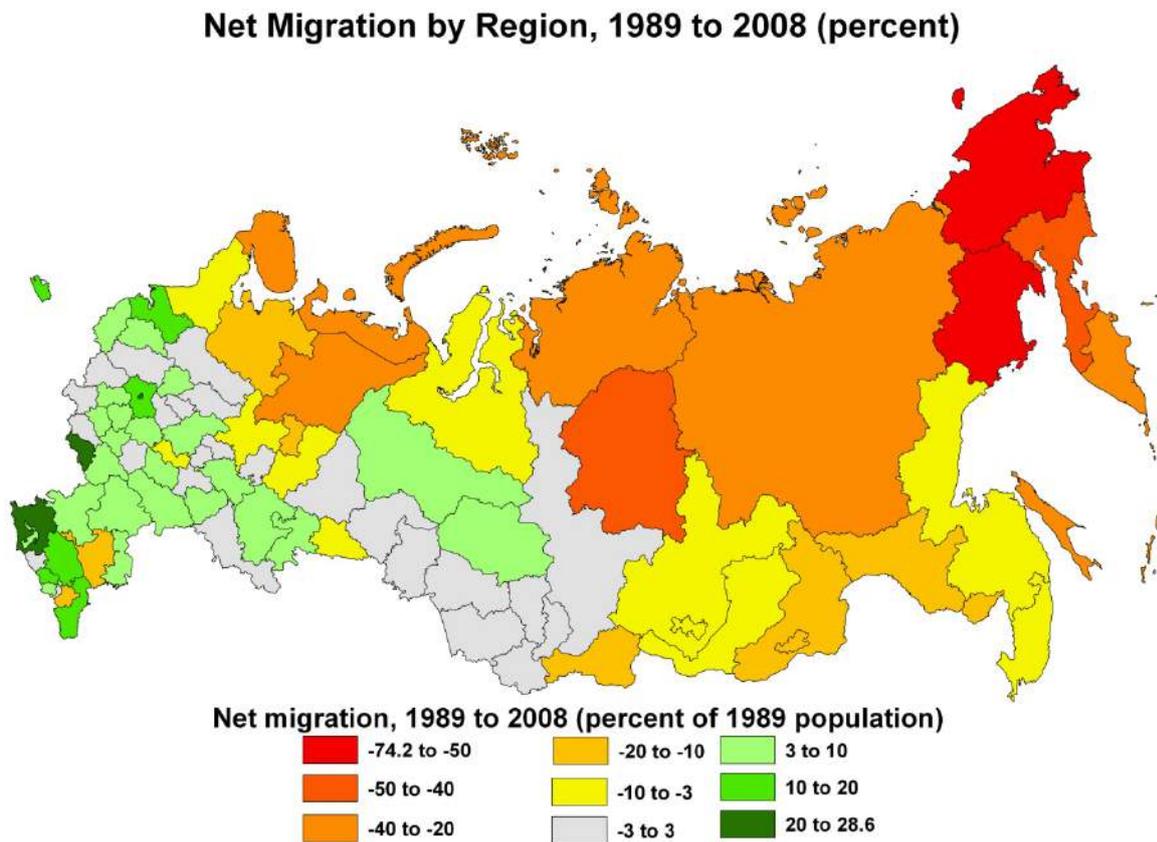
For planning, economic development, statistical and other purposes, the Russian government defines both a set of northern and Arctic region.<sup>2</sup> This section will examine migration trends in the broader fifteen regions classified as the Far North or simply the North.

The development and securing of a necessary labor force in the North proceeded in several overlapping stages (Heleniak, 2009). The first was through the use of forced labor which was a part of the GULAG system where millions were sent to Siberia and the Arctic to rapidly industrialize the Soviet Union starting at the time of the first Five-Year Plan in 1928. Later a system of wage

increments and other benefits were paid to lure people to migrate to and work in the North. Transport to the region and consumer goods were heavily subsidized. At the end of the Soviet period, all of the various subsidies for northern development were estimated to cost 3 percent of GDP. At that time, there were 9.5 million people living in the North and nearly 2 million in the Russian Arctic.

The breakup of the Soviet Union, liberalization of the society including freedom of movement, and the shift from a centrally-planned to a market economy caused a shift in the direction of migration in the North from moderate in-migration in the 1980s to rather large scale out-migration in the post-Soviet period. The role of the state in northern development decreased considerably and development became governed by market principles. Subsidies for transport, wages and benefits, and other necessities were largely eliminated causing a huge increase in the cost of living resulting in a large-scale exodus from the region (Figure 10).

**Figure 10:** Net Migration by Region, 1989 to 2008 (%)



Source: Rosstat, Demographic Yearbook (selected editions).

By 1990, all northern regions had more people leaving than arriving and this trend has continued past 2000, albeit at much lower rates than the early 1990s. The year of the greatest out-migration was 1992, the first year of the economic reforms and the year that prices were liberalized when the market cost of living in the northern periphery began to be felt. Over the entire period, all northern

regions except for the Khanty-Mansi Autonomous Okrug have had out-migration. Eleven of the fifteen northern regions have had one-quarter or more of their populations migrate out since 1989. The only exceptions in addition to the Khanty-Mansiy okrug were the Yamal-Nenets okrug and the Karelian Republic and Archangelsk oblast. The rates of out-migration increased to the east and in regions with smaller populations. At the extreme are Magadan, which saw an out-migration of 62 percent of its population and Chukotka, from which nearly three of every four persons migrated out causing the population to fall from 164,000 in 1989 to just 51,000 currently.

The population of the entire Russian North declined by 20 percent between 1989 and 2013, from 9.4 million to 7.6 million. Migration has been the main driving force of population change over the period of the economic transition, with a 22 percent population decline from migration. Pointing to the fact that two distinctly northern economies have developed during the post-Soviet, only two northern regions, the Khanty-Mansiy and Yamal-Nenets okrugs have had population increases since 1989. These are the two oil and gas producing regions of Russia. For the Khanty-Mansiy region, its population growth of 24 percent consisted of a natural increase of 19 percent and positive net migration of 4 percent. For Yamal-Nenets, its growth of 10 percent consisted of natural increase of 21 percent offset by outmigration of 12 percent. These two regions had by far the highest percent natural increase in the North because of the young age structure of their populations which result from having such large populations of in-migrants.

There was also a clear trend towards population concentration across the North as in all but three of the northern regions, the regional center increased its share of the region's population between 1989 and 2010. At the other extreme was the closure or abandonment of many smaller settlements in the North. Between 1989 and 2002, the number of settlements in the North declined by ten percent. At the time of the 2002 census, when census takers arrived, they found that 12.2 percent of villages were discovered to be ghost towns. These were settlements that had been previously been populated but which on census day were *bez naseleniya* (without population). An extreme example is that of Magadan, a key gold producing region. In the 2002 census, Magadan had the highest share of villages without people in Russia, 42 percent. In Magadan, the urban population declined from by slightly more than half from 326,000 in 1989 to 150,000 in 2010, while the rural population declined spectacularly from 60,000 to just 7,000 over the same period. While the population of the city of Magadan declined by a third from 152,000 in 1989 to 96,000 in 2010, its share of the region's population increased from 39 to 62 percent. Thus, now two-thirds of the total and urban population resides in the regional center of Magadan, with much of the rest of the large region very sparsely populated, an example of how the withdrawal of state support has caused the settlement structure to contract.

While this large migration represents an adjustment to the counterfactual size and distribution of a population in the Russian North that might have been if the region had been developed under market conditions, there was considerable path dependency in terms of both infrastructure and settlement structure as a result of decades of northern regional development under central planning. As with any migration stream, those who left tended to be young, more educated, and more capable,

leaving behind an older and less educated population without the resources or capability to migrate away from the region.

A variety of migration assistance programs were developed at the federal, regional, and enterprise levels to assist northerners to migrate away from the region. This was done because of their increased burden on the state but also partly for social reasons, as it was often those most vulnerable who had the least ability to move who were left behind. However, most of these programs had low take-up rates and were poorly funded and were thus able to assist with the out-migration of only a small portion of the northern population who wished to leave. Most of those who did migrate away from the region did so on their own with little state assistance. After more than two decades since the start of the economic transition, those who wish to leave the North have done so and the population size and settlement structure has stabilized.

In 2012, the population of the North declined by only 8,000 persons or 0.1 percent, the smallest rate of population decline in the post-Soviet period. The populations of the Nenets, Khanty-Mansiy, and Yamal-Nenets okrugs were all growing moderately. The populations of the Evenki Okrug, Sakha Republic, Chukotka Okrug, Kamchatka Oblast, and Sakhalin Oblast appear to have stabilized and are experiencing no change. The populations of the other northern regions continue to decline albeit at rather low rates.

While the direction of net migration for the North and most northern regions has been negative for most of the past two decades, the direction of the migration flows has hardly been unidirectional as there have been large flows both from and to the North. The northern regions have always had higher rates of migration turnover than the rest of Russia, meaning that more people are moving to, from, and within the North than the rest of the country. In 1993, near the peak year of net out-migration, for every 10 persons leaving the North, 6 people migrated to the region (Rosstat, selected years). By 2009, the ratio of in-migrants to out-migrants had risen to 8 to 10. Thus, while there are more people migrating away from the North than to the region, for many the North is still an attraction, at least temporarily. As was the case during the Soviet period, the population of the North is rather footloose and does not have a strong attachment to place, which has implications for human capital (Heleniak, 2009).

## **Conclusion**

Based on current migration patterns in the Arctic several trends about migration in the future can be identified. This is already the case in many Arctic regions. First, even though there is increased attention to the Arctic and increased resource development, much of the resource development requires rather small and concentrated workforces, thus with a number of local examples, there is not likely to be a huge influx of people to the Arctic in the foreseeable future. According to projections in the forthcoming AHDR, the population of the Arctic is projected to increase only slightly from 4.0 million in 2010 to 4.2 million in 2030 (Heleniak, 2014). The period of rapid growth of the Arctic population from migration seems to be subsiding. Between 2000 and 2010, the population of the Arctic actually declined slightly, by 56,000 people or 1.4 percent. Second, in spite of the overall decline in migration into the Arctic, with more countries becoming interested in the

Arctic, people from a wider variety of countries will come to the region, many as labor migrants. Third, as documented above in the section on migration in each Arctic region, there is a clear trend towards increased migration into the larger urban areas in the Arctic that is expected to continue.

## Notes

1. For the purposes of this chapter, the Arctic encompasses Alaska, the three northern territories of Canada – Yukon, the Northwest Territories, and Nunavut, Greenland, Iceland, the Faroe Islands, and the fifteen regions of Russia classified as the Far North. The number of Arctic regions shown in various tables differs because of data availability. This definition differs slightly from that used in the Arctic Human Development Report.
2. The entire territory of ten regions are classified as being in the Far North (Krainyy Sever) – Nenets Autonomous Okrug, Murmansk Oblast, Yamal-Nenets Autonomous Okrug, Taimyr Autonomous Okrug, Evenki Autonomous Okrug, Republic of Sakha (Iakutia), Chukotka Autonomous Okrug, Kamchatka Oblast, Koriak Autonomous Okrug, and Magadan Oblast. The Russian government classifies fifteen regions as belonging to the Far North on the basis that all or a majority of their territory is classified being in the Far North. In addition to the ten regions listed above, the following are also classified as the Far North – Republic of Karelia, Komi Republic, Arkhangelsk Oblast, Khanty-Mansi Autonomous Okrug, and Sakhalin Oblast. The city of Norilsk is also included this definition of the North. Russia also defines certain regions as being Arctic, which is a subset of those defined as northern. According to this definition, the Russian Arctic includes the territory of Murmansk Region, the Nenets, Chukchi and Yamalo-Nenets Autonomous Regions, the municipal formation of Vorkuta (Komi Republic), the municipal district of Norilsk, as well as several areas of Yakutia, two districts of Krasnoyarsk Territory and municipalities of Archangel Region (Marinelink.com, 2014). This is similar to the definition of the Arctic in Russia used in the *Arctic Human Development Report* (Arctic Council, 2004: 17-18).

## References

- Arctic Council. (2004). *Arctic Human Development Report*. Akureyri: Stefansson Arctic Institute.
- Arctic Council. (2004). *Impacts of a Warming Arctic: Arctic Climate Impact Assessment*. Cambridge, UK: Cambridge University Press.

- Brettell, C. B., & Hollifield, J. F. (2000). *Migration Theory: Talking Across Disciplines*. New York & London: Routledge.
- Bronen, R., & Chapin, F. S. (2013). Adaptive governance and institutional strategies for climate-induced community relocations in Alaska. *PNAS (Proceedings of the National Academy of Science)*. 110 (23): 9320-9325.
- CBC News. (2014, February 17). With population shrinking, N.W.T. seeks recruits. Retrieved February 17, 2014, from <http://www.cbc.ca/news/canada/north/with-population-shrinking-n-w-t-seeks-recruits-1.2540644>.
- Coulibaly, S. e. (2012). *Eurasian Cities: New Realities along the Silk Road*. Washington, DC: The World Bank.
- Dienes, L. (2002). Reflections on a Geographic Dichotomy. *Eurasian Geography and Economics*. 43(6): 443-458.
- Glomsrød, S., & Aslaksen, I. (. (2009). *The Economy of the North 2008*. Oslo, Norway: Statistics Norway.
- Hamilton, L. C. (2010). Footprints: Demographic Effects of Out-Migration. In L. Huskey, & C. Southcott, *Migration in the Circumpolar North: Issues and Contexts* (pp. 1-14). CCI Press and University of the Arctic.
- Hamilton, L. C., & Rasmussen, R. O. (2010). Population, Sex Ratios and Development in Greenland. *Arctic*. 63 (1): 43-52.
- Hamilton, L. (2014, May 30). Population dynamics of Arctic Alaska: A graphical library of demographic change in 43 towns and villages, 1990-2013. Retrieved from [https://www.academia.edu/7194811/Population\\_dynamics\\_of\\_Arctic\\_Alaska\\_A\\_graphical\\_library\\_of\\_demographic\\_change\\_in\\_43\\_towns\\_and\\_villages\\_1990-2013](https://www.academia.edu/7194811/Population_dynamics_of_Arctic_Alaska_A_graphical_library_of_demographic_change_in_43_towns_and_villages_1990-2013).
- Hamilton, L., & Mitiguy, A. (2009). Visualizing population dynamics of Alaska's Arctic communities. *Arctic*. 62(4): 393-398.
- Hamilton, L., Lammers, R., Glidden, S., & Saito, K. (2014, May). Population Dynamics of Arctic Alaska: A graphical library of demographic change in 43 towns and villages, 1990-2013. Retrieved from [https://www.academia.edu/7194811/Population\\_dynamics\\_of\\_Arctic\\_Alaska\\_A\\_graphical\\_library\\_of\\_demographic\\_change\\_in\\_43\\_towns\\_and\\_villages\\_1990-2013](https://www.academia.edu/7194811/Population_dynamics_of_Arctic_Alaska_A_graphical_library_of_demographic_change_in_43_towns_and_villages_1990-2013).
- Harris, C. D. (1970). *Cities of the Soviet Union: Studies in Their Functions, Size, Density, and Growth*. Chicago: Rand McNally and Co.
- Harwood, S., Carson, D., Marino, E., & McTurk, N. (2011). Weather Hazards, Place and Resilience in the Remote Norths. In D. Carson, R. O. Rasmussen, P. Ensign, L. Huskey, & A. Taylor, *Demography at the Edge: Remote Human Populations in Developed Nations* (pp. 307-320). Surrey, England and Brulington, VT: Ashgate.

- Heleniak, T. (2014). Arctic Populations and Migration. In *Arctic Human Development Report*. Akureyri, Iceland: Stefansson Arctic Institute.
- Heleniak, T. (2009). The role of attachment to place in migration decisions of the population of the Russian North. *Polar Geography*. 32(1-2): 31-60.
- Heleniak, T. (2009). The role of attachment to place in migration decisions of the population of the Russian North. *Polar Geography*. 32(1-2): 31-60.
- Hill, F. & C. Gaddy. (2003). *The Siberian Curse: How Communist Planners Left Russia Out in the Cold*. Washington, DC: Brookings Institution Press.
- Howe, E. L., Huskey, L., & Berman, M. D. (2014). Migration in Arctic Alaska: Empirical Evidence of the stepping stone hypothesis. *Migration Studies*. 2(1): 97-123.
- Hunsinger, E., & Sandberg, E. (2013). The Alaska Native Population: Steady growth for original Alaskans through years of change. In *Alaska Economic Trends, April 2013* (pp. 4-13). Juneau, Alaska: Alaska Department of Labor and Workforce Development.
- Jaycen, A. (2014, July 14). *Permafrost thaw cracks urban infrastructure, students dig in. The 2014 International Field School in Siberia this July studies the effects of permafrost thaw on Russian cities*. Retrieved July 14, 2014, from Barents Observer: <http://barentsobserver.com/en/society/2014/07/permafrost-thaw-cracks-urban-infrastructure-students-dig-15-07>.
- Levin, M. J. (1991). *Alaska Natives in a Century of Change*. Fairbanks, Alaska: University of Alaska Fairbanks.
- Marinelink.com. (2014). "The Bounds of Arctic Russia Defined". Retrieved May 7, 2014, from Marinelink.com : <http://www.marinelink.com/news/defined-bounds-arctic368543.aspx>.
- Martin, S. (2009). The effects of female out-migration on Arctic villages. *Polar Geography*. 32(1-2): 61-68.
- Montes, C. (2014). *American Capitals: A Historical Geography*. Chicago and London: University of Chicago Press.
- Nunavut Bureau of Statistics. (2014, July 21). *Nunavut Bureau of Statistics*. Retrieved July 21, 2014, from Population Estimates: <http://www.stats.gov.nu.ca/en/Population%20estimate.aspx>.
- NWT Bureau of Statistics. (2012 (February 8). *2011 Census Population and Dwelling Counts*. NWT Bureau of Statistics.
- NWT Bureau of Statistics. (2014). *Population Estimates*. Retrieved July 21, 2014, from NWT Bureau of Statistics: <http://www.statsnwt.ca/population/population-estimates/>.
- Rasmussen, R. O. (2011). Why the Other Half Leaves: Gender Aspects of Northern Sparsley Populated Areas. In D. Carson, R. O. Rasmussen, P. Ensign, L. Huskey, & A. (. Taylor, *Demography at the Edge: Remote Human Populations in Developed Nations* (pp. 237-254). Surrey, England, Burlington, VT: Ashgate.

- Rauhut, D., Rasmussen, R. O., Roto, J., Francke, P., & Ostberg, S. (2008). *The Demographic Challenges to the Nordic Countries*. Stockholm, Sweden: Nordregio.
- Ren, P. (2011). *Lifetime Mobility in the United States: 2010*. Washington, DC: U.S. Census Bureau.
- Rosstat. (selected years). *Chislennost' i migratsiya naseleniya Rossiyskoy Federatsii v 20-- g. Statisticheskij byulleten'*. Moscow: Rosstat.
- Sandberg, E. (2013). *A History of Alaska Population Settlement*. Juneau, Alaska: Alaska Department of Labor and Workforce development.
- Schweitzer, P., & Marino, E. (2005). *Coastal Erosion proection and Community Relocation Shishmarer, Alaska. Collocation Cultural Impact Assessment*. Fairbanks, Alaska: University of Alaska Fairbanks.
- Southcott, C. (2010). Migration in the Canadian North: An Introduction. In L. S. Huskey, *Migration in the Circumpolar North: Issues and Contexts* (pp. 35-55). CCI Press and the University of the Arctic.
- Statistics Greenland. (2014). Retrieved from Statistics Greenland:<http://www.stat.gl/default.asp?lang=en>
- Statistics Iceland. (2014). Retrieved January 14, 2014, from Statistics Iceland: <http://www.statice.is/>
- U.S. Bureau of the Census. (2012). *Place Of Birth For The Foreign-Born Population, American Community Survey, 2011, Table 2013-05-10-68*. Washington, DC: U.S. Bureau of the Census.
- Weeks, J. R. (2008). *Population: An Introduction to Concepts and Issues, Tenth Edition*. Belmont, CA: Thompson Wadsworth.
- Yukon Bureau of Statistics. (2013). *Population and Dwellings: Census 2011*. Whitehorse, Yukon: Yukon Bureau of Statistics.
- Yukon Bureau of Statistics. (2009). *Yukon Migration Patterns 1999-2008*. Whitehorse, Yukon: Yukon Bureau of Statistics.
- Yukon Bureau of Statistics. (2010). *Yukon Migration Patterns 2010*. Whitehorse, Yukon: Yukon Bureau of Statistics.

# LABOUR MARKET OUTCOMES OF MIGRANT WOMEN IN VÄSTERBOTTEN AND NORRBOTTEN

Elena Kotyrlo

*This paper examines the earnings development and labour force participation of female immigrants compared to Swedish-born women in Västerbotten and Norrbotten (Sweden). A total of 10% of the women residing in these two counties have a foreign background. Female immigrants, mostly originating from Finland, Norway, Thailand, Iraq, and the former Soviet Union, vary greatly in their cultural and family values, education, and job experiences. Ethnic and geographical differences in labour market outcomes are hypothesized in the paper. The study is based on panel data analysis of registered individual data for the period 1995–2009. The data presented here show that differences in earnings and labour force participation can be explained by individual characteristics such as age, education, civil status, and years since migration. Ethnic differences diminish with integration period, though not in each group of immigrants. Gaps in labour outcomes are less evident for skilled immigrants. The ethnic differences are also less pronounced for female labour immigrants compared to women who immigrated for other reasons. There is a slight geographical variation in labour market outcomes, but no obvious trends are seen in the spatial distribution of them.*

## Introduction

In general, Arctic local labour markets, like labour markets in other sparsely populated areas, are more fragile because geographic isolation and a harsh climate make job creation and use of labour more costly compared to other regions. Oil, gas and other natural resource extraction is usually associated with development of the northern economies and labour market growth. In contrast to other Arctic nations, there are no highly profitable hydrocarbon deposits located in the north of

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Sweden. Labour demand in the forest industry, playing an important role there, has been reduced considerably due to technological improvements. The economic trends of outmigration of population from remote areas to cities and from north to south are also observed there. Despite these facts, the population in the north of Sweden has remained stable over decades. This has been achieved due to the location of educational and research centers there. The universities in the two largest cities, Umeå and Luleå, are not only major employers; they facilitate creating jobs in many other industries. The north of Sweden can be considered as a successful example of an Arctic economy based on a skilled labour force, attracting qualified workers from all over the world. Despite substantial distances between local labour markets, the level of earning is competitive across municipalities. This paper provides empirical analysis, which illustrates the equity of labour possibilities even for vulnerable groups of society. The analysis is based on two northern counties, Västerbotten and Norrbotten, and focuses on earnings development of women with children recently immigrated to Sweden and their involvement in the labour market.

Sweden is a country of high immigration of labour immigrants from Nordic countries and EU15 countries, and of refugees from Asia and Africa, the share of which has been growing in recent years (Schröder, 2007). A total of 10% of the women living there have a foreign background, and this proportion reaches 40% along the border with Finland (SCB 2010). Female immigrants – who mostly come from Finland, Norway, Poland, Thailand, Iran, and the former Soviet Union – vary greatly in their cultural and family values, education, and job experiences. Sweden is known for its remarkable integration policies that enable positive social and economic outcomes for immigrants (Bevelander & Pendakur 2012). However, in the past few decades immigrant integration in Sweden has not been as efficient as in the past (Bengtsson & Scott 2011). First-generation immigrants have higher unemployment rates and lower earnings compared to natives, but these differences diminish in second-generation immigrants (Scott 1999).

The purpose of this paper is to study labour market outcomes, especially earnings and labour force participation (LFP), of first-generation immigrant women in comparison with Swedish-born women in Västerbotten and Norrbotten. Differences in earnings and LFP can be related to the geographical distribution of the workers and to local labour market conditions. The local labour markets in the counties have been characterized by a relative growth of female employment in cities and a considerable decline in employment opportunities in remote areas (Keskitalo et al. 2013). However, it is hypothesized that ethnic determinants, including individual characteristics such as years since migration (YSM), age, education, civil status, and the presence of children, prevail in local labour markets. On the base of previous studies on labour outcomes of immigrants in Sweden (Bennich-Björkman et al. 2002; Bratsberg et al. 2007; Hansen & Lofstrom 2009; Malm 2005; Rosholm & Vejlin, 2010; Scott 1999; Vikman 2013), it is also expected that the ethnic differences are not as important for female labour immigrants compared to women who immigrated for family reasons or as refugees.

The empirical analysis includes earnings, LFP, and other characteristics for 21,344 women in 29 municipalities who had at least one child at any time during the study period. The municipalities were characterized by unemployment rates, types of municipality, and sex ratios, and the

municipalities were aggregated into local labour market areas that were identified by Statistics Sweden (SCB) as groups of municipalities that are assumed to be self-sufficient in terms of jobs and labour supply. SCB classifies immigrants by geography of origin into fifteen groups. Based on the assumption that immigrant groups are homogenous in terms of labour market characteristics, immigrant women were aggregated in the study into the following four types: 1) the Nordic countries other than Sweden, 2) Europe, except the Nordic countries, the former Yugoslavia, and countries that made up parts of the former Soviet Union, 3) the group of countries among which refugees make up the majority of immigrants, including Turkey, North Africa and the Middle East, Central and Southern Africa, Iraq/Iran, and the former Yugoslavia (called the “refugee” group), and 4) immigrants from the rest of the world, including the former Soviet Union, Asia, South America, North America, Japan, and Oceania (called “the others”). The empirical estimation supports ethnic differences in earnings and LFP.

This study provides a better understanding of labour market outcomes of female immigrants with children. This can help to further the development of integration, labour market, and family policies to decrease employment inequality between Swedish and immigrant women. The results support a firm growth in earnings with increase of integration period. The estimates suggest that after five years since in-migration the gap in earnings between Swedish-born and immigrant mothers disappears for the majority of ethnic groups.

The rest of the paper is organized as follows. Section 2 discusses findings on earnings development and the LFP of female immigrants. The hypotheses, methods of conducting the empirical study, and a description of the data are presented in Section 3. Section 4 contains the empirical results and Section 5 provides the conclusions of the study.

## **Background**

At present, immigration to Sweden consists of 35% refugees, 18% immigrants with residence rights given to European Economic Area nationals, 20% labour immigrants, 13% students, and 12% others. Bi-national marriages are one of the important channels of immigration (Frändberg & Vilhelmson 2011; Haandrikam 2014), and this has increased in recent years due to globalization, EU expansion, travelling, living and working abroad, and Internet bride services (Ellegård & Vilhelmson 2004). Municipalities accept quota refugees granted by residence permit in Sweden within the UN Refugee Agency activity (Lemaître 2007). This eventually reduces population and economic decline in the remote areas, by increasing the size of transfers to municipal budgets and growing demand on public services and other services and goods. Refugees are assigned to municipalities throughout Sweden upon agreements between the Swedish Integration Board and the municipalities regarding the number of refugees that the municipalities can handle (ibid). The immigrants attend an integration programme and receive a monetary allowance for approximately 24 months (ibid). It is expected that after the programme, immigrants of working age will be able to enter the labour market and support themselves (ibid). Immigrants can attend public Swedish language courses and vocational training to adapt to the national labour market.

Labour market outcomes of immigrants in developed countries have been studied in significant detail. As a rule, both earnings and the LFP increase the longer an immigrant resides in their new country, although the level of earnings of immigrants never reach that of natives (e.g. Borjas 1989; and Chiswick 1978 for US; Barth et al. 2004, Hammarstedt 2003; Scott 1999; and Wikström et al. 2014 for Sweden). The earnings gap between immigrants and natives is even larger for women (UK: Lemos 2009; Wikström et al. 2014). This is explained by the fact that gender roles are considerably different in the source and host countries, and the assimilation process is more likely to be achieved among subsequent generations of immigrants. This earnings gap is also related to country-specific capital, such as language, the acceptance of a new culture, and the jobs that immigrant workers take that are often abandoned by native workers (Hammarstedt 2000). Immigrants have higher unemployment rates and lower LFP, especially among immigrants who come as refugees (Bennich-Björkman et al. 2002; Bratsberg et al. 2007; Hansen & Lofstrom 2009; Malm 2005; Rosholm & Vejlin 2010; Scott 1999). However, employed immigrant women tend to work longer on average (UK: Lemos 2013). Ethnicity is found to play a remarkable role in differences in earnings and LFP (Sweden: Bengtsson & Scott 2006; Hammarstedt 2000; Denmark: Rosholm & Vejlin 2010).

Labour supply depends on the number of children in an immigrant family (Bratsberg et al. 2007) and on the time women spend caring for their families. Generous welfare systems and strong family support might reduce women's achievements in the labour market. Olofsson and Malmberg (2011) provide evidence that bride immigrants are less successful in the labour market. On the contrary, single mother immigrants often enter the labour market faster than married women, although the age of the child affects the timing of labour market entry (Vikman 2013).

The population in the counties has remained rather stable over time. About 40% of the northern population resides in the two municipalities of Umeå and Luleå, and about 30% reside in the other coastal municipalities, and these municipalities provide the majority of employment opportunities (SCB). The level of employment of women with children of pre-school age in the counties, as well as Sweden in general, is very high even compared to EU countries (Böhlmark 2006; Wikström et al. 2014). The migration of young people in Sweden from remote areas to cities within the region is quite remarkable. This affects the age structure (Keskitalo et al. 2013) and influences the labour supply in the local labour markets. In several municipalities, female out-migration has prevailed and this has influenced sex ratios (SCB). Female underrepresentation in the counties has been an issue of public debates (Keskitalo et al. 2013).

## **Hypotheses, Methods and Data**

### **Hypotheses**

Dynamics in earnings and LFP were expected due to a common economic growth and integration process. The differences between Swedish-born and immigrant mothers were assumed to diminish with increasing investment in country-specific human capital, although cultural dissimilarities and family characteristics can be critical for labour supply and the size of earnings.

The study was aimed to capture several dimensions. Firstly, local labour market opportunities for an individual were compared. This was possible to do because the counties consist of less than 20 functional regions aggregated by SCB, and are considered in the paper as local labour markets. Local labour markets were assumed to provide differences in levels of employment and earnings or fixed effects. The expected effects might be related to less opportunities in the remote areas, compared to cities and surrounding municipalities. Another expected disparity in labour outcomes across municipalities was connected to local labour markets on the border with Finland, presumably sharing labour markets with Finnish towns. This might distort the statistics on the actual local labour market situation, because residents on the Swedish side can commute on a daily basis to Finland. Therefore, people permanently employed in Finland but living in Sweden would not be registered as having earnings in the data.

Secondly, immigration by origin was taken into account as potentially correlating with disadvantages in the labour market. Besides, labour immigrants' outcomes were compared to outcomes of other immigrants. It was hypothesized that labour immigrants were better off in the labour market than women coming for marriage, accompanying their spouses, or for asylum. Civil status of immigrants was considered as an important determinant of vulnerability in the labour market. It was assumed that women married to a Swedish-born partner, in general, were safer than married to an immigrant partner, and the latter were less vulnerable than single mothers. This was because of long-run perspectives of residing in Sweden for women in mixed couples and better opportunities of married women to split housework and care-giving between the spouses and, therefore, to increase their labour supply. However, only married Swedish women were considered as a reference to simplify the analysis.

## **Methods**

Panel data analysis was employed to study dynamics in earnings and LFP. It was based on the ordinary least squares method, since a large number of observations does not suggest visible similarities or dissimilarities between individuals. The earnings equation consisted of two sets of dummies distinguishing local labour markets and two sets of dummies for groups of immigrants by origin. The variables of interest and other explanatory variables are described below. The same approach was applied for estimation LFP on the base of a linear probability model as justified by Aia and Norton (2003). To test the effect of local labour markets on the border with Finland, a battery of regressions with the exception of individuals residing in Haparanda, Övertornio or Överkalix was run. Sampling weights were used in the estimation, because there was a large variation in the number of observations in groups of immigrants. Weights were calculated as the inverse of the size of the respective immigrant group.

Earnings were considered as incomes from both employment and self-employment, and individuals with zero earnings were also included in the analysis. LFP was equal to one if an individual's earnings were greater than zero in the considered year. Full-time and part-time jobs were not distinguished, therefore LFP and earnings can reveal different dynamics for ethnic groups. If part-time jobs were more common among certain group of immigrants, this would be seen in relatively high LFP and low level of earnings.

## Data

The study is based on registered individual data for the period 1995–2009 collected by SCB and compiled into the Swedish Longitudinal Integration Database for Health Insurance and Labour Market Studies. The Demographic Data Base of Umeå University was the source of the data. Two per cent of native women of reproductive age and married to a Swedish-born partner and residing in Västerbotten and Norrbotten were selected randomly as the reference group (5652 observations in 2009). The entire female immigrant population of working age residing in Västerbotten and Norrbotten was included in the sample.

There were 5034 women from the Nordic countries other than Sweden; 1919 from Europe, except the Nordic countries, the former Yugoslavia, and countries that made up parts of the former Soviet Union; 4213 from countries among which refugees make up the majority of immigrants; and 4560 from the rest of the world observed in the sample in 2009. The largest groups of immigrants by country of origin were from Finland, Asian countries, Central and Southern Africa, Iran/Iraq, the former Soviet Union, and from countries in Central and Northern Europe (see **Appendix 1**). Earnings were defined as incomes from employment and self-employment and were scaled according to the consumer price index (1994 = 100%). The LFP value took a value of one if non-zero earnings were observed, otherwise it was zero. The set of explanatory variables were primarily based on variables found to be important in similar papers studying differences in earnings and employment rates between natives and immigrants (e.g. Barth et al. 2004; Blanchflower & Oswald, 1994; Borjas 1987; Card 1995; Nekby 2002). These variables consisted of age and age squared, three levels of education attainment for the individual and their partner (compulsory schooling, secondary and post-secondary education of less than two years, post-secondary education of two years or longer), the number of children of various ages, YSM and YSM squared, the civil status of the immigrant woman (married to a Swedish-born partner, married to an immigrant partner, or single), the reason for immigration (labour or other), dummy variables for fifteen migrant groups by country of origin and four aggregate types of migrant women, and local labour market characteristics. The local labour market characteristics consisted of unemployment rates, types of municipality (city, city fringe, remote area), and sex ratios as the number of men per woman. Descriptive statistics are presented in **Appendix A1**.

## Empirical Results

### Data Description

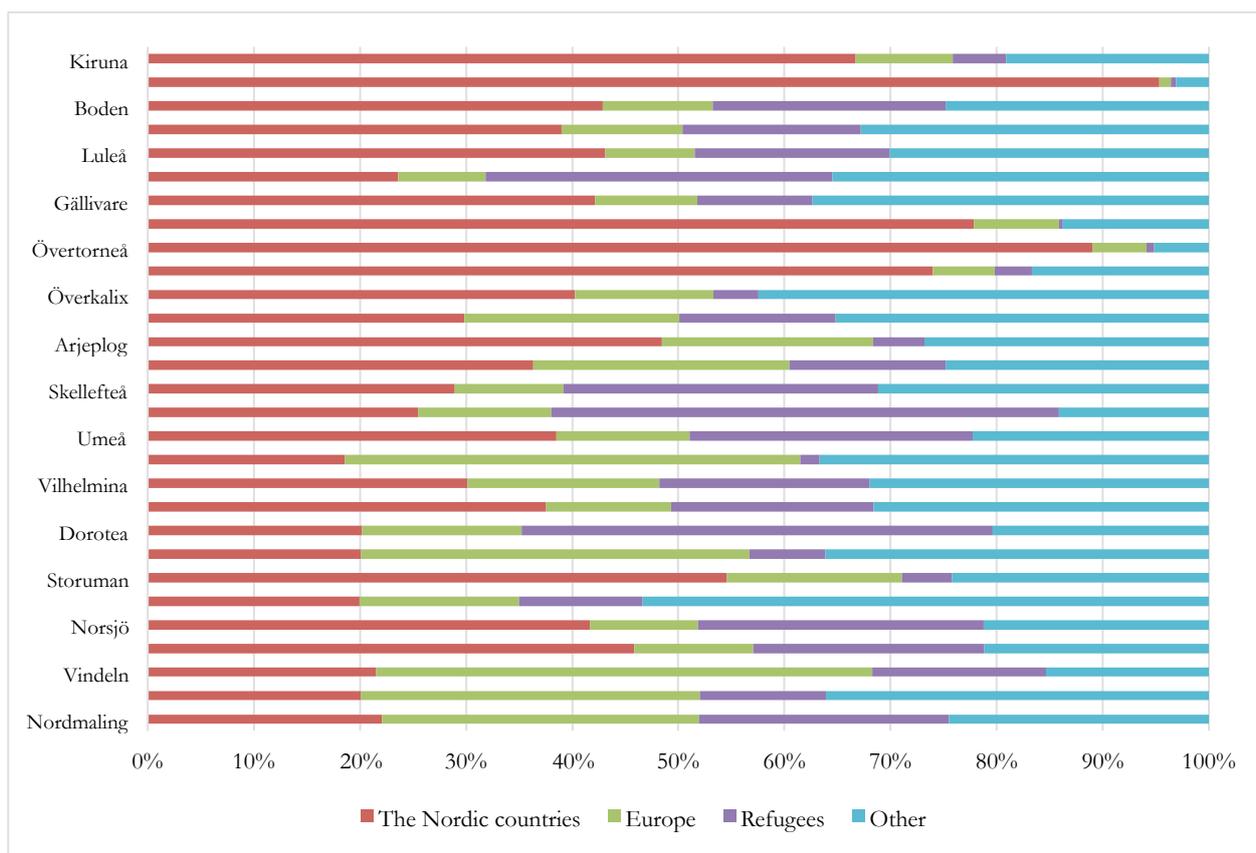
#### *Local Labour Markets*

Annual immigration rates at the municipal level are 0.5%–2% in Västerbotten and Norrbotten, and the immigration rate is 1% at the national level. The share of foreign-born persons is 9% in Norrbotten and 8% in Västerbotten compared to 15% for Sweden as a whole (calculated from SCB data). The 29 municipalities in the studied region were divided into the following three groups: 1) cities with populations over 50 thousand people (Umeå, Skellefteå, and Luleå) that provide the majority of jobs in the counties (called “city”); 2) the eleven municipalities that surround these cities

and that, together with the cities, constitute the main labour markets (the “fringe” group), and 3) “remote” areas with isolated local labour markets. Local labour market unemployment rates served as a measure of opportunities available to a person searching for a job. Sex ratios might reflect an overrepresentation of men in the labour market and, therefore, reduced employment opportunities for women. The distribution of female immigrants according to place of residence and country of origin is presented in Figure 1. There were six municipalities where females exceeded the male population by no more than 2%. However, the overrepresentation of men in several municipalities reached 10%.

#### *Individual Characteristics*

The average age of the women in the sample was 39.5 years (**Appendix A1**). Native women were slightly older because younger people more often make decisions to leave, although immigrant groups are considerably heterogeneous. The average YSM of immigrants from Finland and Denmark was 27–28 years and they had an average age of 38.5 years. On the contrary, female refugees from Somalia, who dominated the group of immigrant women from Central and Southern Africa, arrived in Sweden 5 years ago on average compared to an average YSM in the entire sample of 10 years, and their average age was 31.3 years.



**Figure 1:** Female immigrant distribution by place of residence and country of origin (panel data 1995–2009).

There were considerable differences in education levels between the groups. The proportion of women with a university education was the highest among immigrants from North America, Japan, Oceania and the former Soviet Union (68% and 64% in 2009, respectively) whereas the majority of Swedish-born women in the sample had only completed secondary school education (62% in 1995 and 55% in 2009). In the group consolidated as “refugees”, over 40% had only completed primary education or lower (Figure 2).

*Family*

It was assumed that women of different cultural backgrounds would diverge in labour supply while having small children. A dummy variable was constructed to show the presence of children 1-5 years old (children of pre-school age), and this was included in the estimations of the interactions with types of immigrants. It was also expected that the number of children per women would vary significantly between the groups. Therefore, estimates were controlled by the number of children aged 0–3 years, 4–6 years, 7–10 years, 11–15 years, and 16–17 years. In 40%–50% of the observations, women originating from the “refugee” groups had pre-school age children. In other groups, 20%–30% of the observations had children of these ages. The highest numbers of school-age children were in groups of Swedish-born women and immigrants originating from Central and Southern Africa, Iraq/Iran, and the former Yugoslavia. In half of the observations they had at least one school-age child. Women originating from Southern Europe and the former Soviet Union had fewer children, and only one out of three had a school-age child.

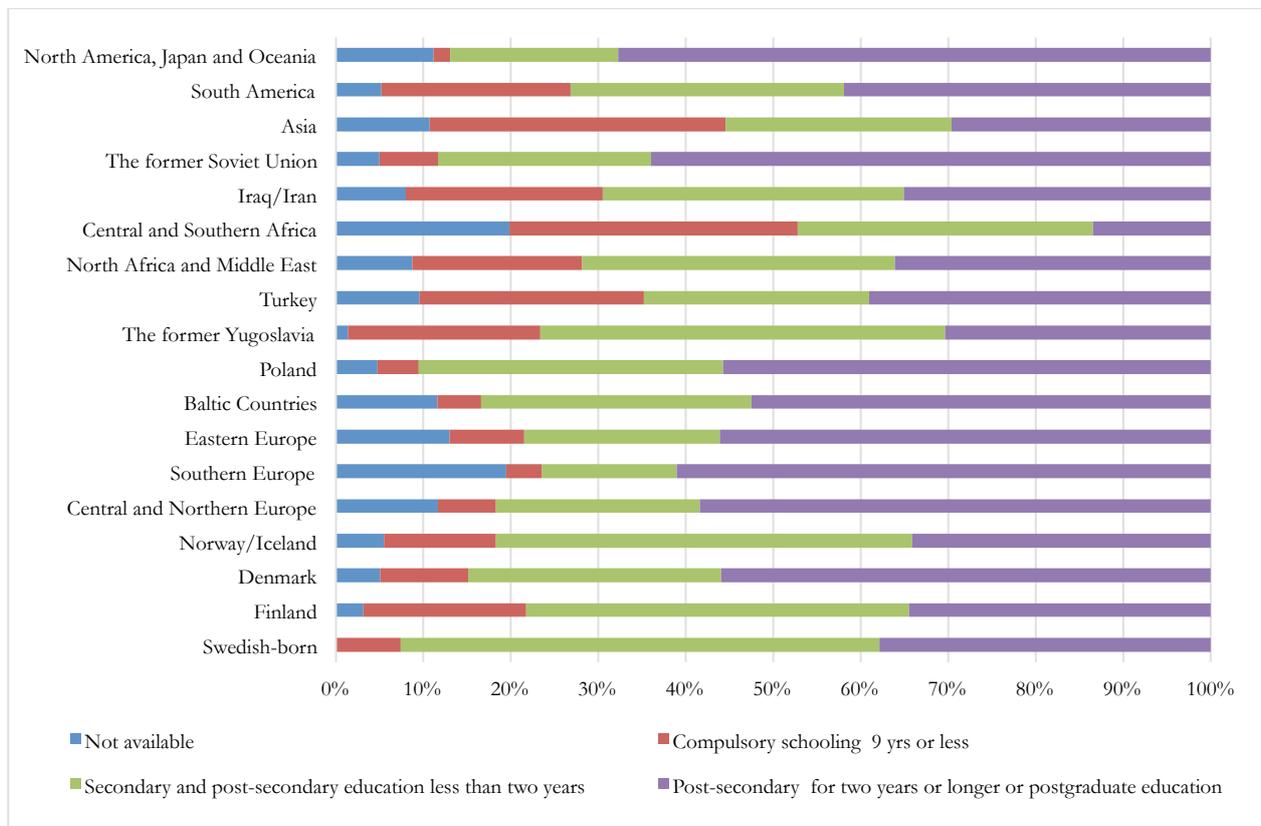
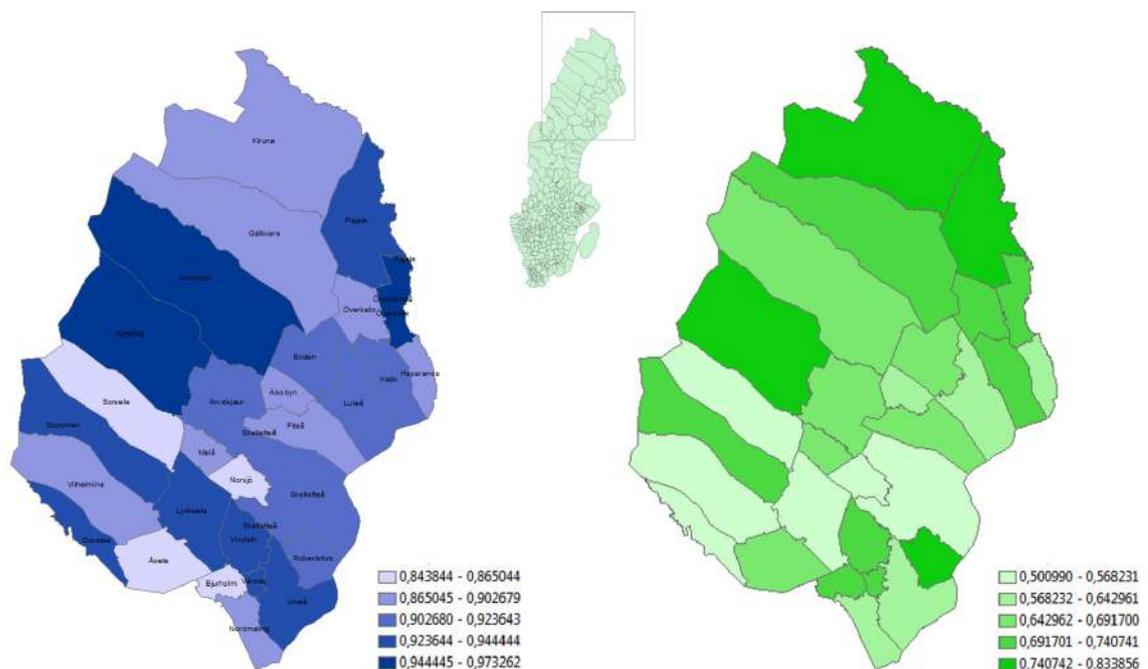


Figure 2: Distribution of women of different origin by education in 2009.

Couples residing in one household were considered to be a couple even though marriage was not necessarily registered. According to the study design, an individual was observed only if she had at least one child 0–18 years of age. The proportion of single immigrant mothers was quite high in all groups and exceeded 60% among women originating from Central and Southern Africa and Southern Europe (**Appendix A1**). The proportion of immigrant women married to an immigrant partner was about 50% or greater among “refugee” groups, except those from Central and Southern Africa. The latter groups were characterized by a lower proportion of those married to Swedish-born men, which ranged from 3% to 12%. Women from Finland and Denmark had approximately equal proportions of those married to Swedes and partners from “the other” countries. There were greater proportions of mixed couples among immigrants originating from Norway and Iceland, Asia, and the former Soviet Union.

### *Labour Market Outcomes*

Labour immigrants were defined as having earnings at the year of immigration. The proportion of labour immigrants was relatively low except for women originating from European countries, and about 30% of that group had earnings during the year of their immigration (**Appendix A1**).

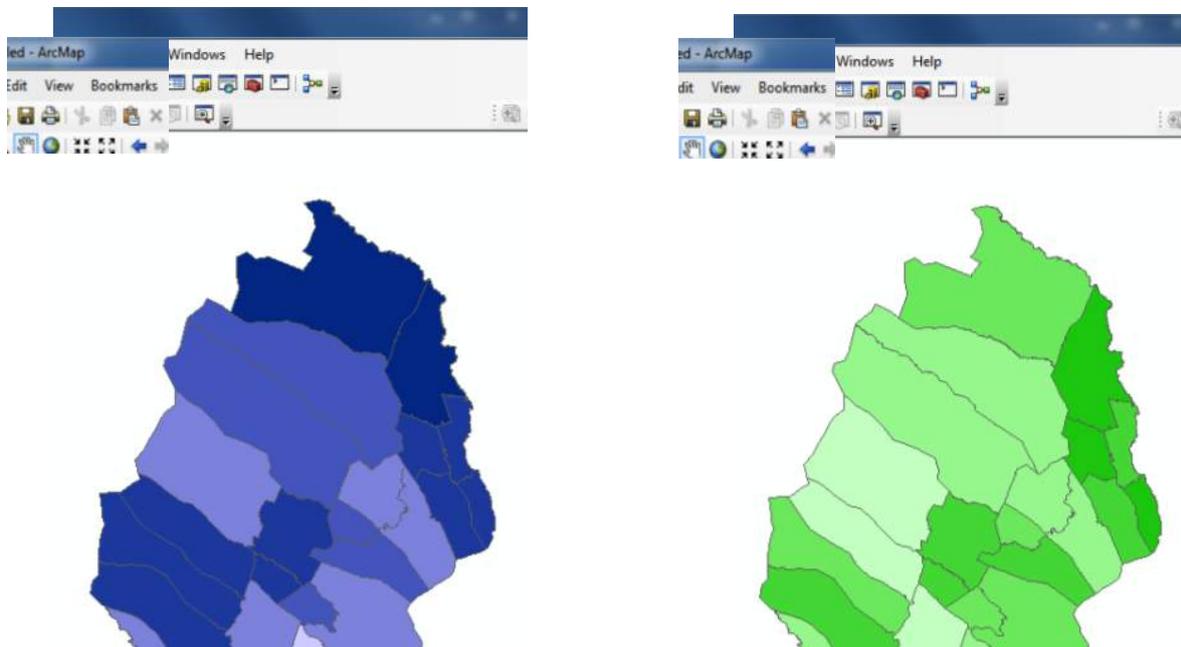


**Figure 3:** The proportion of women in each municipality having earnings from employment or self-employment among Swedish-born (left) and immigrant women (right). Panel data 1995–2009.

There were large differences in LFP between the country groups. The lowest proportions were observed among women from countries in the “refugee” group (40%–55%), and the highest participation (91%) was seen for Swedish-born women. The employment rate among migrants originating from the Nordic countries and Poland was 75%, and it ranged from 55% to 75% in the

other groups (**Appendix A1**). Some differences were observed in terms of the geographical distribution of employment for immigrant and Swedish-born women, but there was no evidence for any tendencies in terms of cities vs. remote areas or coastal vs. inland municipalities (Figure 3).

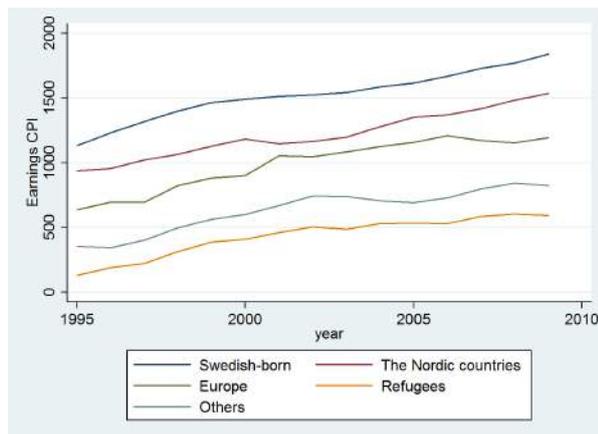
Unemployment was still considered equal to one if a person had non-zero unemployment allowances or income from a job-training program during the year of observation. Although the period of unemployment can vary from one to twelve months out of the year, the duration was not available in the data. The lowest proportion of unemployed women was among those originating from Denmark, Central and Northern Europe, Southern Europe, and North America, Japan, and Oceania (14%–18%). The highest proportions of unemployed women were from the former Soviet Union (32%), former Yugoslavia (28%), Baltic Countries (26%), South America (25%), and Finland (24%). Remarkably, female “refugees” had lower unemployment rates (19%–21%). The large discrepancy between LFP and unemployment in this group means that a large share of women from the “refugee” groups are neither employed nor registered as unemployed and searching for a job. The geographical distribution of unemployment reveals a similarity between native and immigrant women in terms of a higher probability of having income related to unemployment allowances in the municipalities on the border with Finland and inland from the coast (Figure 4). However, even here it was still the case that the proportion of unemployed immigrants was greater than that of Swedish-born women.



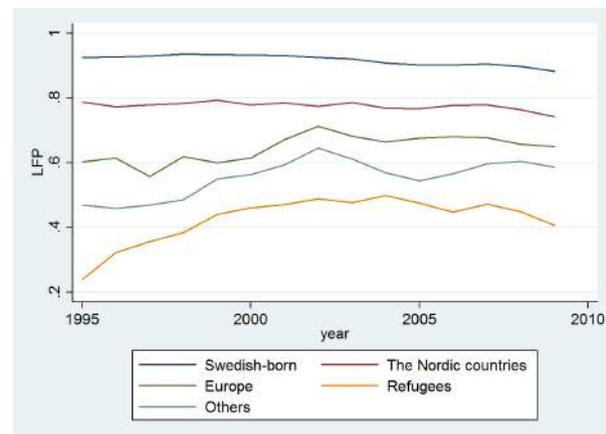
**Figure 4:** The proportion of women with registered incomes from unemployment allowance or vocational training grants among Swedish-born (left) and migrant women (right). Panel data 1995–2009.

The lowest earnings were among immigrants in “refugee” groups, and these were two to three times lower compared to Swedish-born women and female immigrants from the Nordic countries and Poland. Earnings of women from the other European countries were about 20% lower than those of women from the Nordic countries, but about 20%–25% higher than immigrants from “the other” countries. Earnings of Finnish-born women were lower by about 30% compared to Swedish-born women. This advocated the effect of distortion of statistics, since the Finnish population is more pronounced in the Swedish border municipalities with Finland.

Earnings grew over time for all groups studied in this paper (Figure 5), and the raw data demonstrated that group differences remained constant over time (Figure 6). However, these differences tended to diminish in certain groups when controlling for a set of variables, as described below and shown in Figure 7. Despite a growth of earnings, labor supply dynamics were declining in groups of Swedish-born and migrants from Europe, whereas in other groups positive trends were changed by decrease in LFP. This can be interpreted as growth proportion of women working full time, but decline in the proportion of labour participants in each group.



**Figure 5:** Female earnings development in hundreds SEK a year by groups of immigrants corrected by the consumer price index (CPI).



**Figure 6:** Female LFP by groups of immigrants.

## Estimates

The main findings are described below and the estimates are exhibited in Appendix 3. Earnings and LFP regression models were estimated for the entire sample and for a sub-sample of married women. The discussed parameters were significant at a confidence level of 95%. The effects of socio-demographic characteristics, which were included in the estimates, are described first.

In general, earnings were characterized by a positive trend over time of 0.3%–0.5% per year. This trend was greater in the group of “refugee” women and increased earnings about 0.8% a year, and it added about 1% for married women. Immigrant women from the Nordic countries experienced a decrease in earnings of about 0.3% a year on average. LFP decreased over time for groups of immigrant women, except the “refugee” group, by 0.5%–1.4%. Earnings were positively associated with education level. Women with more than 12 years of education earned about 9% more than

those with only compulsory schooling, and those with post-secondary for two years or longer or postgraduate education earned more than 16% more than those with only compulsory education. Their labour supply increased by 4% and 12%, respectively. The YSM is assumed to capture the assimilation process. There was about a 3% yearly increase in female earnings and a 2.6% increase in labour participation per each year since migration.

Immigrant women married to a Swedish-born partner were more successful in the labour market compared to women with an immigrant partner, and single women were less successful than married women. Immigrant women in mixed couples earned 19% more than single women and 13% more than women married to an immigrant partner, and their employment rates were greater by 27% and 6%, respectively. This supports the hypothesis of an influence of specific human capital on labour market outcomes because women with a native partner have better opportunities to obtain such capital due to learning host-country customs within the family. However, the effect of civil status was the opposite for labour immigrants. Single female labour immigrants earned 57% more than women who were not employed during their first year of immigrating to Sweden, female labour immigrants married to an immigrant partner earned 52% more, and those married to a Swedish-born partner earned 28% more. In particular, single female labour immigrants were employed on 41 percentage points more often than those married to a Swedish-born partner.

On average, the presence of children 0–3 years old in the household was linked to lower levels of earnings by about 9%–10% and lower labour supply by about 12%–13%. Estimates revealed greater than average earnings of women originating from the Nordic countries and having children of pre-school age. Earnings of other groups of women did not exhibit any association with the presence of pre-school age children. However, married Swedish-born women experienced a 3.4% decrease in earnings when having small children. Immigrant women from the Nordic countries increased their LFP by 12% when having preschool children.

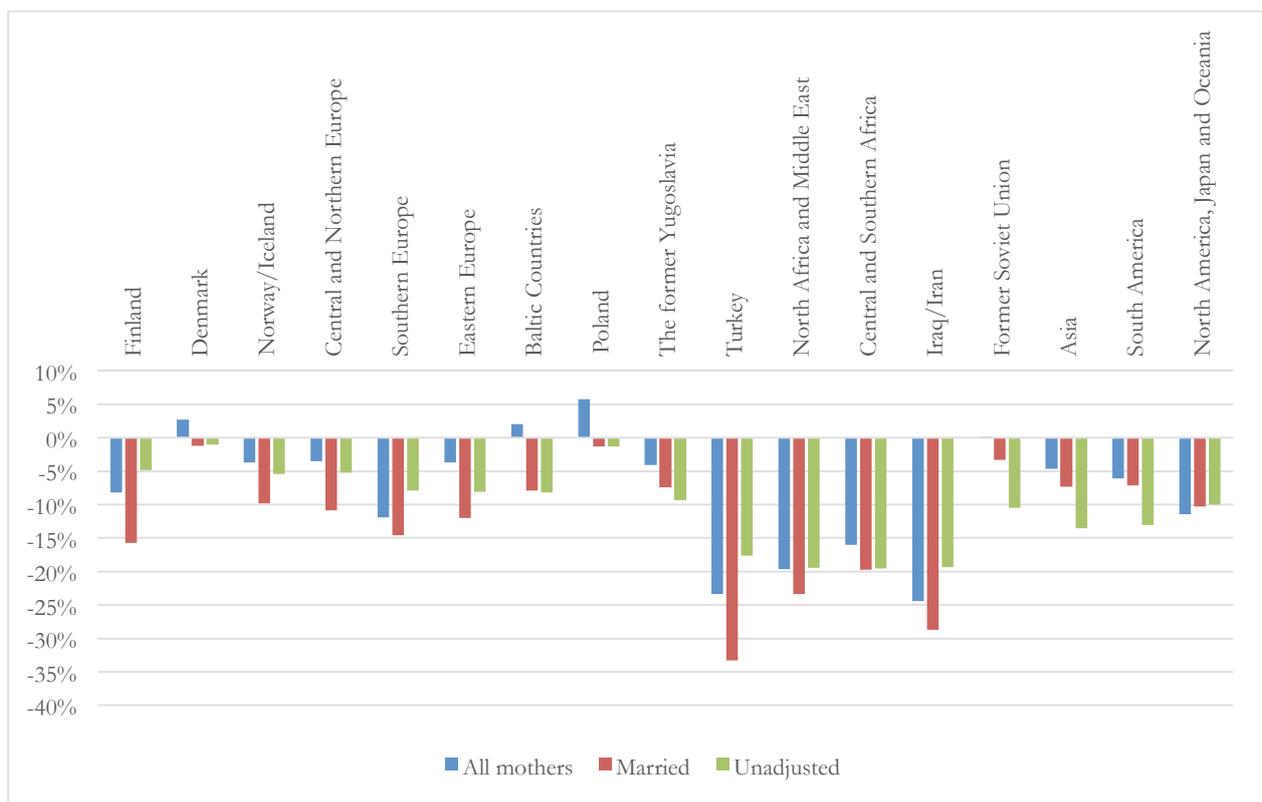
As discussed earlier, earnings and employment rates among immigrant women were less on average than for Swedish-born women. Immigrant women's actual LFP rates and their participation after controlling for the set of variables as well as their earnings deficits relative to native-born women are depicted in Figures 7 and 8. Immigrants originating from Denmark and Poland and having a relatively long period of assimilation had better labour outcomes compared to other groups. The differences in the raw data were rather large and exhibited 22 percentage points gap in earnings between Swedish-born women and women from Finland. Respective gaps in earnings between Swedish-born women and women Southern Europe are 31.2 pp, Central and Southern Africa (29.6 pp), South America (27.3 pp), and North America, Japan, and Oceania (35 pp). However, the gaps diminished with increasing periods of integration, especially for women from Denmark, Poland, and the former Soviet Union (Figure 7). This supports the hypothesis of the importance of country-specific human capital and human capital in general and reveals that integration, measured in economic outcomes, can be quite successful even in first-generation immigrants.

Employment rates were lower in all groups of immigrant women compared to Swedish-born women. These differences in employment rates ranged from 8% for immigrants from Poland to 42% for immigrant women from Iran/Iraq. The reduction was even greater for married women

from these two countries at 12% and 53%, respectively. However, after having been in Sweden for five years, the labour supply exceeded the reference level for immigrant women originating from Denmark, the Baltic countries, Poland, and the former Soviet Union (Figure 8).

Besides the “refugee” groups, which in general are characterized by lower levels of human capital, shorter periods since immigration, and reasonably distinguished labour market outcomes, two groups (Finland and North America, Japan, and Oceania) need comments. It can be hypothesized that women from North America, Japan, and Oceania mostly come to Sweden as wives to breadwinners and do not consider becoming employed in Sweden despite their high level of human capital.

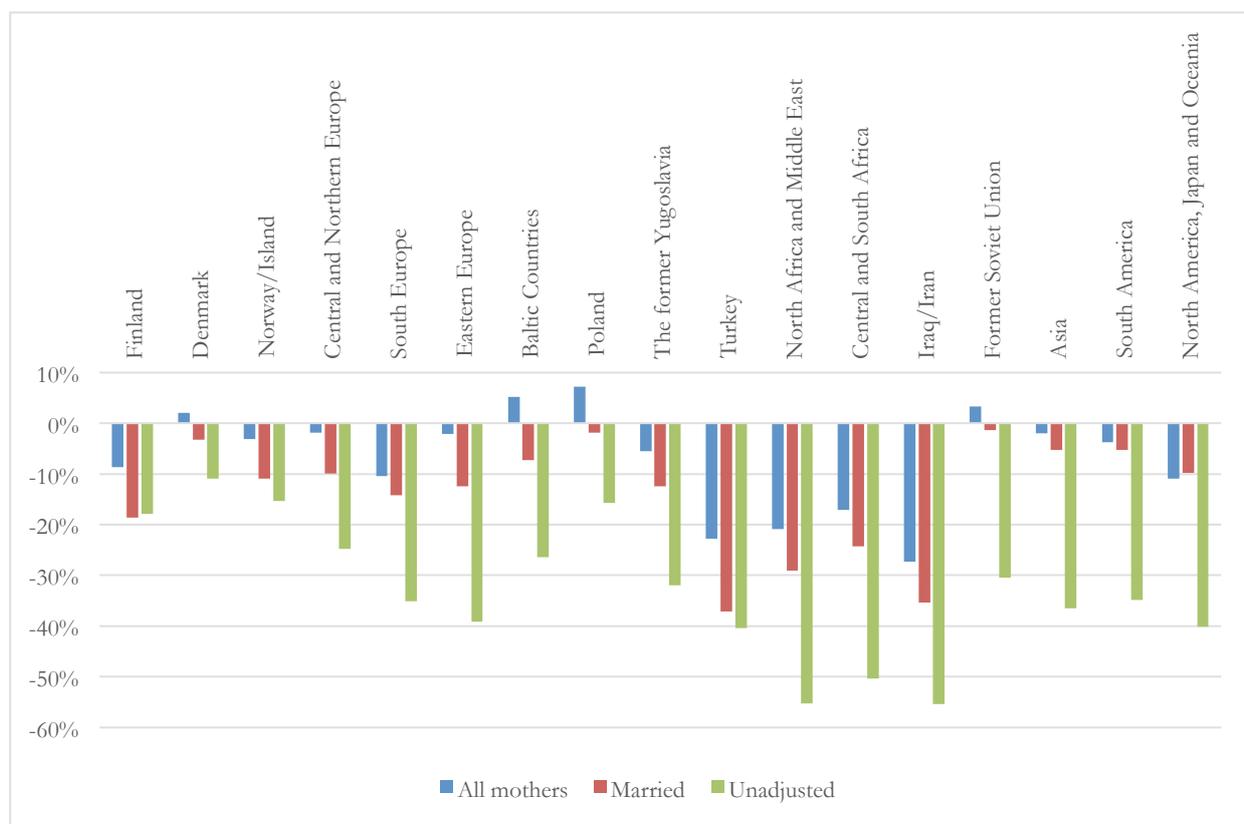
The influence of local labour markets on labour market outcomes was tested by two sets of regional characteristics. The first set consisted of city types and unemployment rates. Women from the Nordic countries residing in cities and city fringe areas had about 2% greater earnings than Swedish-born women, whereas women from other groups earned about 5%–10% less on average. Employment rates for migrant women, except women from the Nordic countries, residing in cities and their suburbs were about 4%–9% lower than those residing in remote areas.



**Figure 7:** Earnings' deficits of immigrant women's by marital status relative to Swedish-born women after five years since immigration. The blue and red bars show the differences after controlling for the set of explanatory variables. The green bars depict the differences in the raw data.

The second set of characteristics consisted of local labour market dummies with the largest city, Umeå, as the reference. The most remarkable result was a -8% effect on earnings and LFP in two

municipalities bordering Finland. In general, however, regional differences did not play a crucial role in employment opportunities and the size of earnings. The interaction between ethnic group labour market outcomes and local labour markets was not pronounced. The main finding concerning these interactions was that Swedish-born women and immigrant women from the Nordic countries had lower earnings and LFP when residing in remote areas, but immigrant women from the former Soviet Union, Asia, South America, North America, Japan, and Oceania had lower earnings and employment rates in the cities. Earnings of immigrant women were slightly higher in the remote areas of Norrbotten.



**Figure 8:** Immigrant women's LFP rate deficits relative to Swedish-born women after five years since immigration. The blue and red bars show the differences after controlling for the set of explanatory variables. The green bars show the differences in the raw data.

The estimates of regressions, where individuals from three border municipalities were excluded, are not presented in the paper, but available upon request. Differences between Swedish-born and Finnish mothers did not disappear after eliminating "the border effect".

## Conclusions

Arctic labour markets have been experiencing a remarkable growth over past decades. Mainly, this has been due to exploration of natural resource deposits and new technologies of their extraction.

There was a challenge to attract inhabitants to the Arctic and preserve a structure of settlements under changes in technologies or depletion of resources, reducing labour demand. This paper presented northern economies which are not based primarily on resource extraction. Two northern counties of Sweden, Västerbotten and Norrbotten, have attracted skilled workers by developing markets in education and research. Differences in job opportunities in the counties for Swedish-born and immigrant women with children were studied in the paper.

Variations in earnings and LFP were investigated for fifteen ethnic groups and four aggregate types of immigrants including those from the Nordic countries, from other European countries, from countries with a predominance of refugees among the immigrants, and the group of all other countries combined. This study confirms that earnings of immigrant women are significantly lower with respect to Swedish-born women and that LFP is also considerably lower in immigrant groups. However, these differences decline significantly the longer the immigrants have been in Sweden. Even the earnings and LFP of “refugee” immigrants, which were significantly lower on average, still increased during the study period. Other differences between the ethnic groups were not pronounced.

There were slight differences in the geographical distribution of labour outcomes. The earnings of immigrant women were slightly higher in the remote areas of Norrbotten, and women from the Nordic countries residing in cities and city fringe areas had greater earnings and employment rates compared to those living in remote areas. However, women from other groups had reduced earnings and employment when living in cities and fringe areas. Women’s labour market outcomes were visibly lower in the municipalities bordering Finland, and this was presumably because these municipalities share labour markets with Finnish towns and this distorted the statistics on the actual local labour market situation. The estimates, however, did not support any effect on a particular group of immigrants.

Human capital, especially host country-specific human capital, plays an important role in labour market outcomes. This study shows that integration as measured in economic outcomes can be quite successful and can be achieved in first generation immigrants. Controlling for civil status and labour immigration in the analysis reveals that they are essential for labour market outcomes. In particular, to be married to a Swedish partner can be associated with a more rapid accumulation of country-specific human capital. This brings an overall 19% increase in earnings and a 27% increase in employment rates among all immigrant groups. However, the outcomes of female labour immigrants demonstrate better earnings development for single immigrant women and women with an immigrant partner, who earned 57% and 52% greater on average, respectively, than women who were not employed during the first year of immigration. This can be explained by a buffering role of marriage in the integration process. The presence of children is not linked to noticeable losses in earnings or decreases in labour supply except for having children 0–3 years old. It is likely that the allocation of time between housework and formal employment depends more on cultural features and ethnic habits than on the actual number of children.

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## References

- Aia, C., Norton, E.C. (2003) Interaction terms in logit and probit models. *Economics Letters* 80: 123–129.
- Barth, E., Bratsberg, B., Raaum, O. (2004). Identifying earnings assimilation of immigrants under changing macroeconomic conditions. *Scandinavian Journal of Economics*. 106(1): 1–22.
- Bengtsson, T., Scott, K. (2006) Immigrant consumption of sickness benefits in Sweden, 1981–1991, *Journal of Socio-Economics*. 35: 440–457.
- Bennich-Björkman, L., Lundh, C., Ohlsson, R., Pedersen, P., Rooth, D-O (2002). *Arbete? Var god dröj!—Invandrare i välfärdssambället*. Stockholm: SNS.
- Bevelander P., Pendakur R. (2012). The Labour Market Integration of Refugee and Family Reunion Immigrants: A Comparison of Outcomes in Canada and Sweden. IZA DP 6924
- Blanchflower, D.G., Oswald, A.J. (1994) The wage curve. *MIT Press*, Cambridge, MA.
- Böhlmark, A., Lindquist, M.J., (2006) Life-cycle variations in the association between current and lifetime earnings: replication and extension for Sweden. *Journal of Labour Economics*. 24(4): 879–896.
- Borjas, G. J. (1987) Self-selection and the earnings of immigrants. *American Economic Review*. 77: 531–553.
- Borjas, G. J. (1989) Immigrants and emigrant earnings: A longitudinal study. *Economic Inquiry*. 27(1): 21–37.
- Bratsberg, B., Raaum, O., Røed K. (2007). When minority labour migrants meet the welfare state. *IZA DP 2872*: 1–52.
- Card, D. (1995) The wage curve: A review. *Journal of Economic Literature*. 33: 785–799.
- Carlsson M., Rooth D.-O. (2007). Evidence of ethnic discrimination in the Swedish labour market using experimental data. *Labour Economics*. 14: 716–729.
- Chiswick, B.R. (1978) The effect of Americanization on the earnings of foreign-born men. *Journal of*

- Political Economy*. 86(5): 897–921.
- Ellegård K, Vilhelmson B. (2004). Home as a pocket of local order: everyday activities and the friction of distance. *Geografiska Annaler*. 86B: 281–296.
- Frändberg L, Vilhelmson B. (2011) More or less travel: personal mobility trends in the Swedish population focusing gender and cohort. *Journal of Transport Geography*. 19: 1235–1244.
- Haandrikman, K. (2014) Binational marriages in Sweden: Is There an EU Effect? *Population, Space and Place*. 20(2): 177-199.
- Hammarstedt, M. (2000) The receipt of transfer payments in Sweden. *International Migration*. 38(2): 239–268.
- Hammarstedt, M. (2003) Income from work among immigrants in Sweden. *Review of Income and Wealth Series*. 49(2): 185-203.
- Hansen, J., Lofstrom, M. (2009). The dynamics of immigrant welfare and labour market behavior. *Journal of Population Economics*. 22: 941–970.
- Keskitalo, E., Malmberg, G., Westin, K., Wiberg, U., Müller, D. (2013). Contrasting Arctic and mainstream Swedish descriptions of the counties: The view from established domestic research. *Arctic*. 66(3): 351-365.
- Kotyrló E. (2014). Northern Investment Risks in Human Capital Formation: Russian Experience. *Sociology and Anthropology*. 2: 91-101.
- Lemaître G. (2007). The Integration of Immigrants into the Labour Market: the Case of Sweden. Delsa/Elsa/Wd/Sem 3 OECD Social, Employment and Migration. WP 48.
- Lemos, S. (2013). Immigrant economic assimilation: Evidence from UK longitudinal data between 1978 and 2006. *Labour Economics*. 24: 339–353.
- Malm T. (2005). The impact of immigration on Europe's Societies. Sweden. *Center for Research in International Migration and Ethnic Relations*. Stockholm University.
- Nekby L. (2002). How long does it take to integrate? Employment convergence of immigrants and natives in Sweden. *FIEF Working Paper Series*. 185: 36 p.
- Ortega, F., Polavieja J.G. (2012). Labor-market exposure as a determinant of attitudes toward immigration. *Labour Economics*. 19: 298–311.
- Olofsson, J., Malmberg, G. (2011) When will the Russians Come? On Post-Soviet immigration and integration in Sweden. *International Migration*. 49(4): 93-117.
- Rosholm, M., Vejlin, R. (2010) Reducing income transfers to refugee immigrants: Does start-help help you start? *Labour Economics*. 17: 258–275.

- SCB (2010), Integration - Ett regionalt perspektiv. Retrieved from <http://www.migrationsinfo.se/regional-statistik>.
- Scott, K. (1999). The immigrant experience: Changing employment and income patterns in Sweden, 1970–1993. *Lund Studies in Economic History* 9. Lund University Press.
- Schröder L. (2007). From problematic objects to resourceful subjects: An overview of immigrant-native labour market gaps from a policy perspective. *Swedish Economic Policy Review*. 14: 7-31.
- Vikman U. (2013). Paid parental leave to immigrants: An obstacle to labour market entrance? *IFAU WP*. 2013:4.
- Wikström M., Kotyrlo, E., Hanes, N. (2014) Labor market performance of families with pre-school age children: A comparison of native and immigrant families. Submitted to *Research in Labor Economics*.

Appendix A1 Descriptive statistics.

	2009	Panel data 1995-2009										
Aggregated types	Number of observations in 1995	Number of observations	Immigrants not employed the year of immigration	Labour immigrants	Married to Swedish-born partner	Married to immigrant partner	Single	Women's age M	YS children	Preschool children	Womens' earnings (100 SEK, CPI)	The proportion of residing in the largest cities
Groups of women by origin												
Swedish-born*	5,652	5,618	100%	100%	0%	0%	0%	43.6	0.278	0.278	1468	33%
The Nordic countries, except Sweden	3,523	4,201	88%	12%	26%	30%	44%	39.4	28	0.213	1034	34%
Finland	123	159	84%	16%	23%	26%	50%	37.4	27	0.207	1360	40%
Denmark	523	674	81%	19%	36%	16%	47%	37.4	18	0.284	987	32%
Norway/Iceland	271	926	67%	33%	32%	16%	52%	36.3	14	0.227	1003	48%
Central and Northern Europe	35	149	66%	34%	39%	11%	50%	33.3	8	0.255	827	63%
Southern Europe	47	246	71%	29%	30%	48%	21%	33.1	5	0.311	813	59%
Eastern Europe	38	259	63%	37%	31%	41%	28%	35.1	5	0.317	808	35%
Baltic Countries	117	339	66%	34%	47%	29%	24%	38.2	8	0.232	1331	44%
Poland	587	806	94%	6%	1%	63%	37%	34.9	7	0.306	741	48%
The former Yugoslavia	37	105	89%	11%	12%	59%	29%	32.4	10	0.430	406	68%
Turkey	68	263	89%	11%	7%	76%	17%	33.0	6	0.542	357	50%
North Africa and Middle East	352	1,460	93%	7%	3%	40%	57%	31.3	5	0.412	353	55%
Central and Southern Africa	588	1,579	96%	4%	1%	66%	33%	33.2	7	0.386	358	71%
Iraq/Iran	198	1,152	81%	19%	35%	41%	25%	35.7	5	0.273	685	44%
The former Soviet Union	395	2,470	83%	17%	30%	27%	43%	34.1	5	0.312	547	48%
Asia												

South America	158	616	86%	14%	21%	40%	39%	34.7	6	0.327	569	59%	54%
North America, Japan and Oceania	126	322	75%	25%	35%	21%	44%	36.2	8	0.248	709	55%	61%
The entire sample	12,838	21,344	56%	11%	12%	18%	22%	39.5	10	0.275	1082	76%	39%

*Note:* \*Randomly selected 2% of women of 16-49 years old. YSM – years since in-migration. CPI – adjusted by customer price index.

## Appendix A2 Local labour market characteristics

Local labour market	Municipality	City type
<b>Västerbotten</b>		
<b>Storuman</b>	Storuman	Remote
	Malå	Remote
<b>Lycksele</b>	Lycksele	Remote
<b>Dorotea</b>	Dorotea	Remote
<b>Vilhelmina</b>	Vilhelmina	Remote
<b>Åsele</b>	Åsele	Remote
<b>Sorsele</b>	Sorsele	Remote
	Nordmaling	Fringe
<b>Umeå</b>	Bjurholm	Fringe
	Vindeln	Fringe
	Robertsfors	Fringe
	Vännäs	Fringe
	Umeå	City
	Norsjö	Fringe
<b>Skellefteå</b>	Skellefteå	City
<b>Norrbottn</b>		
<b>Arjeplog</b>	Arjeplog	Remote
<b>Arvidsjaur</b>	Arvidsjaur	Remote
<b>Luleå</b>	Kalix	Fringe
	Älvsbyn	Fringe
	Luleå	City
	Piteå	Fringe
	Boden	Fringe
<b>Överkalix</b>	Överkalix	Fringe
<b>Övertorneå</b>	Övertorneå	Fringe
<b>Haparanda</b>	Haparanda	Remote
<b>Pajala</b>	Pajala	Remote
<b>Jokkmokk</b>	Jokkmokk	Remote
<b>Gällivare</b>	Gällivare	Remote
<b>Kiruna</b>	Kiruna	Remote

Source: SCB

### Appendix 3. Estimates of Earnings

Variable	Log_earnings (CPI)			
	married	married	pool	pool

Labour Market Outcomes of Migrant Women in Västerbotten and Norrbotten

<b>Woman</b>	<b>Age</b>	0.188***	0.184***	0.164***	0.164***
	<b>Age squared</b>	-0.002***	-0.002***	-0.002***	-0.002***
<b>Woman's education</b>	<b>Non available</b>	Ref.	Ref.	Ref.	Ref.
	<b>Compulsory schooling 9 yrs or less</b>	0.647***	0.659***	0.872***	0.895***
	<b>Secondary and post-secondary education less than two years</b>	1.252***	1.265***	1.516***	1.528***
	<b>Post-secondary for two years or longer or postgraduate education</b>	1.720***	1.721***	2.073***	2.060***
	<b>YSM</b>	0.221***	0.221***	0.208***	0.207***
	<b>YSM squared</b>	-0.002***	-0.002***	-0.002***	-0.002***
<b>Partner</b>	<b>Age</b>	0.050**	0.054***		
	<b>Age squared</b>	-0.001***	-0.001***		
<b>Partner's education</b>	<b>Non available</b>	Ref.	Ref.		
	<b>Compulsory schooling 9 yrs or less</b>	0.468***	0.489***		
	<b>Secondary and post-secondary education less than two years</b>	0.499***	0.510***		
	<b>Post-secondary for two years or longer or postgraduate education</b>	0.671***	0.665***		
<b>Number of children</b>	<b>0-3 years old</b>	-0.663***	-0.652***	-0.692***	-0.682***
	<b>4-6 years old</b>	-0.006	0.003	0.031	0.035
	<b>7-10 years old</b>	-0.044	-0.042	-0.008	-0.006
	<b>11-15 years old</b>	-0.033	-0.026	0.008	0.016
	<b>16-17 years old</b>	0.006	0.003	0.101*	0.106**
<b>Children in their pre-school age</b>	<b>No children in their pre-school age</b>	Ref.	Ref.	Ref.	Ref.
	<b>Swedish-born</b>	-0.329***	-0.333***	-0.238***	-0.236***
	<b>The Nordic countries</b>	0.493***	0.507***	0.418***	0.428***
	<b>Europe</b>	0.141	0.145	0.195*	0.201*
	<b>Refugees</b>	-0.165	-0.189	-0.073	-0.084
	<b>Other</b>	-0.118	-0.139	0.082	0.071
<b>Civil status</b>	<b>Married to Swedish-born partner</b>	0.687***	0.702***	0.988***	0.997***
	<b>Married to immigrant partner</b>	Ref.	Ref.	0.238***	0.227***
	<b>Single</b>			Ref.	Ref.

<b>Labour immigrant</b>	<b>Married to Swedish-born partner</b>	1.741***	1.714***	1.736***	1.716***
	<b>Married to immigrant partner</b>	3.040***	3.028***	3.067***	3.059***
	<b>Single</b>			3.398***	3.385***
<b>Other immigrants</b>		Ref.	Ref.	Ref.	Ref.
<b>Time trend</b>	<b>Swedish-born</b>	0.019***	0.018***	0.014***	0.014***
	<b>The Nordic countries</b>	-0.052***	-0.049***	-0.061***	-0.059***
	<b>Europe</b>	-0.008	-0.008	-0.009	-0.01
	<b>Refugees</b>	0.030**	0.028**	0.018*	0.017*
	<b>Other</b>	0.014	0.015*	0.005	0.004
<b>Immigrant group</b>	<b>Swedish-born</b>	Ref.	Ref.	Ref.	Ref.
	<b>Finland</b>	-2.219***	-2.125***	-1.778***	-1.667***
	<b>Denmark</b>	-1.044***	-1.148***	-0.847***	-0.900***
	<b>Norway/Island</b>	-1.595***	-1.683***	-1.257***	-1.314***
	<b>Central and Northern Europe</b>	-1.898***	-1.958***	-1.715***	-1.753***
	<b>South Europe</b>	-2.222***	-2.245***	-2.259***	-2.278***
	<b>Eastern Europe</b>	-1.929***	-1.965***	-1.729***	-1.721***
	<b>Baltic Countries</b>	-1.896***	-1.818***	-1.560***	-1.466***
	<b>Poland</b>	-1.128***	-1.167***	-1.020***	-1.030***
	<b>Former Yugoslavia</b>	-1.534***	-1.532***	-1.351***	-1.340***
	<b>Turkey</b>	-3.368***	-3.408***	-2.641***	-2.663***
	<b>North Africa and Middle East</b>	-2.811***	-2.831***	-2.541***	-2.554***
	<b>Central and South Africa</b>	-2.393***	-2.436***	-2.135***	-2.161***
	<b>Iraq/Iran</b>	-3.084***	-3.093***	-2.812***	-2.813***
	<b>Former Soviet Union</b>	-1.976***	-1.980***	-1.754***	-1.725***
	<b>Asia</b>	-1.958***	-2.001***	-1.764***	-1.771***
	<b>South America</b>	-2.048***	-2.070***	-1.974***	-1.989***
<b>North America, Japan and Oceania</b>	-2.470***	-2.501***	-2.548***	-2.562***	
<b>City type</b>	<b>City</b>	Ref.		Ref.	
	<b>Fringe</b>	0.014		0.051	
	<b>Remote</b>	0.051		0.065	
	<b>Sex ratio</b>	-0.145		0.252	
	<b>Unemployment level</b>	0.076***		0.061***	
<b>Local labour markets</b>	<b>Storuman</b>		-0.077		-0.004

Lycksele		-0.273		-0.202
Dorotea		0.577***		0.493*
Vilhelmina		-0.768***		-0.301
Åsele		-0.788*		-0.705***
Sorsele		0.340		0.318
Umeå		Ref.		Ref.
Skellefteå		-0.376*		-0.378**
Arvidsjaur		-0.093		-0.057
Arjeplog		0.338*		0.442**
Luleå		-0.117		-0.08
Överkalix		-0.492*		0.148
Övertorneå		-0.554**		-0.534**
Haparanda		-0.642***		-0.556***
Pajala		-0.039		0.1
Jokkmokk		-0.052		-0.108
Gällivare		0.163		0.047
Kiruna		-0.143		0.053
Intercept	-1.927*	-1.658***	-0.974	-0.306
N of observations	138139	138873	183473	184335

*Note:* Asterisks indicate  $p$ -values less than 0.001 (\*\*\*), 0.01 (\*\*), and 0.05 (\*).

## Appendix 4. Estimates of LFP

Variable		Women employed			
		married	married	pool	pool
Woman	Age	0.086***	0.084***	0.048***	0.048***
	Age squared	-0.001***	-0.001***	-0.001***	-0.001***
Woman's education	Non available	Ref.	Ref.	Ref.	Ref.
	Compulsory schooling 9 yrs or less	0.440***	0.446***	0.582***	0.592***
	Secondary and post-secondary education less than two years	0.714***	0.724***	0.846***	0.854***
	Post-secondary for two years or longer or postgraduate education	0.886***	0.887***	1.035***	1.031***
	YSM	0.099***	0.099***	0.085***	0.086***
	YSM squared	-0.001***	-0.001***	-0.001***	-0.001***
	Partner	Age	0.012	0.016	
	Age squared	0.000	-0.000*		
Partner's education	Non available	Ref.	Ref.		
	Compulsory schooling 9 yrs or less	0.307***	0.317***		
	Secondary and post-secondary education less than two years	0.289***	0.295***		
	Post-secondary for two years or longer or postgraduate education	0.327***	0.322***		
Number of children	0-3 years old	-0.266***	-0.263***	-0.274***	-0.270***
	4-6 years old	-0.004	-0.001	0.024	0.026
	7-10 years old	-0.033	-0.032	0.002	0.005
	11-15 years old	-0.004	-0.001	0.022	0.026
	16-17 years old	0.026	0.024	0.108***	0.110***
Children in their pre-school age	No children in their pre-school age	Ref.	Ref.	Ref.	Ref.
	Swedish-born	-0.082	-0.083	0.012	0.013
	The Nordic countries	0.302***	0.313***	0.279***	0.288***
	Europe	0.057	0.065	0.096	0.101
	Refugees	-0.087	-0.096	-0.066	-0.07
	Civil status	Married to Swedish-born partner	0.328***	0.342***	0.448***

Variable		Women employed			
Labour immigrant	Married to immigrant partner	Ref.	Ref.	0.077***	0.073***
	Single			Ref.	Ref.
	Married to Swedish-born partner	0.945***	0.939***	0.935***	0.933***
Labour immigrant	Married to immigrant partner	1.593***	1.598***	1.580***	1.584***
	Single			1.733***	1.742***
Other immigrants		Ref.	Ref.	Ref.	Ref.
Time trend	Swedish-born	-0.008***	-0.008***	-0.015***	-0.015***
	The Nordic countries	-0.035***	-0.035***	-0.039***	-0.039***
	Europe	-0.012*	-0.012*	-0.015***	-0.016***
	Refugees	0.001	-0.001	-0.006	-0.006
	Other	-0.005	-0.005	-0.008**	-0.008**
Immigrant group					
	Swedish-born	Ref.	Ref.	Ref.	Ref.
	Finland	-1.263***	-1.237***	-1.003***	-0.949***
	Denmark	-0.530***	-0.587***	-0.531***	-0.558***
	Norway/Island	-0.860***	-0.907***	-0.706***	-0.738***
	Central and Northern Europe	-1.037***	-1.085***	-0.936***	-0.964***
	South Europe	-1.246***	-1.258***	-1.228***	-1.238***
	Eastern Europe	-1.144***	-1.174***	-0.983***	-0.986***
	Baltic Countries	-1.036***	-1.021***	-0.851***	-0.804***
	Poland	-0.777***	-0.812***	-0.681***	-0.694***
	Former Yugoslavia	-0.931***	-0.940***	-0.803***	-0.804***
	Turkey	-1.553***	-1.596***	-1.190***	-1.213***
	North Africa and Middle East	-1.394***	-1.414***	-1.226***	-1.238***
	Central and South Africa	-1.190***	-1.227***	-1.041***	-1.063***
	Iraq/Iran	-1.553***	-1.577***	-1.382***	-1.395***
	Former Soviet Union	-1.046***	-1.063***	-0.912***	-0.903***
	Asia	-1.032***	-1.068***	-0.920***	-0.929***
	South America	-1.076***	-1.113***	-1.024***	-1.046***
	North America, Japan and Oceania	-1.280***	-1.313***	-1.297***	-1.314***
City type	City	Ref.		Ref.	
	Fringe	0.05		0.050*	
	Remote	0.057		0.058*	
	Sex ratio	-0.35		-0.012	

Variable	Women employed			
Unemployment level	0.029*		0.016	
<b>Local labour markets</b>				
Storuman		-0.044		0.05
Lycksele		-0.129		-0.076
Dorotea		0.356**		0.308*
Vilhelmina		-0.340*		-0.097
Åsele		-0.379*		-0.230*
Sorsele		0.238*		0.267*
Umeå		Ref.		Ref.
Skellefteå		-0.168		-0.139*
Arvidsjaur		0.05		0.077
Arjeplog		0.292**		0.422***
Luleå		-0.049		-0.028
Överkalix		-0.179		0.064
Övertorneå		-0.307**		-0.290***
Haparanda		-0.225*		-0.217***
Pajala		0.059		0.122
Jokkmokk		0.036		0.024
Gällivare		0.016		-0.041
Kiruna		-0.093		0.031
Intercept	-1.673***	-1.869***	-1.049**	-0.875***
<b>N of observations</b>	138139	138873	183473	184335

Note: Asterisks indicate  $p$ -values less than 0.001 (\*\*\*), 0.01 (\*\*), and 0.05 (\*).

# DISTANCE EDUCATION IN THE NORTHERN REGIONS OF RUSSIA

Viacheslav Lipatov

*Distance education in the Northern regions of the Russian Federation contributes to solving Circumpolar North educational problems by delivering quality courses to remote areas, simplifying the organization of joint US-Russian educational and scientific projects and creating international student communities in both countries. Many Russian universities are developing their own learning management systems and using asynchronous courses. The University of the Arctic (UArctic) is increasing the interest in the use of information and communication technology and open learning resources and networks. In 2008 the UArctic Thematic Network on Distance Education and E-learning began to function. In 2014 the Natural Hazards Thematic Network of UArctic organized a workshop to develop an online course in natural hazards. The Internet and distance education create a new opportunity for indigenous peoples to study a native language and knowledge.*

## Introduction

The research question of this article is: Does distance learning in the Northern regions of the Russian Federation contribute to solving educational problems in the Circumpolar North? The main goals of the research are to identify contemporary educational problems in the Arctic; to analyze the specifics of distance education in the Circumpolar North; to carry out an analysis of distance education in the Russian North; and to examine current and potential US-Russian joint educational and academic projects in the Circumpolar North.

The Arctic Human Development Report I (2004: 169) indicates that there is very little circumpolar research in the field of education and now it is almost impossible to make a circumpolar assessment

of education. This article starts an initial discussion of the theme that might be further explored in future work.

The research base consists of research papers and conferences on distance education in the Arctic; government documents and legislation; website information of international and Russian universities; statistical sources; and mass media including online sources.

To analyze the base of research, the following research methods were used: a comparative analysis of Arctic and Russian distance education; distance education reports and material contextual analysis; the legalistic method of analysis; and a comparative quantitative analysis of social and educational indicators.

## Background

### *Education in the Arctic*

The North is a vast area characterized by its remoteness. For a definition based on human geography, the Arctic would better be termed the remote region occupying the northernmost expanses of Asia, Europe, and North America (Berman 2013). Huskey and Morehouse (1992) described a remote region as an area with a unique combination of features. Remote regions are remote geographically, economically, and politically. They are distant from large, urban industrial and political centers, and they are sparsely settled. Most of them contain Native or indigenous populations as well as non-Native immigrants, and they have a mix of traditional and Western institutions. Typically, they have limited market economies, and they are dependent on natural resource exports, government transfers, and subsistence activities. The costs of doing public and private business are high. Important decisions affecting these areas are made in distant metropolitan centers. These remote regions lack both political autonomy and economic self-sufficiency.

A significant implication of these characteristics is that most of the researchers view remote regions as problem areas suffering from a complex set of physical, economic, and political limits on their security, welfare, and autonomy.

Development, in this view, is a process of overcoming obstacles to desired forms of change. Different, often conflicting, objectives for social, economic, and political change are sought by organized interests within and outside the region.

Education is an essential component of the sustainable development. As Nelson Mandela said, "Education is the most powerful weapon you can use to change the world." Based on the UNESCO principles, citizens of the world need to learn their way to sustainability. Our current knowledge base does not contain the solutions to contemporary global environmental, societal and economic problems. Today's education is crucial to the ability of present and future leaders and citizens to create solutions and find new paths to a better future.

Education for sustainable development (ESD) is not a particular UNESCO programme or project, but is rather an umbrella for many forms of education that already exist, and new ones that remain to be created. ESD promotes efforts to rethink educational programs and systems (both methods

and contents) that currently support unsustainable societies. ESD affects all components of education: legislation, policy, finance, curriculum, instruction, learning, assessment, etc. ESD calls for lifelong learning and recognizes the fact that the educational needs of people change over their lifetime. Many individuals and organizations around the world already implement ESD (e.g. a teacher weaving sustainability themes into primary education using participatory methods; a community development worker raising people's awareness on rights which are denied to them; or a public health worker training people to draw water from clean sources). There are many programs using an ESD approach to learning which is critical for achieving sustainability.

ESD has essential characteristics that can be implemented in many culturally appropriate forms. Education for sustainable development: is based on the principles and values that underlie sustainable development; deals with the well-being of all four dimensions of sustainability – environment, society, culture and economy; uses a variety of pedagogical techniques that promote participatory learning and higher-order thinking skills; promotes lifelong learning; is locally relevant and culturally appropriate; is based on local needs, perceptions and conditions, but acknowledges that fulfilling local needs often has international effects and consequences; engages formal, non-formal and informal education; accommodates the evolving nature of the concept of sustainability; addresses content, taking into account context, global issues and local priorities; builds civil capacity for community-based decision-making, social tolerance, environmental stewardship, an adaptable workforce, and a good quality of life; is interdisciplinary. No single discipline can claim ESD for itself; all disciplines can contribute to ESD (The official website of UNESCO).

However, for the Arctic there is a history of education systems that tried to force central school models on local people, including different degrees of suppression of local language. This has been improved today to various degrees in the Arctic States. But the lack of skilled teachers with local roots is a circumpolar-wide challenge. Arctic higher educational institutions also face many challenges when attempting to be innovative and competitive due to their small size and geographic isolation (Kullerud 2009).

Education should be an important indicator for human development in the circumpolar region. Each of the circumpolar states has a vested interest in education. There are certain common characteristics in northern education. For example, some aspects of what students learn during their primary and secondary school years, and even beyond to post-secondary education, is on the surface similar in all parts of the circumpolar North. In Narsaq, Greenland, students will acquire some of the same knowledge as those in Norilsk, Russia, even if there will be some obvious language and culture differences. The situation in the North is special because the region for many years has been impressed by closed borders – a border that separated the East from the West and that represents great language, economic, technological, and social differences. However, the peoples in the high North have much in common, such as their closeness to nature and its seasons.

Comparisons show similar systems of organization, school administration, and textbook subject matter, though the size of classes and economics of education vary a great deal. This holds true when comparing a number of schools in each of the larger urban communities. The graduates from

these different schools will follow goals and objectives set within the social and historical context of where they live, as well as the economic and cultural specifics of their times.

A proportion of students will continue past primary school through secondary school graduation, and, in some cases, even beyond to technical colleges and post-secondary institutions. In parallel to the official education system, in particular for indigenous peoples, traditional learning also progresses through stages of education in both culture and language. In many jurisdictions where indigenous peoples form the majority, the formal content of education, the curriculum and language of instruction, and perhaps even the textbooks and other educational supports are based on their language and culture. Where indigenous peoples are in the minority, they are all too often marginalized (AHDR I).

Another important element for the Arctic is the concept of the digital divide that was used to describe the East-West situation of the North. It includes the imbalance in physical access to technology and in the resources and skills needed to effectively participate as a digital user. The term was introduced in the 1990s to describe the gap in ownership of computers between ethnic groups, but later it was also utilized to refer to differences in access between countries.

Education is one area where the digital divide has an impact. And by bridging the digital divide, it is possible for regions to enhance communication with other countries and therefore to offer better educational and social opportunities.

The realities of the Arctic region with its vast distances, great cultural diversity, and small communities and institutions called for a common effort by the involved nations and universities. The University of the Arctic (UArctic) started in 2001 as a virtual university with the mission to “Empower the residents of the Circumpolar North, by building human capital through higher education.” UArctic is a cooperative network of universities, colleges, and other organizations committed to higher education and research in the North. UArctic has developed innovative courses offered in the classroom and in the field or delivered online, including north2north student exchange programs.

UArctic does not have its own students. In order to participate in the majority of its programs, students must be registered at any one of its member institutions. If a student is not registered at one of these institutions, he or she can apply as a part-time or visiting student at one of its institutions.

UArctic is not a degree-granting institution. It is a network of institutions who are involved in higher education and research in the Circumpolar North. Each institution sets their own admission and degree requirements (The official website of University of the Arctic).

A significant development in northern higher education is the increased interest in the use of information and communication technology and open learning resources and networks. This is reflected in the University of the Arctic and the Northern Research Forum. Their efforts to raise awareness of natural and cultural circumstance of the Arctic and promoting dialogue among members of the research community and a wide range of other stakeholders in the Arctic have been applauded by the Arctic education ministers (AHDR I 2004).

The University of the Arctic Thematic Network on Distance Education and E-learning was started in 2008. The University of Tromsø, Faculty of Education, is the lead and the host institution in the network, with partners from Nordic countries, Russia, and Canada.

The Thematic Network's main activities can be described as sharing experiences with E-learning with members of the Network; identifying the relevant challenges and problems in the field of E-learning in the Arctic countries; facilitating student and teacher exchanges; facilitating collaborative research projects, conferences; and publications in the area of E-learning; and drafting applications for funding the network and activities within the network education (The official website of the Thematic Network on Distance Education and E-learning).

In 2009 the thematic network arranged a conference in Murmansk in the Russian Federation on flexible learning, together with Murmansk State Pedagogical University. The aim of the e-learning part of the conference was to exchange knowledge and research about e-learning and to host a discussion of the methodology of the field. It was centered on the learning processes, pedagogy, and appropriate information technologies necessary to deliver content to and support distant learners. The sessions had their main focus on education in the Arctic communities and regions. Particular emphasis was placed on technology-enhanced learning, and the pedagogic and creative use of learning management systems (LMS) were discussed, together with issues related to teacher training and digital resources from the Arctic region. Five of the presentations were from Russia, three from Canada, one from Denmark, and nine from Norway (Thorvaldsen 2011).

### *Distance Education in the Circumpolar North*

Distance learning is seen as an obvious solution for remote learners, and the use of online media is expected to overcome any access difficulties imposed by geographical distance. Macintyre (2011) indicates that the researchers found that perceptions of remoteness depended on geography, but were also relative to individual circumstances. With respect to students' sense of connection with university staff and peers, most mentioned their contact with their personal tutor. Networks with peers were less common, a matter of concern if peer networks are integral to fostering improved retention and progression. In this particular context, distance education may be playing an important and distinctive role for remote students by providing opportunities for connections with like-minded people.

An emerging trend for circumpolar education is its increasing accessibility. Accessibility is about students being able to take classes and fulfill their potential, that is, it concerns their possibilities for attending school, both physically and culturally. Even though this increased accessibility of education is occurring in some places, it is not unique to the North. Rather, it is a reflection of changes that have occurred in urbanized areas around the world, where population growth, increased living standards, modernity, and technology have been transforming schools for the past fifty years (AHDR I 2004).

The importance of equal access to higher education was emphasized repeatedly in the declarations that emerged from the 1998 World Conference on Higher Education. UNESCO reaffirmed Article 26(1) of the Universal Declaration of Human Rights proclaiming, "Everyone has the right to

education . . . higher education shall be equally accessible to all on the basis of merit.” Increasing the participation and role of women in higher education was emphasized, but the declaration included many other factors and conditions that have resulted in inequitable patterns of participation.

Much progress has been made. While many countries have enrolled upwards of 50% of the age cohort (and therefore reflect the extent of massification during the last few decades), too many countries still enroll only a small percentage of their cohort. Poorer nations are likely to enroll fewer students than wealthier nations. Additionally, even as enrollment has expanded, participation has rarely been representative of the society as a whole. Within most nations, access to higher education is often (still) the privilege of specific segments of society.

Many nations have attempted to address inequities with aggressive policies (e.g. affirmative action or reservation policies for admission), innovative financing schemes, and tutoring programs, but it is always clear that these patterns are not easily erased and the challenge remains of making higher education truly accessible to all.

New providers, new delivery methods, the diversity of postsecondary institutions, and the ease of international mobility should (in theory) make higher education available to more people. While this has indeed been the case, the diversity of opportunities has also helped to underscore those pernicious issues that hamper progress (Trends 2009: 37).

For the circumpolar countries, there are existing post-secondary institutions in the Arctic that either by campus or program location and/or through adapted new delivery systems try to improve accessibility. The model of the University of Arctic allows for a dynamic development of shared education systems through mutual cooperation. This network can be a very efficient tool for delivering a relevant curriculum for a changing North (Cruller 2009).

For example, more than 40 scientists and students from universities of the U.S., Canada, Finland, Germany, Norway and the leading Russian universities - members of the consortium of the University of the Arctic – took part in the Natural Hazards workshop which ended in Northern (Arctic) Federal University (NarFU), Arkhangelsk, on the 22 of March 2014. The workshop was the first major activity of the newly formed Natural Hazards Thematic Network of UArctic. The goal of the workshop was to begin development of an online course for UArctic in natural hazards. Construction of the course itself is expected to take about a year.

The workshop organized in Arkhangelsk by University of Alaska Fairbanks (UAF) and NarFU is unique. Its particular features are: (1) leading roles in design and implementation of the course is given to students; (2) multi-national and multi-disciplinary knowledge and perspectives on most common natural hazards, as well as their social and policy implications, are included into the course; and (3) an emphasis is put on problems that are unique to or exacerbated by Arctic conditions. The latter includes presence of ice, limited transportation infrastructure, great length of supply lines, and the time pressure for response that extreme cold imposes.

The main outcome of the event was development of the concept of the on-line course “Natural Hazards”. In March 2014, the participants discussed the preliminary results. Students made presentations on thematic modules of the course: Earthquakes, Tsunamis, Forest Fires, Floods, and

Volcanoes. Students reported that it was very difficult to include all interesting information in a short educational program, so in future the modules will include only the most basic issues.

The distance course will be based on lectures. However, practical exercises, particularly the method of case studies, will be also included. The joint educational course will be designed for MA and PhD students of UArctic. Participants will continue further work over the course during spring and summer of this year. In September 2014, the group plans to discuss the course modules in Alaska (The official website of the Thematic Networks on Natural Hazards – <http://www.uarctic.org/organization/thematic-networks/natural-hazards/>).

Individual universities of the continuum will offer the distance course on the natural hazards using the same content, but their individual delivery and learning management systems. For example, the Moscow State University of Economics, Statistics and Informatics (MESI) and its northern branches will use a self-made learning management system Virtual campus.

Using a system of electronic training of MESI, in the 2014 spring semester the author developed a module “Image of Natural Disasters in the French and Russian Literature” for graduate students of “Theory of mass communications and international public relations”. The module was organized as a blended course combining elements of traditional and electronic models of education.

The MESI traditional model means internal communication with educators, lessons in a class, etc. The electronic model entails training with the use of information technologies: use of Internet resources, communication with educators in forums, viewing of training materials via online, passing tests via the computer, etc.

For authorization on the site of the Virtual Campus, it is necessary to specify a login and password. At the beginning of a semester each student receives an individual login and password for the login. This information is strictly confidential and isn't subject to disclosure. As the Virtual Campus is realized on the Microsoft Share point 2010 platform, only the MS Internet Explorer browser can work correctly in the system. Students are given assignments, appointed electronic training events, for example, tests, electronic textbooks, tasks, forums etc.

One of the assignments for the course is a 3-5 page essay on the theme “The image of natural disasters in the literature”. The following literature works could be used: 1) Gorodetsky S. M. “I love you one”, 2) Voltaire “Candide”, and 3) Heinrich von Kleist “The Earthquake in Chile”.

Materials of the module and results of the educational process will be used for a Social Sciences module of the University of the Arctic online course “Natural Hazards in the Arctic”.

This blended course was effective as other programs aimed at extramural and part-time (evening) students. The results of tests and assignments in the Virtual campus really showed the students' abilities. Full-time students at the Bachelor level will probably not be so productive on this course based on the experience the author has faced educating within other disciplines.

The extramural tuition in Russia is the type of the independent studies. 30% of it is the contact lessons with a teacher in the form of the introductory lectures on the subject, seminars, colloquiums, etc. Here the subject-course system of education is used.

In other words, in the beginning of the academic year, which is usually put off in comparison with the other types of training, the students of the extramural tuition get a so called “adjusting course” (as a rule the academic year of the full- and part-time studies starts on September, 1, and lasts till June, 30, inclusive; as for the extramural studies, the academic year starts later, on October, 1).

The adjusting course is a brief review of the subjects (several introductory lectures), which the students will study independently in the future and pass examinations in them.

The adjusting course usually lasts 2 - 3 weeks of working days. Then over the course of about 4 - 5 months the students train independently in the subjects they have had at the adjusting course. In 4 - 5 months the examination takes place, during which time educators determine the students' level of the subject knowledge and attest them. After that the students receive the next adjusting course for a new set of subjects and everything repeats over 4 - 5 months.

The externship is the independent training by the student of the subjects provided by the educational programme in the chosen specialty with the following attestation (current and final) in the institute of higher education.

The lessons of the exemplary evening studies are conducted in the evening. Usually there are 6 - 8 lessons per week. The evening studies are convenient for those who work. The lessons usually start after 18:00. Usually there are 2 - 3 pairs or paired lessons (1 pair lasts 80 minutes).

The contact lessons do not take so much time in comparison with the lessons of full-time studies.

The percentage of lessons with a teacher and independent studies is 50%. Contact lessons are usually conducted in the form of lectures, seminars, colloquiums, etc.

Recently a modified type of the exemplary evening studies has been extended. The difference of this training type from the exemplary evening studies is that the lessons are conducted in weekend days, mostly on Saturdays or Sundays (sometimes there can be two days running), and the number of pairs is increased to 4 - 5 per day consequently (Information and Analytical System).

Though distance or online education is developing in Russia, there are a lot of gaps in the national educational standards. The world experience, particularly in the Arctic, is very important.

Generally online learning is a form of distance learning, and distance learning is just that - learning at a distance - education unbound from the physical site of a classroom. The terms distance learning, distance education, virtual education, and online education are often used interchangeably. “Distance” refers to the geographic separation between teachers and students, as well as the time gap that can separate lessons taught and lessons learned. Students can attend a college regardless of geography with the ease and control of technology.

Distance learning is not a new phenomenon - correspondence courses have been around for centuries and it is common today for people to self-educate themselves via CD-ROM, DVD, podcasts, and other technological tools - but the evolution of the Internet ushered in a new era of distance learning: widespread online higher education.

Online education has its roots in the business world, where companies were quick to utilize computers and multimedia; as the Internet began to come into its own, businesses found it an ideal vessel for employee training programs.

Online education programs are unique creatures, customized to content and stylized by instructors, but are commonly categorized into two types: asynchronous and synchronous. Most online courses are asynchronous. Asynchronous learning is the method in which the teaching occurs at one time and the learning occurs at another. Material is posted to web pages, delivered via email, or packaged in software, and can consist of reading assignments, video recordings, audio clips, or other lesson tools. Students then individually access and navigate this material, without necessarily needing to coordinate with other students in the course. Synchronous learning is the method in which teaching and learning happen at a synchronized time. Faculty and students share a common schedule and meet together via audio or video conferencing, web-based lectures, virtual classrooms, live chats, and the like. This method is becoming increasingly utilized as online education expands its reach (Marshall 2010).

There are a number of reasons students pursue an online education. Choice is one: without geographic limitations or relocation issues, students can consider schools that otherwise may not have been an option. The convenience and comfort of managing online course work at home is not just appealing but often necessary, especially for busy professionals and parents without the time to commute to a college campus. Online programs offer multiple course sessions and make fewer scheduling demands than traditional universities; students have greater flexibility to customize coursework and study time according to their own specifications. Online learning can also be cost-effective because it eliminates room, board, and other fees built into campus learning (Marshall 2010).

The US Department of Education research in online education has found encouraging results. Students in online environments performed modestly better, on average, than those learning the same material through traditional face-to-face instruction. Learning outcomes for students who engaged in online learning exceeded those of students receiving face-to-face instruction (*Evidence-Based Practices in Online Learning* 2009).

There is evidence that the practice of Arctic countries confirms the effectiveness of online or distance education. Taking into account the Arctic Social Indicators (Larsen 2010: 76), Statistics Iceland has examined the drop-out rate of students in tertiary education by comparing the Statistics Iceland Student Register with the Register of Examinations. The results show that from autumn 2002 to autumn 2003 a total of 2,037 students dropped out of school or took a temporary leave from their studies, resulting in a drop-out rate of 14.7%. The rate was lower among students in day courses and distance learning and higher among students in evening courses. In addition, the drop-out rate was lower among students in full-time study and higher among students in part-time study. So, in Iceland there is the same tendency as in Russia in the area of distance learning for the evening and part-time education.

The main technological characteristics of distance education is a Learning Management System (LMS), a Course Management System (CMS) or a Virtual Learning Environment (VLE). It is software used for delivering, tracking and managing training/education. LMSs range from systems for managing training/educational records to software for distributing courses over the Internet and offering features for online collaboration (Mahnegar, 2012). Blackboard is one of the leading commercial LMS software packages used by North American and European universities. Educators have other opportunities as well. Moodle is a course management system. It is a free web application that educators can use to create effective online learning sites (The website of Moodle). Many institutions, in particular, in Russia are developing their own LMS, sometimes using open source approaches.

As has been discussed, there are two primary types of distance learning activities: asynchronous learning and synchronous learning. Synchronous is live or “real time”, participants are all logged in and communicating at the same time. Adobe Connect webinar or online chat are examples. Asynchronous is not live or “not real-time”, participants log in and communicate at different times depending on what is most convenient to them. Online individual, team, and whole group discussions are examples (Hopkins 2010).

Distance education uses interactive telecommunication tools as primary or adjunctive media to promote learning. These tools may take various forms, including groupware programs (such as Webex and Skype); teleconferencing applications; web camcorders; presentation applications (such as Powerpoint); and learning management systems (such as Blackboard/WebCT, Plateau, eCollege, Flex Training, Travantis, Lectora, and Moodle) (Pajarillo 2012).

Web-based distance learning environments use course management systems, portals, and custom designed Web-pages to deliver instructional-learning modules to students at their convenience. Social networking, collective decision making, and blogging types of applications should be incorporated into the current Web 1.0-based course management systems. The Blackboard course management system improves learning by highlighting increased communication between the professor and students, cooperation among students, immediate feedback, and acknowledgement of the diverse ways of learning among students.

E-learning environments are at a crossroads. They can continue to expand the use of course management systems that provide the standard plate of offerings (i.e., notes, assignments, quizzes, multiple-choice tests, discussion boards, and chat rooms), or they can create interactive learning environments that provide modeling, engaging activities, assessment of student performance, and immediate feedback using intelligent tutorial technologies (Wijekumar 2010).

## **Distance Education in Russia**

### *The Russian Federation Distance Technologies*

The education in Russian rural and remote areas of the North has a lot of problems. It may be that to many inhabitants of the Russian Federation, especially in the rural parts, the idea of having access to the Internet seems rather unreal, or utopian. At present, for many people in Russia Internet

access is simply not feasible. Computers are restricted to urban areas and, moreover, considerably less than in North America, Western Europe and Japan. The telephone system in many rural areas is not reliable or not automated at all. This is an even more crucial point in the remote areas of the Far North. Electric power supply is an additional problem: in small settlements it is provided by diesel generators, it is restricted sometimes to one or only half an hour daily, power failure occurs quite often (about once a week), and sometimes it lasts for several hours. Under these conditions one cannot rely on photocopiers and fax, let alone computers. It is obvious that the local inhabitants must tackle problems, which are by far more elementary than the use of computers or access to the Internet (Habeck 1998).

However, due to the remoteness of schools in northern Russia, new information technologies and distance education are becoming increasingly attractive options. Not all northern schools are uniformly well equipped with computers and software. In the Sakha Republic as of 2003, both village schools and town schools had one computer per 23 students, while in Russia as a whole the average was one computer per 500 students. Most comprehensive schools use local networks, and all secondary schools have Internet access (AHDR I 2004: 172).

One of the possible ways of solving this problem is the establishment of new universities and branches. New outreach programs on the part of metropolitan universities in Moscow and St. Petersburg stimulate the expansion of high education in the North (Vasiliev 2002: 155-157). These university branches in the North and Siberia can increase investments on infrastructure, maintenance and equipment. The uniform university standard on information technologies and IT program services helps branches to use modern technologies in the educational process.

For example, the Moscow State University of Economics, Statistics and Informatics (MESI) is the Russian first electronic distributed university. Along with its Moscow campus, MESI comprises 13 branches and about 200 study centers all over Russia (from Kaliningrad to Vladivostok) and abroad (Armenia, Belarus, Israel, Kazakhstan, Latvia, Ukraine and Uzbekistan). MESI has campuses in northern and Siberian regions: in Buryat, Kemerovo, Perm, Krasnoyarsk, Khakassia and Altai.

All regional divisions are connected by a uniform corporate network and realize educational programs on the basis of uniform information educational environment with the use of uniform content, library resources, faculty and uniform management. MESI regional campuses use uniform university standards on information technologies and corresponding program services. Branches have an access to all resources of the head higher education institution in Moscow and “mirror” copies of its technological infrastructure. Each student, regardless of his place of resident, has access to all educational resources of university that allows guaranteeing the highest quality of training in all regional structures of MESI (The official website of MESI). For example, students have access to a syllabus for a hybrid interdisciplinary course “Interest Groups and Lobbying in the United States” which content is partly described in a MESI publication (Lipatov 2013). They can evaluate its content and choose.

Unfortunately, MESI and other Russian universities uses a self-made learning management system and teach asynchronous courses via online. It limits distance education effectiveness and does not

allow teachers, college and university instructors and educators to use the latest and greatest technology to promote collaboration, as well as assess and improve performance.

Many Russian northern universities using the e-learning environment are facing a motivation problem. For instance, North-Eastern Federal University, previously known as Yakutsk State University, has created a lot of digital training materials, but educators in the learning process do not widely and effectively use these materials. There are many reasons for this, including no access to the Internet or lack of compensation for creating new media (Zamorshchikova 2011).

MESI has successfully resolved this traditional problem. A multilevel wage system encourages professors who teach hybrid courses using the e-learning environment by creating course website, engaging students in social learning, weaving multimedia into class content, assessing performance and managing grades, and sharing open education resources. These educators have an additional pay per hour.

Higher education in the northern and Siberian regions of Russia needs indigenous language training. One of the positive aspects after the collapse of the USSR is the fact that the number of languages taught in Russian schools doubled between 1991 and 1995. In 1987 students could be educated through grade 10 in four languages other than Russian (Georgian, Bashkir, Armenian, and Tatar). Five years later Russian students could be educated through compulsory education in nine languages (add Buriat, Urdmurt, Chuvash and Iakut). In the mid- 1990s an additional 87 languages constituted the part of the curriculum. In some instances, non-Russian languages are used in schools where Russian speakers are in the minority. This adds a different dimension to the question of protecting ‘minority rights (Heyneman 1998: 28-29).

Indigenous peoples have begun promoting their own websites on the Internet, which is very important with a view to the possibilities of distance education as well as with regard to information dissemination. Today in Russia there exist a number of NGOs that promote professional orientation through the Internet and this tendency in education is growing rapidly (*International survey on adult education for indigenous peoples*, 2000: 20).

Many opportunities have joint American and Russian educational and scientific projects.

### ***US-Russian Cooperation in Distance Education***

Building US-Russian university partnerships might be based on such projects as joint research programs of MESI and *University of Alaska Fairbanks (UAF)* with the use of information and communication technology. Teaching hybrid and online courses, educators from two countries can create joint course websites, engage American and Russian students in social learning, weave bilingual multimedia into class content and share assessment performance.

Another possible option in building US-Russian university partnerships by distant education is a project on Expository Writing between UAF and MESI. The interactive course can involve students in MESI and the students of its branches in the North and Siberia – Buryat, Kemerovo, Perm, Krasnoyarsk, Khakassia and Altai branches. The students are expected to follow the course *International Relations* and *Arctic Governance* together from module to module as each module is

available online for every participant according to the following course schedule: (1) a professor from UAF creates the modules and posts them online to the students in Russia; (2) within each module, the professor gives directions to the MESI instructors for the face-to-face classroom interactions with the students (in tandem with the online module); (3) the MESI instructors are to enhance the online lessons by engaging the students in face-to-face learning and discussion within each module. In addition, the students have different assignments to post material to each other to read online, particularly during the introductory assignments, which allow them to have some online interaction with each other. They can also post messages online for others to view and send private messages by email. As the instructors in Russia are to enhance the online lessons by engaging the students in face-to-face learning and discussion within each module, the course is considered a distant education course with face-to-face enhancements.

*MESI* also can create an international wiki project with students from *UAF* including Academic Writing in *Arctic Governance* and *American English* through Digital Storyline. The objectives of the project are as follows: 1) to learn to create the content of an Internet-based course using Web 2.0 technology (blogs, wikis, etc.) and a learning management system; 2) to introduce students to exploring and mastering digital tools, or “to develop their digital competence so that they themselves could discover the pedagogical potential in these tools”; 3) to find ways to incorporate contemporary Internet use and culture into Arctic governance and foreign language teaching; 4) to study each others’ experience of education through e-learning and Internet-based courses; (5) to establish contact between Russian and American colleagues for further cooperation, consultation, and exchange; and 6) to develop Internet-based cross-cultural communication networks between students of Arctic universities for a future teaching community.

Storyline is a method for cross-curricular teaching and learning centered on a specific theme. The main objective is to collaborate on a common storyline based on this methodology, entirely realized through so-called Web 2.0 tools (wikis and blogs) and applications (YouTube, Google tools, etc.) (Brox 2009).

Similar projects had already been conducted by Pembroke College, Oxford University and Yakutsk State University (North-Eastern Federal University) in 2002. The interactive course involved students in the head university and its branch in Mirny. The second one was introduced by Yakutsk University and the University of Tromsø, Norway in February 2010 (Zamorshchikova 2011).

New information technologies for distance learning are very dynamically and rapidly developing. Russian universities often face a shortage of financial resources, and create learning management systems of their own. Collaborative joint projects can be conducted with the use of a cutting edge learning management system *CoureSites* by Blackboard.

An online teaching tool Wikis, a collaborative space within the course where all students can view, contribute and edit, can create joint educational projects in the *Arctic Governance* or *International Relations* content. Wikis can also be used as a resource for students to view information and content relevant to their courses. Course Wikis are created by an instructor and any course member can add pages, unless the instructor intends to be the sole author and use the Wiki as course content. Group

Wikis are enabled by an instructor and can be read by all course members, but a user must be a member of the group to edit a page or make a comment on a Group Wiki page. The Instructor can change the default setting to allow only group members to view a Group Wiki. Comments can be added to any page (The website of CourseSites by Blackboard).

As the effectiveness of e-textbooks was introduced above, using an interactive eBook for such MESI courses as *Regional (American) Studies* and *Introduction to American Government* is another effective online learning technology tool. The easy-to-follow eBook gives students access to the same content and page layout of the traditional printed book, but in a flexible electronic format. It offers links to multimedia content including audio, video, articles, reference materials, and data that allow students to delve deeper and explore an important concept or idea where it matters most – on the page where a topic is discussed.

Featuring helpful study tools such as highlighting, bookmarking, rollover in-text glossary terms, and in-text searching, the interactive eBook can be easily downloaded to a computer so student can access the content online from any device, anywhere (Barbour 2014).

As for student associations and social responsibility, for example, the *UAF*, an American medium-sized university, has over 140 active student organizations. They provide a valuable service to the *UAF* campus, the Fairbanks community, and students by facilitating and promoting: career development, public service, social and cultural interaction, activism and leadership development. So, this practice can be very valuable for Russian universities where now there is a lack of student association activity and social responsibility projects.

Active *UAF* Student Organizations include different areas: Academic and Departmental, Greek, Honor Society, Media, Music, and Performing Arts, Multicultural and Language, Political and Activism, Recreation and Sport, Religious and Spiritual, Service and Volunteerism and Special Interest (The official webpage of *UAF* Student Organizations Community).

Network environments by means of the computer and the Internet is a perfect tool for student organizations from Russia and the USA to communicate, to form a more active and vibrant community, to serve as a unifying force that honors each individual and values diversity.

## Conclusion

Distance learning in the Circumpolar North including the northern regions of Russia is important for solving the educational problems in the Arctic zone:

- Distance education plays a significant role in the sustainable development of the Arctic/circumpolar region. The University of the Arctic can improve accessibility to learning and scientific studies in the Circumpolar North with the help of online learning technologies.
- There are some common characteristics in Arctic distance education, for example, participation rates among evening and part-time students.
- Blackboard is a modern learning management system (LMS), widely spread in North American universities. Many Russian institutions are developing their own LMS.

- IT infrastructure in the North for higher education is below the average Russian standards but the usage of modern developments of new information technologies and distance learning are growing. Self-made learning management systems and asynchronous courses dominate in Russian universities. Open educational resources are very popular. Indigenous language distance education is increasing in importance.
- There are about twenty-five regions and many universities in the North and Siberia. Distance education based in the sphere of the North is underdeveloped based on Russian standards, but it is developing. Self-made LMS, asynchronous courses and systems prevail. Open educational resources for indigenous people are becoming popular.
- In the near future, Russian and American educators can enhance partnerships between universities in the US and Russia through the development of joint research projects of faculty, curriculum and academic development in distance education and online network cooperation among student clubs.

The Russian North is facing a lack of innovation in distance education, and there remain many gaps. However Russian state authorities are encouraging its utilization. The comparative world experience, particularly in the Arctic states, is very important to its development. In five years, modern western online learning technologies will probably be presented in the northern regions of Russia.

## References

- Altbach, P.G. L. Reisberg, L.E. Rumbley. (2009). Trends in Global Higher Education: Tracking an Academic Revolution. A Report Prepared for the UNESCO 2009 World Conference on Higher Education. *United Nations Educational, Scientific and Cultural Organization*. Paris: UNESCO Publishing.
- AHDR I (*Arctic Human Development Report I*). 2004. Akureyri: Stefansson Arctic Institute. Retrieved from <http://www.thearctic.is/AHDR%20chapters.htm>.
- Barbour, C. & G. Wright. (2014). *Keeping the Republic. The Essentials. Power and Citizenship in American Politics*. Washington DC: CQ Press.
- Berman, M. (2013). *Remoteness and Mobility: Transportation Routes, Technologies, and Sustainability in Arctic Communities*. Gumanitarnyye issledovaniya Vnutrenney Azii (Inner Asia Humanities Studies). (pp. 19-31). Retrieved from [https://www.gwu.edu/~ieresgwu/assets/docs/Berman\\_Remoteness\\_mobility.pdf](https://www.gwu.edu/~ieresgwu/assets/docs/Berman_Remoteness_mobility.pdf).
- Brox, H. (2009). *Creating learning environments with Web 2.0: Using blogs and wikis in teaching*. Seminar in Murmansk. Cited in Zamorshchikova, L., O. Egorova, & M. Popova. (ed). (2011, May).

- Internet Technology-Based Projects in Learning and Teaching English as a Foreign Language at Yakutsk State University. *International Review of Research in Open and Distance Learning*. 12(4): 72-76.
- Habeck, J.O. (1998). The Existing and Potential Role of the Internet for Indigenous Communities in the Russian Federation. In E. Kasten (ed). *Bicultural Education in the North: ways of preserving and enhancing indigenous peoples' languages and traditional knowledge* (pp. 275-287). Münster: Waxmann.
- Heyneman, S.P. (1998). The Transition from Party/State to Open Democracy: the Role of Education. *International Journal of Educational Development*. 18(1): 21-40.
- Centre for Technology in Education. 2010. *Synchronous vs. Asynchronous Distance Learning Activities*. Johns Hopkins University School of Education.  
<http://olms.cte.jhu.edu/olms2/data/ck/sites/193/files/Synchronous%20vs%20Asynchronous%20Learning%20Activities.pdf>, the date of access – 07/09/2014.
- Huskey, L. & T.A. Morehouse. (1992). Development in remote regions: What do we know? *Arctic*. 45(2): 128-137.
- Information and Analytical System. 'Education in Russia for Foreigners.' Retrieved from <http://en.russia.edu.ru/edu/forms/correspond/>. Accessed – 09/07/2014.
- Kullerud, L. (2009). Education for the Arctic Sustainable Development. *Climate Change and Arctic Sustainable Development. Scientific, Social, Cultural and Educational Challenges*. Paris: UNESCO Publishing.
- Larsen, J.N. (ed.) (2010). Arctic Social Indicators: a follow-up to the Arctic Human Development Report 2004. *Nordic Council of Ministers*. Copenhagen. Retrieved from [http://library.arcticportal.org/712/1/Arctic\\_Social\\_Indicators\\_NCoM.pdf](http://library.arcticportal.org/712/1/Arctic_Social_Indicators_NCoM.pdf).
- Lipatov, V. & D. Pereversiev. (2013). The Government and Business Collaboration in Designing Industrial Policy in the Passenger Railway Machine-Building in Russia. *Research and Practice Periodical Economics, Statistics and Informatics*. 4: 94-98. Available from <http://www.umo.mesi.ru/magazine/gallery/6076/#>. Accessed – 09/08/2014.
- Macintyre, R. & J. Macdonald. (2011, May). Remote from What? Perspectives of Distance Learning Students in Remote Rural Areas of Scotland. *International Review of Research in Open and Distance Learning*. 12(4). Available from <http://www.irrodl.org/index.php/irrodl/article/view/847/1836>.
- Mahnegar, F. (2012, June). Learning Management System. *International Journal of Business and Social Science*. 3(12): 144-150.
- Marshall, B. (2010, January 8<sup>th</sup>). The Basics of Distance Learning. *Compareschools.com*. Retrieved from <http://www.comparetopschools.com/education-resources/distance-learning-basics.aspx>.

- Pajarillo, E. J.Y. (2012, May). Distance education offers a wealth of formats and options. *American Nurse Today*. 7(5). Retrieved from <http://www.americannursetoday.com/distance-education-offers-a-wealth-of-formats-and-options/>
- Thorvaldsen, S. & G. Richards. (2011, May). Some Frontiers in Open and Distance Learning in the North. *International Review of Research in Open and Distance Learning*. 12(4). Retrieved from <http://www.irrodl.org/index.php/irrodl/article/view/986/1845>.
- UNESCO. (2000). International survey on adult education for indigenous peoples. Country study: Russia. Adult Education and indigenous peoples in Russia. Institute for Education. Retrieved from <http://www.unesco.org/education/uie/pdf/Russia.pdf>. Accessed 09/08/2014.
- University of the Arctic Student Organizations Community. Retrieved from <http://www.uaf.edu/woodcenter/leadership/organizations/active/index.xml?id=194>. Accessed 09/07/2014.
- U.S. Department of Education, Office of Planning, Evaluation, and Policy Development, *Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies*, Washington, D.C., 2010.
- Vasiliev, V. & N. Toivonen. (2002). Universities in the European North of Russia. In D.C. Nord & G.R. Well (eds). *Higher Education across the Circumpolar North: A Circle of Learning* (pp. 155-57). New York: Palgrave Macmillan.
- Wijekumar, K. (2010). Designing and Developing Web-Based Intelligent Tutoring Systems: A Step-by-Step Approach With Practical Applications. *Handbook of Online Learning* (2<sup>nd</sup> ed.) SAGE Publications.

# CREATIVE ARCTIC: TOWARDS MEASURING ARCTIC'S CREATIVE CAPITAL

Andrey N. Petrov

*This paper presents the key findings of the Creative Arctic Project. It focuses on the geography of creative capital and assesses its ability to foster economic development in the Arctic as an alternative or complement to recourse-based development. The study describes a theoretical conceptualization of the creative capital in the Arctic and provides further insights into the role of the creative capital in the Arctic economy. The paper explains methodologies and analytical tools (systems of measures/indicators) for the analysis of the creative capital as a factor of economic transformation in non-central regions. The study explores and compares geographic patterns of creative capital in the Arctic using spatial analysis techniques and data from all Arctic countries, as well as from two in-depth case study areas: northern Canada and Alaska. It also identifies Arctic regions and communities with sufficient creative capital, where further policy and place-specific studies could be conducted.*

*The findings suggest that some characteristics of the creative capital observed in Arctic communities are similar to those found in southern regions, whereas others are distinct. In the Arctic, the synergy between cultural economy, entrepreneurship and leadership appear to be more important in characterizing creative capacities than formal education. The geographic distribution of the creative capital is uneven and favors economically, geographically and politically privileged urban centers. However, some remote regions also demonstrate considerable levels of creative potential, in particular associated with Aboriginal cultural capital (artists, crafters, etc.). A number of Arctic regions – creative 'hot spots' – could become the test sites for implementing alternative strategies of regional development based on creative capital, knowledge-based and cultural economies.*

## **Background: Creative Capital and Alternative Strategies of Economic Development in the Arctic**

The literature has well documented that Arctic economies are marginal, vulnerable, structurally truncated and functionally dependent (Agranat 1992; Bone 2009; Bourne 2000; Rea 1968; Petrov 2012). The apparent inability of marginal regions to take advantage of new economic opportunities, especially those provided by the knowledge economy, received different explanations. Under the

classic core-periphery concept (Friedmann 1966), for example, resource frontiers are the last in line to enjoy the 'trickle down' and 'diffusion' effects from the core. Dependency theorists see little chance for peripheries to benefit from new economic opportunities in ways that alleviate dependency (Amin 2001). Others argue that "learning" (Morgan 1997) and endogenous growth (Romer 1990) in the peripheral regions are inhibited because of limited local capacities (institutional and infrastructural) and the lack of human capital (Hanson 2000). The disconnectedness of frontier firms from communities and networks of practice (Gertler 2005) prevents the transfer of tacit knowledge. In sum, most peripheries, including the Arctic, benefit neither from initial conditions, nor from internal or external processes that can induce a desired transformation.

In the last few decades, economists, business analysts, and economic geographers have demonstrated the decisive role of human capital in economic growth and development. Human innovativeness and creativity are the central pillars of a knowledge-based economy, which, in turn, is a cornerstone of contemporary capitalism. A number of studies provided empirical evidence and theoretical rationale for the relationship between economic development and the ability to attract and accumulate human capital (Desrochers 2001; Florida 2002; Glaeser 2000; Jacobs 1984). The link between the economic growth and human capital is closely associated with the notion of knowledge-driven growth (Romer 1990).

The literature on knowledge production, knowledge mobility, and regional innovation systems points to the pivotal role of human creativity in advancing regional and global economies (e.g., Desrochers 2001; Florida 2002, 2005; Polèse & Tremblay 2005; Schienstock 2007). In other words, it is conventional to cite human, and specifically creative, capital among the major drivers of regional development and to consider it as the key element of regional competitiveness. The ability of regions to attract and accumulate creative capital is perceived as a condition necessary for knowledge-based economic growth (Desrochers 2001; Florida 2002). Some authors proceed to claim that the innovators (i.e. the producers of knowledge) constitute a "creative class", a group of individuals who are engaged in creative (i.e., scientific, artistic, or technological) types of activities, and, most importantly, translate their creativity into economic returns (Florida 2005). This research also highlights the distinction between human and creative capital: whereas the former is built on educational and skills assets, the latter includes these, as well as more informal and intangible assets linking a formal education with social networking, leadership abilities and artistic talents.

Whereas the importance of the creative capital in regional development and endogenous growth is hard to dispute, the research into this subject has focused almost exclusively on core metropolitan areas. Although the preoccupation with large urban centers reflects the concentration of the creative capital (Florida 2002; Gertler et al. 2002; Polèse & Tremblay 2005), this tradition unjustly marginalizes peripheries as study sites. Meanwhile, it may be argued that the importance of creative capital for economic development is not confined to large conurbations. Moreover, there is emerging evidence that creative capital in its widest reading is likely to play a defining role in the regional transformation of remote areas.

Recent studies demonstrate that there are examples of non-metropolitan communities which are able to develop a strong economic base and a successful diverse economy by relying on creative

capital (Beyers & Lindahl 2001; Boschma 2005; Gradus & Lithwick 1996; Selada et al. 2011). Petrov (2007) identified creative ‘hot spots’ within peripheral regions of Canada. These areas are found to have the potential to attract creative capital and compete nationally. In order for peripheries to become ‘hot spots’ of innovation and economic growth there has to be a connection to localized knowledge and social setting that can be formed with institution building and formation of civic society (Aarsaether 2004; Petrov 2011).

If that is the case, the question would be whether and in what form the idea of development based on local creative capital can be relevant and adaptable to the Arctic regions? A growing consensus among scholars (and, increasingly, among policymakers) is that social and economic development strategies in the Arctic must reconcile a postcolonial paradigm of the locally-oriented development and realities of the contemporary capitalism (including pressures and competition imposed by globalization). If one follows the argument of ‘constructive’ post-developmentalists (see Power 2003; Radcliffe 2005), an alternative development regime must be simultaneously based on emerging traditions of the post-industrial society, post-Fordist capitalism, and the postcolonial paradigm. In the Arctic regions, it also must be supplemented by the consensus between aboriginalism, environmentalism, industrialism and nationalism (Hayter et al. 2003). This complex task, in terms of regional policies, must result in ‘situatedness’, appreciation of local knowledge, promotion of local initiative, devolution of control, development of a knowledge-based economy, and so forth.

In this respect, the alternative strategy based on utilizing local creative capital to foster economic development appears to be appealing. As it is described below, there is preliminary evidence that such a scenario can be seriously considered. However, any research into this matter faces the lack of basic knowledge about the spatial distribution, characteristics and utilization of the creative capital, as well as the lack of conceptual and methodological foundations for conducting such a study. Sections below discuss theories and evidence that help to fill some of these important gaps.

### **Creative Capital and Economic Development in the Arctic: Theory**

In a resource economy the physical value of a resource, not the amount of knowledge used for its production, provides a comparative advantage. Regional innovation systems depend on narrow flows of knowledge through a handful of agents, such as large corporations and the state (Bone 2009). Due to the monopolistic character of resource extraction there are few competing technologies or other forms of innovation that could challenge the dominant techno-economic paradigm (Clark et al. 2001). Consequently, the persistence of historically and socially embedded development trajectories, i.e. path-dependency, in the frontier remains exceptionally strong, preventing it from being successful in the modern economic competition. To ensure future prosperity, a regional innovation system must develop or adopt a new technological paradigm via economic, institutional, and social transformation.

The evidence from ‘lagging’ regions, for example in Europe, shows that in the case of such ‘lock-in’, there are two possibilities for a region: a new “path creation” (or “regional reinvention,” when a region develops new forms of competitiveness) or decline (Bathelt & Boggs 2005). Among the most important arrangements that can lead to a “new path creation” are the scientific, institutional,

economic and social shifts that allow inventing or adopting new knowledge (Bassanini & Dosi 2001). Schienstock (2007) argued that a window of new opportunities is opened up by a combination of a new knowledge paradigm, economic pressures to adapt to the new paradigm, change events that support transformation and available courses of action. Some of these 'change events' are in place in the Arctic: a pressure to foster sustainable development, new technological opportunities, the effects of globalization, regional self-determination and the devolution of power. However, a critical and necessary component of change is the *agents of transformation* (Schienstock 2007).

Human agency is a key transformative factor. Agents of transformation can be political institutions, firms or non-governmental organizations. However, in the end, the agents of change are individuals and their groups who 'make' the innovation history of the region (Bassanini & Dosi 2001). *Creative capital (CC)* may be defined as a stock of creative abilities and knowledge(s) embodied in a group of individuals who either possess high levels of education and/or are engaged in creative (scientific, artistic, entrepreneurial or technological) types of activities (i.e. "the creative class" (Florida 2002)).

So far, there is only limited evidence of the creative class's transformative role in the periphery. The importance of creative individuals in innovative processes in remote regions has been highlighted in a number of studies from different regions (Aarsæther 2004; Ferrucci & Porcheddu 2006; Hayter et al. 1994; Petrov 2008, 2011; Hall & Donald 2009; McGranahan et al. 2010; Stolarick 2012). Some researchers observed that less favorable business and social environments of the periphery amplify the importance of creativity and require individual innovators and firms to be more creative than in the core (Aarsæther 2004; North & Smallbone 2000; Petrov 2011). More recently, a formal analysis by McGranahan & Wojan (2007) and McGranahan et al. (2010) indicated that major conceptual links between the creative class and economic development exist in American non-metropolitan settings.

It is difficult to argue that the creative capital in the peripheral northern communities can make them successful in competing with national and global innovation powerhouses, but it is plausible to suggest that the availability of this factor improves the prospects for future economic transformation and development. This, however, remains the subject of the ongoing research. A necessary first step involves empirical studies of the nature and spatial distribution of creativity in the Arctic.

## Methodology

Much of the creative capital literature is devoted to developing measures to quantify the creative capital. A chosen set of indicators (Table 1) consists of two groups: measures of the creative capital and a proxy of the knowledge sector (Tech Pole Index). The indicators follow the four sector approach proposed by Petrov (2007) and incorporate measure of four types of creative capital: scientists, bohemians, entrepreneurs and leaders, as well as the *Talent Index* that measure educational attainment beyond bachelor's degree. Indices used for four types of creative capital are based on occupational statistics (Table 1). The indicators are defined as location quotients (Petrov 2008). The *Tech Pole Index* (TPI) is used as a proxy of a community's specialization in high technology sectors

(Table 1). The TPI was first developed by the Milken Institute and later used by Florida (2002) and many other creative economy studies as an indicator of a region's high technology specialization. The TPI is calculated here as a location quotient of the employment in high technology sectors.

The following analysis first computed, tested and analyzed the indices that characterize the creative capital in the Arctic regions (where data were available). The definition of the Arctic roughly followed the boundaries used by the Arctic Human Development Report (AHDR 2004). Most Arctic jurisdictions had relevant data to measure the Talent Index (Table 1) that is based on educational attainment and corresponds to one of the traditional measures of human capital (Hirshberg & Petrov 2014), albeit calculated as a location quotient. The data for other CC indices is fragmentary and the analysis includes only regions where such information exists.

The paper also offers two case studies to illustrate regional characteristics of CC, in this case, in the North American context: the Canadian Territories and Alaska. Data for these case studies were obtained from the Canada's Census and U.S. American Community Survey.

**Table 1:** Description of the Metrics

<b>Measures</b>	<b>Construct to be measured</b>
<b>Creative Capital/Class metrics</b>	
<i>Talent Index (TI)</i> is a location quotient of the population over 20 years of age who have a university degree.	Level of formal education of the labour force
<i>Bohemian Index (BI)</i> is a location quotient of the employment in artistic and creative occupations: "Art and Culture"	Creative class: bohemians
<i>Leadership index (LI)</i> is a location quotient of people with leadership and managerial occupations	Creative class: leaders
<i>Entrepreneurship index (EI)</i> is a location quotient of people with business occupations	Creative class: entrepreneurs
<i>Applied science index (ASI)</i> is a LQ of people with applied science occupations	Creative class: scientists
<b>Measure of technology sector specialization</b>	
<i>Tech-Pole Index (TPI)</i> is a location quotient of the employment in North American Industry Classification System (NAICS) high technology sectors (information and cultural industries and professional, scientific and technical services).	Specialization in technology sectors

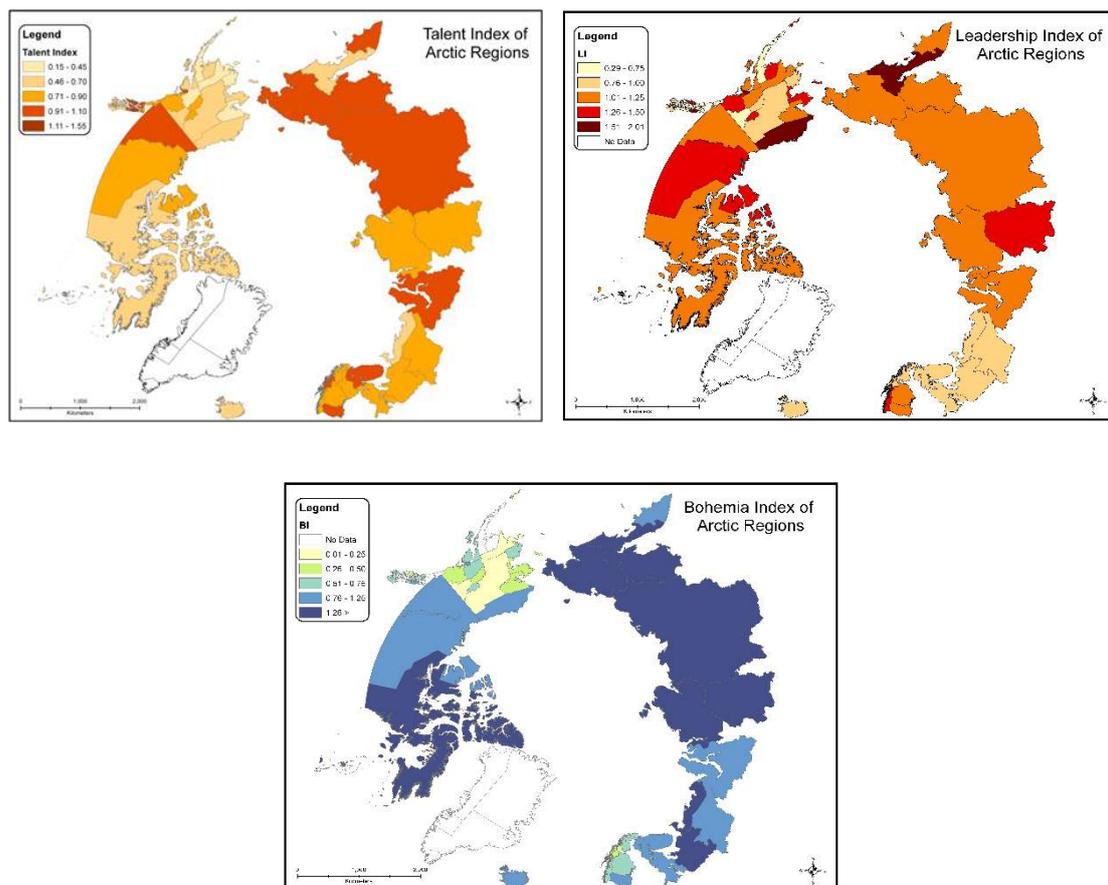
**Source:** adopted from Petrov, 2008

## Creative Capital and Economic Development in the Arctic: Evidence

The centrality of creative capital (CC) in regional reinvention in the periphery appears to be especially important in respect to breaking with path-dependency and facilitating regional breakthrough. Community-level research conducted in peripheral areas, mostly outside the Arctic, squarely points to a pivotal role of creativity (spanning beyond education, experience or technical expertise or any other “traditional” attributes of human capital) in local economic success. For example, the study of local innovation in northern Scandinavia stressed “the importance of key local actors in innovative processes that take place in remote regions”. The authors concluded, “almost every innovation has had a clear core agent to manage the process. Very often this agent, initiator and ‘engine’ of the process has been a local person, who has committed him/herself to the development of a new idea” (Aarsæther 2004: 244). Similar evidence has been cited in other marginal regions (e.g. Hayter et al. 1994; Stohr 2000; Petrov 2011), where members of the creative class, particularly entrepreneurs and inventors, have been credited with revitalizing economies in their communities. All these suggest that the creative class is an important and organic ingredient of local development in the periphery.

Figure 1 presents *Talent Index*, *Leadership Index* and *Bohemia Index* maps for the circumpolar region. The indices are calculated at the regional level. First of all, it is evident that most Arctic regions have relatively weak CC. At the same time, there are areas that have high TI, LI and BI. In particular, Yukon, certain parts of Russia (e.g., Murmansk and Yamal-Nenets regions) and northern Scandinavia demonstrate levels of TI near or exceeding 1.0 (i.e. respective national averages). In fact, Yamal-Nenets Okrug and Kamchatka Oblast’ were ranked 9th and 10th among top Russian regions in 2002. In contrast, many areas with a majority or significant proportion of Indigenous population tend to exhibit lower levels of TI, pointing to a persistent education gap between the two groups of Arctic residents (see a more in-depth overview of this in Hirshberg & Petrov 2014). At the same time, some Arctic regions register a remarkably high LI [a pattern observed in other studies (e.g., Petrov & Cavin 2013)]. The highest indices are associated either with larger urban and administrative centers or with very remote and sparsely populated regions. The geographic distribution of BI largely reflects the prevalence of Indigenous population. Most Arctic regions exceed national baselines in relative proportion of residents with occupations in arts and culture suggesting a presence of cultural capital and a considerable potential of Arctic cultural economy. In Russia, Taimyr, Koryak, Chukotka Okrugs and Republic of Yakutia ranked among top 10 regions in terms of BI in 2002.

If CC metrics are well documented at the regional level, data constraints limit our ability to measure CC at the municipal level. The educational attainment data required for computing *Talent Index* are mostly accessible. TI is also the most directly comparable indicator (as it is not based on occupation classifications). At the same time, occupational characteristics of population are available only fragmentarily. As a result, the city-level analysis focuses on TI. It includes Arctic cities selected based on population (generally exceeding 20,000) and “regional importance” (all regional capitals, if available, are included).



**Figure 1.** Creative Capital Characteristics of Arctic Regions

As seen in Figure 2, Arctic cities demonstrate varying degrees of ‘talent’ concentration. Some are certainly ‘creative hot spots:’ for example, Anadyr’s TI (1.72) that is comparable to Moscow’s (1.79). Very high TI is also recorded in other regional (and national) capitals both in Russia and across the Arctic, including Salekhard, Yakutsk, Umea, Magadan, Juneau, Yellowknife, Tromsø, and Reykjavik. Another large cluster of highly educated labor force is observed in Yamal-Nenets Okrug: in addition to Salekhard, Novy Urengoy and Nadym have TI above 1.4. This may reflect the influx of educated labor migrants in the last decade as TIs in these cities exhibited substantial growth in TI between 2002 and 2010.

These observations should not disguise a wide gap in educational attainment (and thus TI) between urban and rural areas in the Arctic. For example, in the most urbanized part of the Arctic, the Russian North, the percent of formally educated individuals with a post-secondary degree varies from region to region between 5 and 20% (Hirshberg & Petrov 2014).

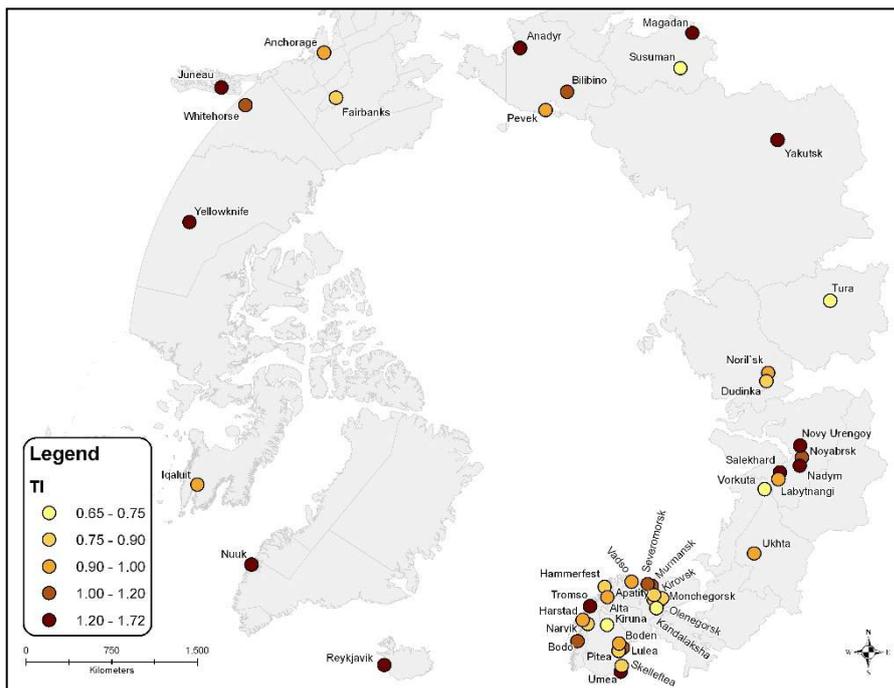


Figure 2: Talent Index (TI) in Selected Arctic Cities

### Case Study 1: Creative Capital in the Canadian Territories

The two case studies presented below are used to provide more region-specific evidence and illustrate relationships among creative capital groups in Canada and Alaska. The findings confirm that the creative capital is present in the North in considerable quantities, albeit heavily clustered in certain communities and regions. Whereas Arctic regions have variable levels of creative capital (whether examined at the circumpolar or regional scale), many of them have higher-than-expected creative resources.

This section provides an abbreviated description of the creative class metrics analysis for 27 Canadian communities (Territorial communities with population larger than 500). The geographies of individual indices reveal regional inequalities and clustering of CC in northern Canada (Figure 3). The *Talent Index* (calculated as a location quotient using Canada as a baseline) demonstrates a wide gap between capitals and the rest of the Territories. Some regional centers, such as Inuvik and Fort Smith, also perform relatively well. However, the majority of Arctic communities exhibit TI levels under 0.7, i.e. well below the Canadian benchmark. In contrast, the Territories have considerable leadership (*Leadership Index*) and cultural capital (*Bohemian Index*). This is especially true for Nunavut communities, many of which serve as regional centers and have strong localized cultural economy based on traditional arts and crafts (Nordicity Group 2010). A notable outlier is Cape Dorset (BI >5.0), a settlement with a long history of commercialized print production that has the reputation of being one of Canada's most artistic communities (Alsop 2010). At the same time, most Arctic communities lack *entrepreneurial capital*, i.e. have a very low percent of residents with business occupations. This fact illustrates an entrepreneurial disconnect observed in other peripheral regions

(Petrov 2011; Petrov & Cavin 2013).

The *Tech-Pole Index* (TPI) demonstrated that only a few northern communities have a considerable concentration of high-tech employment and specialization on technology-intensive industries. Only Yellowknife and Whitehorse have slightly higher shares of high-tech employment than Canada. In old industrial towns, the technology sector is particularly small.

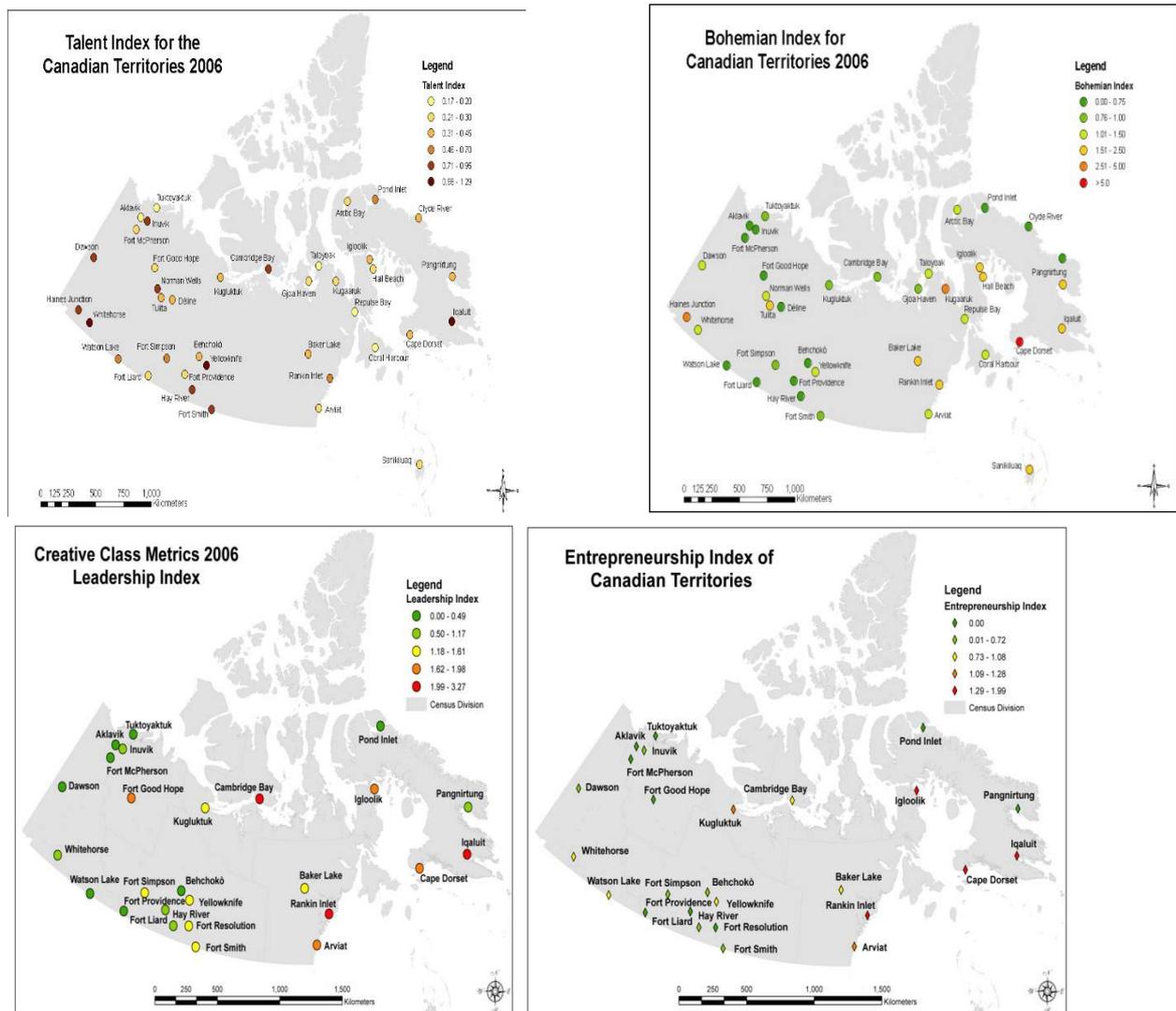


Figure 3: Creative class Indices in Canadian Territories

Correlation coefficients confirm close associations (Table 2) among different creative capital indices. Correlation results (Table 2) strongly support the idea that different groups of creative capital are clustered in space. Four kinds of creative capital, most likely, attract each other, and creative clusters exist as self-reproducing creativity centers. That is why, for example, previous studies found the

concentration of bohemians useful to explain the attractiveness of cities to the talent (Florida 2002). However, in the Arctic there is a visible disconnect (i.e. the lack of correlation) between educational attainment (TI) and other creative capital indices. This indicates that creativity in the Arctic may manifest itself in the forms that are not necessarily associated with formal education. In addition, in the Canadian North indices designed to account for Aboriginal population perform better than generic ones (Table 2).

**Table 2:** Correlation Matrix of Creative Capital Indices, Canadian Territories\*\*\*

	TI	TPI	ASI	BI	LI	EI
TI	1	.632*	.497**	-.059	.322	.396*
TPI		1	.511**	-.022	.345	.203
ASI			1	-.073	.132	.233
BI				1	.429*	.611**
LI					1	.669**
EI						1

\* Correlation is significant at the 0.05 level (2-tailed); \*\* correlation is significant at the 0.01 level (2-tailed), \*\*\* see notations in Table 1.

Evidence suggests that the associations among indices closely resemble those at the national level, thus indicating that the creative class 'logic' is applicable to peripheral areas. The consistence of associations shows that the major relationships are upheld, and the behavior of the creative class metrics is very much alike the rest of the country. The creative capital in the periphery shows signs of the intergroup clustering (among LI, BI, EI and ASI) and association in the same manner as at the national scale (Petrov 2007).

The final ranking of northern Canadian concinnities was derived by combining equally weighted rankings of the individual creative class indices (TI, LI, EI, BI and ASI). A group of leading communities emerged at the top of the rating: Iqaluit, Yellowknife, Rankin Inlet, Cambridge Bay, Whitehorse, Norman Wells and Cape Dorset, most of them are regional centers in the Territories. In sum, the analysis of the creative class structure provides evidence of both intergroup clustering and disproportions. The North most seriously lacks the entrepreneurship and leadership components of the creative class: only a few northern communities have a considerable entrepreneurial class.

## Case Study 2: Creative Capital in Alaska

The second case study was devoted to Alaska's 27 boroughs. Overall it found the higher-than-expected levels of the creative capital accumulation in Alaska (although still quite low compared to the continental U.S. creative hubs). The Talent Index (TI) is 0.78, Applied Science Index is 0.84, and the Entrepreneurship Index (EI) is even lower (0.61). However, the analysis shows that few

boroughs are creative capital 'hot spots.' Many of the leading places (albeit not all) are economically or politically privileged boroughs, which encompass the state's capital and its largest cities (Anchorage and Fairbanks). These hot spots are, perhaps, nationally competitive in terms of attracting the CC. They are places where the creative potential is high, and where the community's efforts to embrace a new economic trajectory would be the most fruitful.

*The Talent Index (TI)* in Alaska exhibits a pattern typical for the Canadian Territories. TI approached or exceeded 1.0 (U.S. average) in the capital (Juneau) and surrounding regions (Figure 4). Here, similarly to Whitehorse and Yellowknife in Canada, we observe a concentration of residents with high levels of formal education, most probably public employees. Fairbanks and Anchorage follow the capital region with well-educated populations. In contrast, most rural regions demonstrate a very low Talent Index.

*The Applied Science Index (ASI)* reflects the relative concentration of people with occupations in applied science and technology. Not surprisingly, again the larger urban centers (Anchorage, Fairbanks and Juneau) had high levels of the ASI comparable or exceeding those in Yellowknife and Whitehorse. The outlying areas of Alaska demonstrate extremely low stock of people with science and technology occupations.

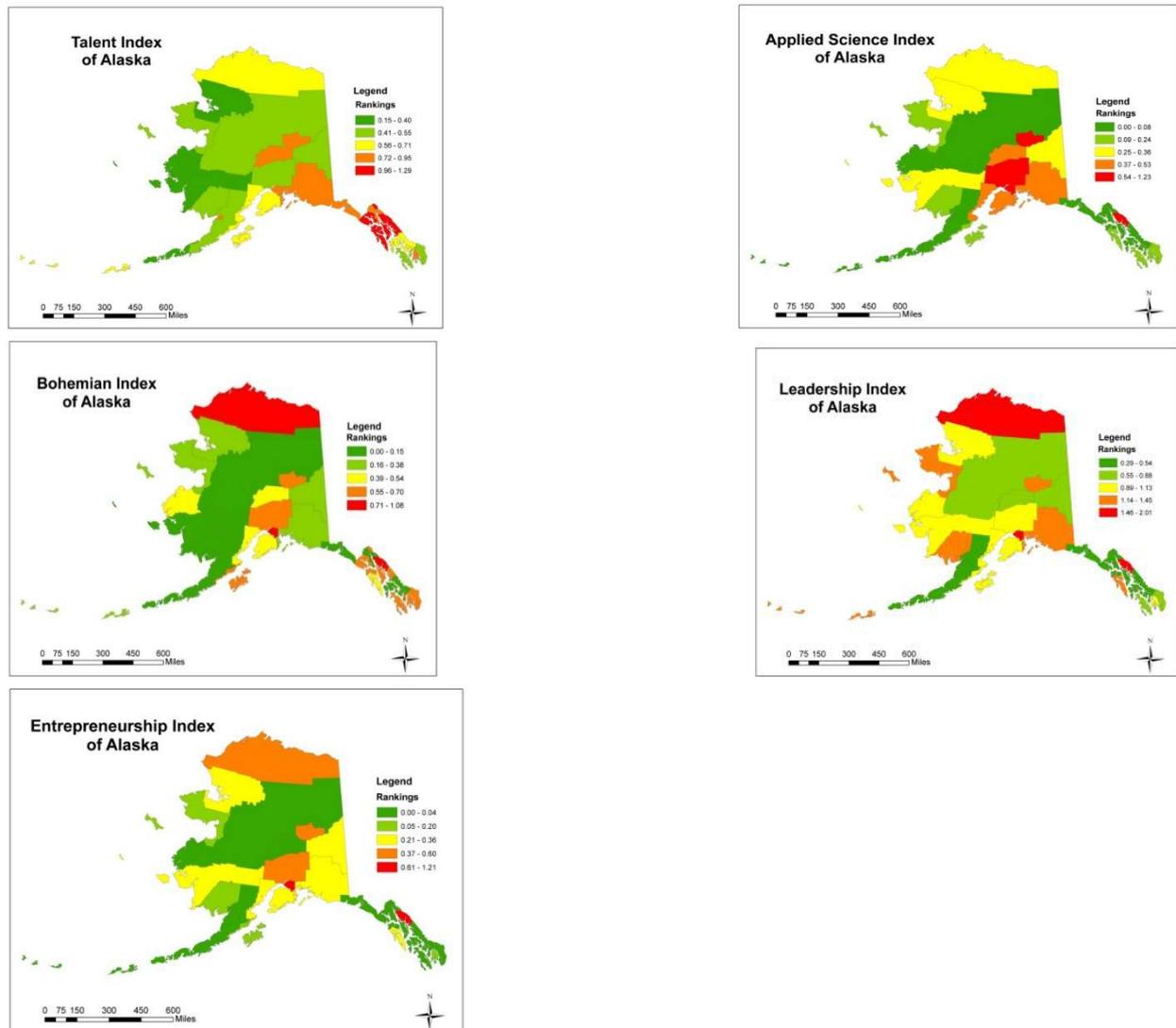
*The Bohemian Index (BI)* is used to measure the 'artistic capital' as a separate category of creative capital, to a large degree associated with the Native arts and crafts. In Alaska high BI was registered in two completely different types of regions: larger city-regions (Anchorage and Juneau) and the North Slope Borough. This most likely reflects two distinct types of 'bohemia' that co-exist in the state: the Native American 'bohemia' in the very north and urban 'bohemia' in the urban south.

The role of political and civic leaders in economic development in Arctic communities can be considerable given their close involvement with local businesses and access to capital (e.g., government assistance programs). The high *Leadership Index* was registered in the capital and central cities, such as Juneau and Anchorage. The LI is also high in the North Slope Borough, and 11 more boroughs have LI higher than the USA average. At the same time, remote and inland regions of Alaska clearly lack the leadership capital.

*The Entrepreneurship Index (EI)* shows that entrepreneurial capital is clustered in Anchorage and Juneau. This, as in the case with the TI and the ASI, reflects a pattern of creative capital overconcentration in centrally located hubs and shortage of entrepreneurial capacities in the state's periphery. Similarly to the Canadian North, there is a geographic disconnect between the entrepreneurial and other forms of creative capital (e.g., bohemian) associated with these areas and its Native population.

Finally, the *Tech-Pole Index (TPI)* demonstrates that very few Alaskan boroughs have specialization in technology-intensive industries. With the exception of Bristol Bay and Northwest Alaska all of these regions are concentrated in the southern and southeastern portion of the state around Anchorage and Juneau. Even there, though, the TPI values are not high, but comparable with those found in the Canadian territorial capitals. The absence of significant relationship between the specialization in high technology industries (TPI) and any of the creative capital indices is a notable deviation from

the national studies in the USA and Canada and from the results in northern Canada. It is, indeed, surprising, since typically TPI is correlated with well-educated and abundant human capital. In Alaska high-tech activities appear to be unrelated to local educational attainment or creative capital (although TI and the TPI still have considerable covariance). The concentration of high-tech employment is, perhaps, governed by other factors such as location of government agencies and universities.



**Figure 4:** Creative Capital Indices in Alaska

In accordance with the adopted methodology, correlation coefficients were used to assess the consistency (reliability and validity) of the creative capital measures and to statistically analyze the relationships among them. Correlation coefficients illustrated close associations (Table 3) among different creative class indices that were a likely sign of reliability of these measures. These results

are very similar to those reported for the Canadian northern communities.

The evidence from the correlation matrix (Table 3) supports the notion of *creative synergy* (Petrov 2008) that different groups of the creative capital are clustered in space. ASI, BI, LI and EI are strongly correlated. Four creative class groups attract each other and reinforce region's innovative potential. Separated or disjoined, these components are much less powerful or even fruitless, because regional development (or a 'new path creation') may require simultaneous deployment of various modes of creativity and types of innovation.

**Table 3:** Correlation Matrix of Creative Capital Indices, Alaska\*\*\*

	TI	TPI	ASI	BI	LI	EI
TI	1	.185	.375	.337	.215	.404*
TPI		1	.225	-.029	-.044	.203
ASI			1	.701**	.659**	.897**
BI				1	.647**	.655**
LI					1	.780**
EI						1

\* Correlation is significant at the 0.05 level (2-tailed); \*\* correlation is significant at the 0.01 level (2-tailed), \*\*\* see notations in Table 1.

The cumulative ranking of Alaska boroughs based on five equally weighted creative capital indices (TI, ASI, BI, LI, and EI) reveals that the highest ranked regions are mainly the urban areas: Juneau, Anchorage and Fairbanks. This pattern strongly resembles the Canadian North where three territorial capitals and largest cities are also the top-ranked creative capital hubs. However, the fourth place in Alaska is taken by the North Slope Borough – the most northern of state's boroughs. A strong performance of the North Slope points to the fact that remote areas may have considerable concentrations of creativity.

## Discussion and Conclusions

The findings presented in this paper and by the Creative Arctic project in general (Creative Arctic 2014) largely confirm both theoretical and methodological frameworks outlined in the previous sections and indicate the adequacy of the chosen research direction. Below we formulate some key conceptual and policy-relevant observations that stem from the undertaken analysis. In some sense this opens the gate for further examination of creative capital and its role in the Arctic economy, and serves as the foundation for localized case studies, such as the investigation of creative and knowledge economy in a given Arctic community or a region (e.g., Voswinkel 2012). It should be noted, however, that some of the conclusions while applicable in the North American or Scandinavian context, may not be entirely relevant in the Russian Arctic, and vice-versa.

Contrary to the metropolitan bias, our results indicate *that northern communities are not 'hopeless places' fully deprived of the creative capital*. Creative 'hot spots' in the North exist, and could become the centers of regional reinvention. The analysis shows that the creative class in northern regions is diverse (represented by four major groups) and the groups are clustered (as expected). However, there is a considerable (and systematic) difference among various types of communities. For example, Aboriginal communities are strong on bohemia (cultural creative capital), but typically are weak on entrepreneurial capital (this mismatch points to a fundamental impediment to developing profit-making cultural economies in Aboriginal communities). Overall, Aboriginality appears to be positively related to creativity.

In respect to the conceptual discussions, it is important to point out that our findings, while being in line with the overall "creative capital theory," counter some stylized representations and illuminate peculiar role, structure and geography of the CC in remote, peripheral areas. Arctic regions demonstrate the associations among CC indices closely resembling national patterns (thus indicating that the creative capital 'logic' is applicable in the peripheral context). The coincidence of statistical associations indicates that the major relationships are upheld, and the behavior of the creative class metrics is very much alike the rest of the country. At the same time, there are important differences, which emphasize the unique place of the Arctic in the creative capital theory. The following emerging theoretical themes define the conceptual and empirical substance of CC research in rural and remote areas.

*Increasing role of CC (and demand for CC) for economic well-being, fate control and human development in general.* Although by a standard definition CC in the Arctic is underdeveloped, it could be argued that this representation no longer reflects the variability and diversity of Arctic regions, some of which demonstrate substantial levels of creativity that is based on non-codified informal knowledge and therefore might not conform to the stylized notion of CC. On the other hand, there is a strong theoretical argument that CC is critical for economic development and socio-economic transformation in the Arctic as it often becomes the engine of economic reinvention and revitalization of a region.

*Clustering and synergy of CC in the periphery:* Correlation coefficients illustrate close associations among different creative class indices. Different groups of the creative capital are clustered in space. Applied Sciences (ASI), Bohemian (BI), Leadership (LI) and Entrepreneurship (EI) indices are strongly correlated. Different types of CC attract each other and reinforce region's innovative potential. Separated or disjoined, these components are much less powerful. It is likely that a local synergy between CC and social capital (contrary to the metropolitan notion of the "weakness of strong ties") is an important component of economic success. In addition, a strong creative capital coincides with top levels of attractiveness. The idea here is that 'creative synergy' is a critical condition for utilizing local creative capacities.

*Persistence of education and CC gaps:* In terms of educational attainment (Talent Index) we observe the following persisting gaps (1) between most Arctic and southern metropolitan regions; (2) between urban/industrial Arctic territories and the rest of the Arctic; and (3) between Indigenous and non-Indigenous population in the Arctic.

*Gains in post-secondary education (Talent index)* in the last decade were observed in many Arctic regions. For example, in the NWT 47.6% of population over the age of 15 years old had certificate, diploma or degree beyond high school in 2009, versus 46.5% in 1999. In 2009 there were 3.3 times more Aboriginal people with university education than in 1999 (NWT Bureau of Statistics 2014).

*Feminization of CC* is the consistent trend of the last decades. Women dominate the realm of education in most of the Arctic. Already in the 1990s women had become the majority group in relation to higher education in several countries. Northern Scandinavia, Russia and Alaska are three areas with the most feminized human capital. Only parts of Canada show a continued dominance of males in relation to post-secondary education, a situation attributable to both women's departure to pursue educational opportunities and influx of educated male labor force attracted by the resource sector. In communities with a generally high concentration of people with postsecondary education – first of all the urban areas with one or more higher education institution – female dominance is limited to a few percentage points.

*Peripheral disconnect:* geographic disconnect between the entrepreneurial and other forms of the creative capital.

*Uneven geography and differentiation:* the analysis reveals a very uneven geography of the creative capital in Alaska. The pattern is characterized by the dominance of economically privileged, larger communities. However, there is a number of Indigenous 'creative hubs.'

*The 'blessing of remoteness'* concerns possible positive impacts of remoteness on CC accumulation (e.g., Copus & Skuras 2006; Petrov 2008), when remote areas (for example the North Slope Borough) may have higher concentration of CC than less northern or less remote areas. This phenomenon while primarily caused by the influx of temporary migrants employed in extraction industries, may also indicate a higher level of creative potential, independence and self-reliance of remote areas compared to less remote peripheries. Remote settings may also be more attractive to creative individuals and provide better conditions for retaining local creativity (such as Indigenous cultural economies).

*Bifurcation of 'bohemia':* BI is high in larger city-regions (Anchorage and Juneau) and the North Slope, which reflects two distinct types of 'bohemia' that co-exist: the Indigenous and urban/western. These two groups have dissimilar characteristics and require different conceptual and analytical approaches to their study.

*High mobility of CC in the Arctic,* prevalence of 'brain drain,' 'brain turnover' (intensive in- and out-migration of creative capital) and 'brain waves' (surges and dips of CC associated with the boom-and-bust economic cycles).

Lastly, it is important to point to a sentiment expressed by others (Aarsæther 2004) that innovation in the periphery may require more creative effort, originality and ingenuity to overcome barriers and capacity shortages than in central areas. We can also argue (although evidence is still more anecdotal than systematic) that innovation (and even individual acts of innovation) in the periphery can have stronger impact on community's/region's economic path, and can be more pivotal for a "new path creation" for a given remote locale.

Findings presented in this paper warrant further studies that will conduct analysis at individual community level (rather than regional) and, if possible, will use more detailed occupational data. There is more to learn regarding the role of distance and proximity, the importance of pull and push factors (such as harsh environment, housing problems and isolation) on creative capital, and the nature of intricate relationships between human, creative, social, civic and other forms of societal capital. Future research should also consider possible negative externalities of creative economies, such as economic inequality, housing affordability, environmental impacts, over-consumption, and political infighting.

## References

- Aarsæther, N. (ed.). (2004). *Innovations in the Nordic Periphery*. Stockholm: Nordregio.
- AHDR, 2004. *Arctic Human Development Report*. Akureyri: Stefansson Arctic Institute.
- Agranat, G. A. (1992). *Vozmozhnosti i Real'nosti Osvoeniya Severa: Global'nye uroki*. [Possibilities and Realities of Development of the North: Global Lessons.] VNIITI, Moskva. [in Russian]
- Alsop, J. (2010). History of Cape Dorset and the West Baffin Cooperative. Working Paper. Victoria, BC: University of Victoria
- Amin, S. (2001). Imperialism and globalisation, *Monthly Review*. 53(2). Retrieved from <https://monthlyreview.org/2001/06/01/imperialism-and-globalization/>
- Bassanini, A. P., & G. Dosi. (2001). When and how chance and human can twist the arms of Clio. In R. Garud & P. Karnoe (eds.). *Path Creation and Path Dependency* (pp. 41-68). Mahwah, NY: Lawrence Erlbaum.
- Bathelt, H., & J. Boggs. (2005). Continuities, Ruptures, and Re-Building of Regional Development Path: Leipzig's Metamorphosis. In G. Fuchs & P. Shapira (eds.). *Rethinking Regional Innovation and Change. Path dependency or regional breakthrough?* (147-170). New York: Springer.
- Beyers, W. & Lindahl, D. (2001). Lone Eagles and High Flyers in Rural Producer Services. *Rural Development Perspectives*. 11(3): 2-10.
- Bone, R.M. 2009. *The Geography of the Canadian North: Issues and Challenges* (2<sup>nd</sup> ed.). Toronto: Oxford University Press.
- Boschma, R.A. (2005). Social Capital and Regional Development: An Empirical Analysis of the Third Italy. In R.A. Boschma, & R.C. Kloosterman (eds.). *Learning from Clusters: A Critical Assessment from an Economic-Geographical Perspective*. (pp. 139-168). Netherlands: Springer.
- Bourne, L. S. (2000). Living on the Edge: Conditions of Marginality in the Canadian Urban System. In H. Lithwick & Y. Gradus. (eds.). *Developing Frontier Cities. Global Perspective – Regional Contexts* (77-97). Kulwer Academic Publishers: Boston.
- Clark, P., P. Tracey, & H. Lawton Smith. (2001). Agents, Endowments, and Path-dependence: A model of multi-jurisdictional regional development. *Geographische Zeitschrift*. 89: 166-181.

- Copus A., & D. Skuras. (2006). Accessibility, Innovative Milieu and the Innovative Activity of Businesses in the EU Peripheral and Lagging Areas. In T.N. Vaz, E.J. Morgan, & P. Nijkamp (eds.). *The new European Rurality: Strategies for Small Firms*. Aldershot, England: Ashgate.
- Desrochers, P. (2001). Local Diversity, Human Creativity, and Technological Innovation. *Growth and Change*. 32: 369–394.
- Florida, R. (2002). The Economic Geography of Talent. *Annals of the Association of American Geographers*. 94(2): 743-755.
- Florida, R. (2005). *Cities and the Creative Class*. New York: Routledge.
- Friedmann, J. (1966). *Regional Development Policy: A Case Study of Venezuela*. Cambridge, MA: The MIT Press.
- Gertler, M.S. (2005). Tacit Knowledge, Path Dependency and Local Trajectories of Growth. In G. Fuchs and P. Shapira (eds.). *Rethinking Regional Innovation and Change. Path dependency or regional breakthrough?* New York: Springer: 22-41.
- Gertler, M.S., R. Florida, G. Gates, & T. Vinodrai. (2002). *Competing on Creativity: Placing Ontario's Cities in the North American Context*. Toronto: Institute of Competitiveness and Prosperity and the Ontario Ministry of Enterprise, Opportunity and Innovation.
- Glaeser, E. (2004). Review of Richard Florida's "The rise of the creative class." Retrieved from <http://www.creativeclass.com/rfcgdb/articles/GlaeserReview.pdf>.
- Glassman, J. (2011). Critical Geography III: Critical Development Geography. *Progress in Human Geography*. 35(5): 705-711.
- Gradus, Y. & Lithwick, H. (1996). *Frontiers in Regional Development*. Lanham, MD: Rowman & Littlefield.
- Hall, H. & B. Donald. (2009). *Innovation and Creativity on the Periphery: Challenges and Opportunities in Northern Ontario*. Ontario in the Creative Age Working Paper Series. Toronto: Martin Prosperity Institute: REF: 2009-WPONT-002
- Hanson, G.H. (2000). Firms, Workers, and the Geographic Concentration of Economic Activity. In G. Clark, et al. (eds.). *The Oxford Handbook of Economic Geography* (pp. 477-494). Oxford: Oxford University Press.
- Hayter, R., T. Barnes, & E. Grass. (1994). *Single Industry Towns and Local Development: Three Coastal British Columbia Forest Product Communities*. (Research Report No. 34). Thunder Bay, ON: Lakehead University Centre for Northern Studies.
- Hayter, R., T.J. Barnes, & M.J. Bradshaw. (2003). Relocating Resource Peripheries in the Core of Economic Geography's Theorizing: Rationale and Agenda. *Area* 35(1): 15-23.
- Hirshberg, D. & Petrov, A. (2014). Education and Human capital. In *Arctic human Development Report II*. (in press).
- McGranahan, D. A., Wojan, T. R., & Lambert, D. M. (2010). The Rural Growth Trifecta: Outdoor Amenities, Creative Class and Entrepreneurial Context. *Journal of Economic Geography*. 11(3): 529-557.
- McGranahan, D., & T. Wojan. (2007). Recasting the Creative Class to Examine Growth Processes in Rural and Urban Counties. *Regional Studies*. 41(2): 197-216.

- Morgan, K. (1997). The Learning Region: Institutions, Innovation and Regional Renewal. *Regional Studies*. 31(5): 491-503.
- Nordicity Group. (2010, June). Economic Impact Study: Nunavut Arts and Crafts. Final Report. Iqaluit. Retrieved from <http://assembly.nu.ca/library/GNedocs/2010/000056-e.pdf>.
- North, D., & D. Smallbone. (2000). Innovative Activity in SMEs and Rural Economic Development: Some Evidence from England. *European Planning Studies*. 8: 87–106.
- Petrov, A. (2007). A Look Beyond Metropolis: Exploring Creative Class in the Canadian Periphery. *Canadian Journal of Regional Science*. 30(3): 359-386.
- Petrov, A. (2008). A Talent in the Cold? Creative Class and the Future of the Canadian North. *ARCTIC – Journal of the Arctic Institute of North America*. 61(2): 162-176.
- Petrov, A. (2011). Beyond Spillovers: Interrogating Innovation and Creativity in the Peripheries. In H. Bathelt, M. Feldman, & D. F. Kogler (eds.). *Beyond Territory: Dynamic geographies of innovation and knowledge creation* (pp. 168-190). New York: Routledge.
- Petrov, A. (2012). Redrawing the Margin: Re-examining Regional Multichotomies and Conditions of Marginality in Canada, Russia and their Northern Frontiers. *Regional Studies*. 46(2): 59-81.
- Petrov, A. & Cavin. P. (2013). Creative Alaska: Creative Capital and Economic Development Opportunities in Alaska. *Polar Record*. 49(4): 348-361.
- Polèse, M., & R. Tremblay. (2005). L'économie du savoir et la manie des « rankings » : une analyse intégrée des villes canadiennes et américaines. *Le géographe canadien*. 49(2): 198-213.
- Power, M. (2003). *Rethinking development geographies*. London: Routledge.
- Radcliffe, S.A. (2005). Development and Geography: Towards a Postcolonial Development Geography? *Progress in Human Geography*. 29(3): 291–298.
- Rea, K. J. (1968). *The Political economy of the Canadian North*. Toronto: University of Toronto Press.
- Romer, P.M. (1990). Endogenous Technological Change. *Journal of Political Economy*. 98(5): 71-102.
- Schienstock, G. (2007). From Path Dependency to Path Creation: Finland on its way to the Knowledge-based Economy. *Current Sociology*. 55(1): 92–109.
- Selada, C., Cunha, I., & Tomaz, E. (2011). Creative-Based Strategies in Small Cities: A Case-Study Approach. *REDIGE*. 2(2): 79-111.
- Stohr, W.B. (2000). Local Initiatives in Peripheral Areas: An Intercultural Comparison Between Two Case Studies in Brazil and Austria. In Lithwick, H. & Y. Gradus (eds.). *Developing Frontier Cities. Global Perspective – Regional Contexts* (pp. 233-254). Boston, MA: Kulwer Academic Publishers.
- Stolarick, K. (2012). Functional Creative Economies: The Spatial Distribution of Creative Workers. *Journal of Rural and Community Development*. 7(3): 144-163

# “WE’RE ALL IN THIS TOGETHER”: FACTORS THAT INFLUENCE & SUPPORT SUCCESS FOR FEMALE POST-SECONDARY STUDENTS IN NORTHERN MANITOBA, CANADA

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*At the University College of the North, women make up approximately 80% of the student population in the Faculty of Arts and in the Nursing program (UCN, 2012). In the University of Manitoba’s Northern Social Work Program, 87% of students are female. These reflect a trend across Canada, where 3 out of 4 Aboriginal students are female (Holmes, 2006). We know anecdotally and from experience that the majority of those women also have children, many are single-parent mothers and many have responsibilities for their extended family. This means that these students tend to come and go over a number of years rarely finishing a 4 year degree in 4 years. Using “retention rates” typically used by many post-secondary institutions, the “success” of students who don’t follow the traditional 4 year path is made invisible in the statistics. This invisibility leads us to look to other ways of measuring success. In this paper, we try to answer two questions. First, how do female students define and measure their own successes? Second, what factors have contributed to their successes and what impact has their success had on family and community? In answering these questions, insights are provided that underline both the individual and the collective returns of post-secondary education in a northern region.*

## Introduction

It is impossible to talk about post-secondary education in the Canadian north without talking about the historic and far reaching impacts of colonialism. Wilson and Battiste (2011: 13) review a series of models of education in Canada beginning with assimilation and enfranchisement. They found that the focus of Canadian governmental policies toward Aboriginal people, both pre and post confederation, was to “civilize” the Indian. Furthermore, the 1857 “Civilization Act” stated that

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Indians could acquire all the rights and privileges of citizenship when “they could read and write either English or French, be free of debt and be of ‘good moral character’” (Kulchyski, 2007: 55).

Learning to read and write and gain a Euro-Canadian education has long been tied to assimilationist policies of the Canadian state and the history of residential schools is a prime example of this. Aboriginal children were removed from their families and placed in residential schools, often far from their home communities (Wilson & Battiste, 2011: 13). The abuses that often took place in these institutions have been well documented (Milloy, 1999).

Today in the north, the residential school period is still within living memory for communities and families. While education is often seen as a way out of poverty and into a better life, education is still connected to the negative experiences of older relations. Education is also “viewed as something that draws students away from who they are” (Tierney, 1993: 311). Not only have northern students had to travel out of the north for a post-secondary education, it has also taken them away from their cultural knowledge. For many Aboriginal learners in the north, the legacy of colonization and oppression has led to internalized beliefs of inadequacy that often inhibit motivation (Hart, 2010; Laenuie, 2000; MacKinnon, 2012). Many models and approaches to Aboriginal education have attempted to address the fact that often Aboriginal students arrive into post-secondary programs at a disadvantage, having faced many barriers. Some of the barriers faced by Aboriginal students today are: inadequate educational preparation, language, cultural difference, lack of role models, funding, intergenerational family and social problems and geographic location (Anonson, Desjarlais, Nixon, Whiteman, & Bird, 2008; Malatest & Associates, 2004; Martin & Kipling, 2006; Mendelson, 2006; Sloane-Seale, Wallace, & Levin, 2001).

Wilson and Battiste (2011) describe various student support models from the late 1960s onwards that attempt to address the particular needs of the Aboriginal learner. As the number of Aboriginal students began to rise in post-secondary programs in the 1970s, universities and colleges started to add Aboriginal content and programming (15). The Access programs initiated in Manitoba in the early 1980s were designed to “admit into post-secondary studies those Manitobans facing specific participation barriers so significant that without the program, they would have little or no chance of success” (Hikel, 1994 cited in Clare, 2013: 62).

Today northern Manitobans have more accessible opportunities to participate in post-secondary education such as the University College of the North (UCN), the University of Manitoba-Northern Social Work Program (UM NSWP) and Inter-University Services.<sup>1</sup> The UM NSWP offers full and part time post-secondary education through different options that include traditional education, ACCESS Program (Alcorn & Levin, 1998; Clare, 2013) and cohort modalities. These three options provide the opportunity to attain a university degree for adults who have had social, economic and cultural barriers as well as a lack of formal education. These options enable students to take classes in or near their home communities and to integrate work experience activities. Similarly, UCN offers classroom and distance delivery post-secondary education in a variety of degrees. In both universities the student support model encompasses activities such as the active recruitment of Aboriginal faculty and staff, northern course content, childcare, Elders in residence, peer mentoring

and scholarship and bursary programs targeting Aboriginal and northern students with financial needs.

While there has been much research done in the area of Aboriginal post-secondary students' success rates in Canada, these studies often come from a deficit perspective by focusing on the disparities between Aboriginal populations and the rest of Canada. (Currie et al., 2011; Mendelson, 2006; Smith, Gold, McAlister, & Sullivan-Bentz, 2011). These studies cite statistics which suggest much higher dropout rates than the non-Aboriginal population due to lack of recruitment, geographic and financial barriers and issues such as enculturation, discrimination and alcohol use as reasons for lower education rates. Other themes considered in the literature are potential employment outcomes for post-secondary students who are successful compared to those who do not complete degrees (Hull, 2009; Krebs, Hurlburt, & Schwartz, 1988).

Our research takes a qualitative as well as an appreciative approach in order to listen to the life experiences and educational pathways of northern female students. We investigate how northern female students define and measure their own successes. In particular, what factors have contributed to their successes and what impact has their success had on family and community? While everyone likes to feel "successful", many northern students do not have a reference point for what that feels like. When it happens, it can be life changing for unexpected reasons. There is a need to capture the unexpected or unintentional outcomes of post-secondary education which are often more personal as well as collective in nature, and not just the harder outcomes such as completion rates or employment. Students describe their success in terms of personal changes but also changes they have witnessed in their children, families and communities. By interpreting emerging themes within the interview data, this research will also suggest indicators of success that may be more appropriate for northern students. We believe that this data will also contribute to discussions as well as policy on investing in place-based northern education.

### **Situating the Research**

This research project is a collaboration between UCN and UM-NSWP in Thompson, Manitoba. The female students who participated in this project are either current upper students or graduates of these programs.

The city of Thompson is the largest semi-urban center in northern Manitoba and is situated 750 kilometers north of Winnipeg. Thompson acts as an economic and service 'hub' for northern Manitoban communities, including commercial, educational, recreational and medical services. Employment opportunities such as the Vale nickel mine or Manitoba Hydro also contribute to inward migration from outlying communities. The City of Thompson services an area that covers 396,000 square kilometers, which includes 32 communities and totals approximately 72,000 people. The average age of a Thompson resident is 30.6, well below the provincial median age of 38. Regionally, the area surrounding Thompson has a median age of only 24, and this trend is growing within the region's Aboriginal communities. In communities such as Garden Hill and Split Lake, the average age is under 20. Thompson's current population is estimated as 50% Aboriginal. The city is

located on the territory of the Nisichawayasihk Cree Nation (Thompson Economic Diversification Working Group, 2012).

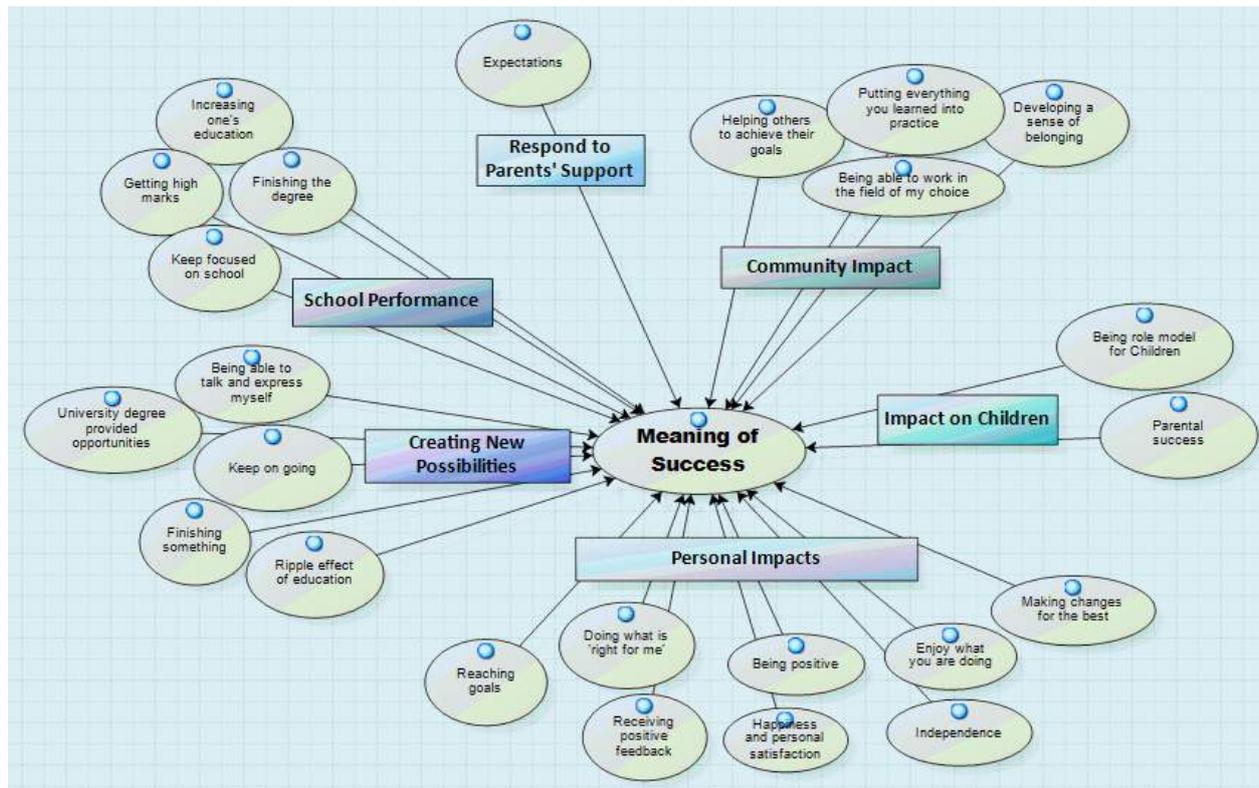
At the UCN in 2010-11, 74% of graduates identified as Aboriginal and approximately 80% of students in the Faculty of Arts are female (UCN, 2012). Similarly within the UM-NSWP 87% of students are female and the majority identify as Aboriginal (Bonnycastle, 2013). Typical challenges for northern female students are often the lack of consistent child-care, affordable housing, as well as emotional, academic and financial supports (Bonnycastle & Prentice, 2011). They are also typically first generation post-secondary students with few educational role models.

## **Methodology**

Our research study responds to questions: how do female students define and measure their own successes? And what factors have contributed to their successes? We interviewed 27 post-secondary female students who were either in their third or fourth year of study or had graduated from a degree program at NSWP or UCN. All participants were volunteers and completed informed consent forms. We used qualitative methods and data was collected through one-on-one semi-structured interviews, which used appreciative questions. Appreciative questions attempt to explore the participants' best experiences (Cooperrider & Whitney, 2000). Approval for this research study was obtained from the University of Manitoba, Psychology/Sociology Research Ethics Board and UCN Ethics Board.

## **Findings**

**How do northern female students describe the meaning of success?**



**Figure 1:** Meaning of Success

Figure 1 shows traditional and non-traditional types of success. Results from the study showed that success was not only defined in terms of the more traditional outcomes such as getting high marks, meeting parents' expectations and finishing a degree. These are captured in the upper left of Figure 1 under school performance. Success was also captured in terms of unintentional or unexpected outcomes tied to personal growth, family and community. When defining their own success, students talked about: improvement in communication skills and confidence; feeling independent; how education furthered their connection to culture and community; as well as the fact that education created personal and career possibilities that they had not thought possible. These results are located in the right side of the Figure 1 and are discussed in more detail below.

### *Personal Impacts*

Some students talked about “doing what is right” for them personally, enjoying what they are doing, independence, overcoming adversities, reaching goals, and receiving positive feedback. Some examples of how aspects of personal growth were part of defining their own personal success:

“...learning to not be afraid and to be vocal and say what you need... [for example] “Hey, I need help” (#5);

“Just being confident enough with my own abilities. When I say confident, I mean even just that little bit just to admit that I really just don't get it or I really don't know and that faculty are there to help. I don't think people really understand how much you guys are

“We're All in This Together”

really there to help and I felt so supported when I walked into your office, or when I walk into G's office" (#11);

"...getting independence...and getting the skills to get a job." (#5)

The personal aspects of "success" also include the realization that being a student has created new possibilities for their future both personally and career-wise. The fact that they are persevering and finishing something and the observation that the university degree opened doors had a ripple effect upon family and community.

"Finishing and not giving up... being able to say there's a reason why I did this and at the end ... look at it... Like I'm successful now, but then I won't stop there. It will continue you know" (#7);

"Success is being positive, keeping a positive outlook on everything, not dwelling on the past, dwelling on mistakes, instead of that, learning from them" (#25);

"I think success is when you truly enjoy what you're doing and truly feel in your heart... when you go to sleep at night that you're doing the right thing and that you're helping ... the community as a whole." (#18)

### *Impact on Children, Family and Community*

The majority of those interviewed defined success in terms of the impact on those around them such as children, family and community. Feelings of success also came about through the realization that their children viewed their education aspirations in positive ways. Being proud of educational accomplishment often translated into being a better parent both as a role model and also in terms of new found confidence and a broader knowledge base to pass on to their children.

Yeah that's mainly my driving force is my children... making a better life for my kids". (#8)

I think their own self-motivation to want better for their families. I think that's number one cause I think a lot of women do it because they want something better... not for themselves but for their own families.. or a way out of something that they know is not for them, like living in an isolated community for example. So they want something better, so they come with goals in mind that if achieved... then my families lives will be better and their own lives too because they are enriching and they are fulfilling something within them for their own children. (#4)

Of course family is going to be impacted. For example, Mom's not here all the time now, we have to be more independent. The community is impacted because there's another social worker out there that's going to help others. I'm more involved now with drumming, ceremonies, the grandmother's council. I was able to help the community overall and have my children also involved in those types of activities too and ceremonies and things. My family now they turn to me a lot and they ask life questions and because I'm not judgemental and I'm given certain gifts to help people to see things and it comes back to the reflecting back. Those are the types of impacts that I see. (#26)

I'm more connected with my community. My connection to my culture has increased dramatically. I'm building my own professional development, so I would say that has helped and that has improved and changed. Overall school has influenced me to be more on top of my game... more on top of who I am and all around, so that I can just do good in all that I do. (#3)

Completing a post secondary program often meant being able to work in the field of their choice and putting theory into practice which in turn is an inspiration to community members. There was also the sense that they could now help others in a more educated and useful way and also develop a sense of belonging.

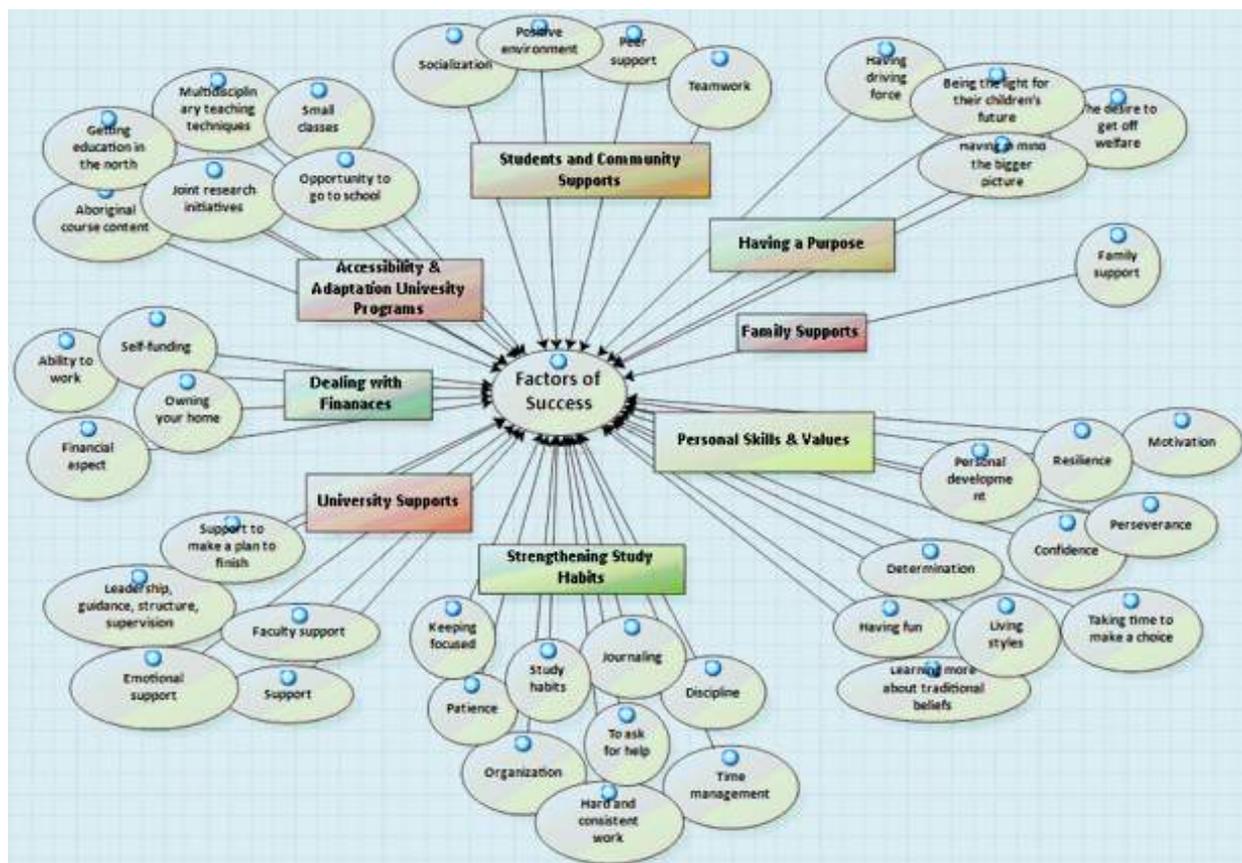
Yeah, I think it has an impact on my community because I'm fairly well known. I think people can see that I went from one type of a life to another and that people can change. I think I'm a support to a lot of Métis people you know. They see that I've succeeded and they know that Métis can succeed as well. (# 1)

And then being that role model for my community too ... I've seen a lot of parents and their kids wanting to go into school you know. So it's really nice seeing that you can influence people that way. (#12)

And in my community, I feel that I have empowered some. There are women that have decided to come to school even though they felt they couldn't. I've seen other people sometimes look at me and they they say "you're finished your nursing"? And when I say "yes"... "wow... that's great"! they say. They often say that they are not sure they can do it with kids.. and I said "look at me. I have kids and I did it." (#9)

Participants were able to describe success not only in terms of academic outcomes but also in terms of their increasing understanding of Aboriginal history and culture. This allowed them to learn from the past and appreciate and broaden their knowledge. They also see success in terms of the applicability of their learning to become better parents and also open new opportunities for their children. Success was also defined in terms of their contributions to their children, family and community by offering them new roles models and showing them what changes are possible and how those changes influenced well-being for themselves, their families and their communities. In summary, the findings confirm how students have been able to increase human capital in relationship to education and economic aspirations as well as social capital in relationship to community and family.

### **What key factors contributed to student female successes?**



**Figure 2:** Factors of Success

Figure 2 shows the diverse levels of traditional and unintentional factors that contributed to the success of post-secondary female students. They include university and financial supports, accessibility and adaptation to university programs, strengthening study habits, personal skills and values, having purpose and family and community supports. These factors are related with individual and institutional motivation and commitment to northern and Aboriginal students.

When describing what factors contributed to their success, some of the main themes were the support from other students, community and family. This included the impact of going to school in a positive environment where teamwork was emphasized as well as going to school close to home. Research shows that one of the “biggest differences in completion rates were found in relation to how easy it was to socialize with other students and how well students worked together” (Hull, 2009, p. 61). Participants in our study commented how they support each other both logistically and emotionally:

I see their struggles and sometimes a lot of them are financial, but I also went to school with a lot of women that have a lot more barriers than I do and I really admired them. I made sure that I was supportive of them as just being their classmate or if they needed a ride or whatever. Just even talking about what we are working on this week or whatever. I have to get this done and you know my daughter was sick or you know, just listening

to them... listening to each other talk about what we're doing or what someone is going through. (#10)

Team work and solidarity is another approach when supporting each other:

Just to be understanding cause we're all in this together... we're searching for something together and I think if you realize that you're going to be open to supporting one another. It's always motivating to see women that have pursued something and achieved something and they did it with sometimes very little means and not a lot of support. (#10)

Students build relationships and share resources:

We work together and we talk amongst each other and we tell each other stuff. Like for example one of the students that I work with had a hard time finding places to go, places for their children to go. They wanted them to be active and so our group gave her a list of places to go [with her children]. So it's just confiding with somebody or letting somebody know what's bothering you. That person may know somebody else that has either experienced it or you know somebody that can help in dealing with it. (#23)

Working together on class projects was also a source of support among female students.

More group work, because when we come to school after hours we take into consideration "okay, do you have kids?", "are there any recreation activities that you need to go to?". It's just that on the scheduling part, we find out we can't come because I've got to travel for work or my daughter has gymnastics that evening. So, when we do work together we sometimes take a break and we ask "hey, where did you come from?" "Do you have family here?" And we just talk. (#23)

For many of the students, family was a foundational source of support, although not all students had family close by. A significant number of students come from northern communities in the region.

I honestly grew up thinking that I wasn't good enough even though I was an A student and I just always had the feeling I couldn't do it and I learned that I can even though we've overcome all of these odds or had to go through all of this... I can do anything and I've got the support of my family and I think for me I also learned that getting a bad grade on a paper is nothing compared to the other stuff that we've gone through. (#5)

The majority of students also described how going to school close to home made their academic success possible. Being able to pursue a post-secondary education in northern Manitoba where university programs included Aboriginal course content, multidisciplinary teaching and small class sizes all contributed to reducing geographical and cultural barriers, as a participant commented, "Being here in the north is one of the conditions that has made it [success] possible" (#6).

Attending post-secondary education in the north allows students to keep their connection with their families and communities and continue contributing to the development of their own communities.

The transformation and growth that the students experience is evident to those around them, and in the end this contributes to the elevation of their self-respect and sense of pride: “The respect that I’ve gained and I feel like I get that same respect in the community... once I’ve finished just staying in the north, learning in the north, graduating in the north, teaching in the north” (#14).

Increasing post-secondary education possibilities in northern and remote communities is having an impact on communities in terms of capacity building. Communities are educating their own people who will be the future service providers and educators:

You don’t have to go down to Brandon. You don’t have to go down to Winnipeg... you can stay here with your family and you can get that and you can have that amazing future you wanted and you don’t have to run away. I think that’s what holds a lot of people back is having to leave everything you’ve known. Not many people are going to pack up and leave and go to a school in a whole different city. (#14)

What students meant by “having a purpose” included the desire to get off welfare, being the light for their children’s future and keeping the bigger picture in mind. For instance a participant pointed out, “... every time I wanted to quit, I’d just think “do you want to live on welfare? You can’t give your children what they want” (#16). Another participant affirmed, “Being here at UCN finally made me get off the fence and start actually taking action and you know ...I haven’t drank in almost two years like that was a pledge I made to the creator... so that’s my beliefs. It’s a tradition" (#6).

Female students in the UCN and UM-NSWP have been able to succeed not only by the increased accessibility and opportunities to attend to post-secondary education close to home, but also by the different kinds of supports received by the academic institutions, family, and community. These supports combined, provide these students with purpose and motivation which have been the core elements to succeed within post-secondary education as well as other areas of their lives.

## **Discussion**

While there have been many new approaches and improvements to the recruitment and retention of Aboriginal students since the 1970s (Wilson & Battiste, 2011), there is still much work to be done. There is a need to rethink the term “retention” particularly in the context of northern Aboriginal students. In the previous section, the voices of northern female students are quoted, grounding the emerging themes within their life experience and their educational paths. While systemically student success and retention is measured in terms of completion and economic gain, the benefits for northern Aboriginal students extends beyond this. “Higher education is valued for capacity building within Aboriginal nations toward their goals of self-government and self-determination” (Danziger, 1996 cited in Pidgeon, 2008-2009: 34).

Tierney (1993) identifies assumptions held by universities that serve as the basis for the ways they integrate students into the institution and which guide the idea of retention as the measuring stick for success. One of the assumptions is that the completion of post-secondary education is “the movement from one stage of life to another [which] necessitates leaving a previous state and moving

into another” (cited in Kirkness & Barnhardt, 2001: 4). Thus, currently, success is measured continuously along the path between starting and completing a degree.

The students in this study clearly state that their successes are interconnected with their culture and the north as their home. Their successes involve a deepening of their understanding of self and the world around them in order to contribute to family and community.

I think that doing everything here and staying here is going to be a positive aspect on the community because this is something new. Not many people have been able to do their entire careers or educational careers up north and then apply that learning to working here until recently. So I think it's exciting and I'm hoping it will have an impact in the community and on students striving to work to graduate and raise up the graduation percentages and promote more people to go into secondary and post-secondary because it's home you know. (#14)

When students defined what success meant to them, they consistently talked in terms of their own personal successes and this was very much connected to their family, children and community. These insights are consistent with the literature on Aboriginal education. Cappon (2008) asserts, “Learning is what nurtures relationships between the individual, the family and the community and Creation. It is the process of transmitting values and identity. It is the guarantor of cultural continuity. Its value to the individual cannot be separated from its contribution to the collective well-being” (14). He goes on to say that the value and success of the individual cannot be separated from its contribution to the collective well-being, which in turn strengthens a community's social capital (61). In 2007, the Canadian Council on Learning along with the Aboriginal Learning Knowledge Centre with contributions from First Nations, Inuit and Métis communities, launched “Redefining How Success is Measured in Aboriginal Learning” (2008). One of the main components of the model they created emphasized the importance of the individual's personal development. Cappon (2008) asserts, “Personal harmony and balance comes when an individual learns to balance the spiritual, physical, mental and emotional” aspects of self (63-64). Further, Pidgeon (2008) advocates for a model of Aboriginal student persistence that accommodates culture, language and ways of knowing. A wholistic model would incorporate the inter-relationships of the individual, family and community (354). In other words, in a northern Aboriginal context you cannot talk about the success of the individual without linking this to family, community and culture.

Some students talked about “learning who I am” culturally and historically through the process of academic and personal exploration. Jessica Ball (2004) reflects on this with her assertion that, “In many Indigenous communities, generations of people do not know their own culture of origin or their heritage language, and their identities as members of an Indigenous community have been attenuated” (455). Similarly, the students in this study describe how seeing themselves within the curriculum and being encouraged to explore their cultures resulted in more positive self esteem for themselves and their children.

The students also affirmed that their northern post-secondary universities have for the most part been culturally sensitive by integrating Aboriginal knowledge and culture into their curriculum. This allowed students to explore Aboriginal knowledge and culture within their own territory. As they

learn and grow, they are not separated from their culture and communities. Instead the student experience of post-secondary education was integrated with culture and community which increased their understanding and connection to traditions and culture.

Including courses on Aboriginal history, governance systems and culture has contributed to students feelings of being valued and important and in the end this contributes to increasing their self-esteem. This is important as Anonson et al. (2008) describe how Aboriginal students often have deficits in one or more of Maslow's five hierarchy of needs: physiological, safety, love, belonging and esteem (279). The findings also underline the importance of peer and faculty support which contributes to feelings of safety, belonging and esteem.

The students interviewed described how both their peers and their instructors gave them a lot of advice and moral support. Hull (2009) cites that "students had more success in friendly and cooperative post-secondary environments" (59). Each of the programs that these students are a part of are small hence most often everyone knows everyone and their families. This point reflects what Ball (2004) describes as a "community of learners" approach to community based programming that evolves as the students, their families and community are made a part of the whole academic and social environment.

Students also discussed the realization that they were now role models for their children, families and communities. Some have been able to inspire new generations as most of them are first generation post-secondary students and consequently this impacts future generations. As Pidgeon (2008) asserts, "Aboriginal students do not necessarily have cultural capital of prior family experience with higher education so their knowledge of negotiation is very different from a student whose parents are university educated and are able to translate that form of capital to their children" (345). Pidgeon (2008) goes on to link cultural integrity with the formation of cultural capital. An example of cultural integrity would be when programs take into consideration the importance of intergenerational aspects of retention that recognizes the role of family and community in supporting the success of Aboriginal students (351).

Students appreciated the proximity to home of the programs they were enrolled in. A survey of former applicants for post-secondary funding from a First Nation community was conducted to examine post-secondary completion rates (Hull, 2009). There were a number of factors cited that overlap with our findings. In terms of proximity to home, the survey showed, "those who attended programs located on or near the reserve had a higher completion rate (64%) than those who attended away from the reserve (46%)" (32). In the case of the University of Saskatchewan's community-based northern (Prince Albert) nursing program, they found that the retention rates of Aboriginal students was 13% greater than the provincial norm (Anonson et al. 2008: 1). It has been recognized that it is often important when attracting students into post-secondary education from remote communities, to provide the option of taking the program to the student (Cappon, 2008: 65; Holmes, 2006: 30). Providing the opportunity for students to complete a post-secondary degree in a northern location was described by our students as a key factor in their success.

Though the above comments express positive factors of success, there is a need to continue to modify policies and practices of post-secondary institutions to include the actual needs and experiences of northern and Aboriginal students. The experiences of the students interviewed reflects that the individual as well as collective returns of education are intricately interconnected. While individual or traditional indicators of success such as good grades or degree completion are important, so are the successes as reflected through and with family and community. A significant learning from this study is that the development of place-based learning across the north has the potential to begin to not only improve post-secondary graduation rates, but also to nurture more confident and skilled northern community members and leaders, cultivating the value of the social impact of post-secondary education and investing in personal and community transformation.

As discussed earlier in this section, there are vast differences in the way that post-secondary institutions and their funders view “retention” and student success as compared to northern students themselves. Barnhardt (2002) asks “can institutions change?” (351). Is it possible to measure student success in terms of the development of healthy students and the impact on family and community? These questions need to be continually reexamined as we move into the future.

## **Conclusion**

Appreciative questions helped facilitate students to vocalize and conceptualize their successes and experiences of postsecondary education, reaffirm a sense of purpose in their education and highlight a positive core of successful experiences. Our study has confirmed the benefits of providing local post-secondary education to northern communities that increases access and creates a positive experience based on cultural integrity. By increasing opportunities for people who have experienced different barriers to get professional degrees, communities have increased their human and social capital. By listening to student successes, we have been able to identify areas that could be strengthened as well as areas that could be used in terms of indicators of success such as the inter-relationship of student, family and community.

In summary, the success of post-secondary female students includes traditional indicators such as fulfilling the academic requirements, creating new possibilities, and responding to the expectations of parents and sponsors. Interconnected with these are the more non-traditional indicators that are equally if not often more important to Aboriginal students. These include increasing: understanding and connection to culture, parenting skills, the ability to be role models for children, families and community and the reaffirmation of belonging to northern communities and of wanting to work for their people and their communities. These non-traditional indicators are in keeping with a more “holistic model that incorporates the inter-connectedness of the physical, emotional, spiritual and intellectual realms along with the inter-relationships of the individual, family, and community” (Pidgeon, 2008). It is also important that a holistic model be flexible to the location, both geographical and cultural, and to the particular needs of the student population (354). In addition, our study reaffirms the importance of creating a safe, supportive and collaborative learning community in which the students, faculty and staff work together to build relationships. Finally and perhaps the most important finding of this study is the social return on investment in post-

secondary education for women in the north and how it has helped female students to discover and reaffirm their history, culture, sense of independence and self-esteem while remaining in the north and continuing to contribute to local and community development.

## Acknowledgments

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## Notes

1. Inter-University Services (IUS) is a consortium of Manitoban post-secondary institutions that offer face-to-face and on-line courses to communities north of latitude 53.

## References

- Alcorn, W., & Levin, B. (1998). *Post-secondary education for Indigenous populations*. Paper presented at the International Congress on Social Welfare, Jerusalem, Israel. <http://files.eric.ed.gov/fulltext/ED423098.pdf>.
- Anonson, J., Desjarlais, J., Nixon, J., Whiteman, L., & Bird, A. (2008). Strategies to Support Recruitment and Retention of First Nation Youth in Baccalaureate Nursing Programs. *Journal of Transcultural Nursing*, 19(3): 274-283.
- Ball, J. (2004). As if Indigenous knowledge and communities mattered: Transformative education in First Nations communities in Canada. *American Indian Quarterly*, 28(3 & 4): 454-479.
- Barnhardt, R. (2002). Domestication of the ivory tower: Institutional adaptation to cultural distance. *Anthropology & Education*, 33(2): 238-249.
- Bonnycastle, C. (2013, December 2013). [Aboriginal students, University of Manitoba - Northern Social Work Program].
- Bonnycastle, C., & Prentice, S. (2011). Childcare and caregiving: Overlooked barriers for northern post-secondary women learners. *The Canadian Journal of Native Studies*, 31(1): 1-16.
- Cappon, P. (2008, May). Measuring Success in First Nations, Inuit and Metis Learning. *Options Politiques*. Ottawa: Canadian Council on Learning.
- Clare, K. (2013). It's the WEC way: Transformative social work education. In J. Silver (ed.). *Moving forward giving back: Transformative Aboriginal adult education*. Winnipeg: Fernwood Publishing and Canadian Centre for Policy Alternatives.

- Cooperrider, D., & Whitney, D. (2000). A positive revolution in change: Appreciative inquiry. In D. L. Cooperrider, P. F. J. Sorensen, D. Whitney & T. F. Yaeger (eds.). *Appreciative inquiry: Rethinking human organization toward a positive theory of change* (pp. 3-28). Champaign, Illinois: Stipes Publishing L.L.C.
- Currie, C., Wild, T. C., Schopflocher, D. P., Laing, L., Veugelers, P. J., Parlee, B., & McKennitt, D. W. (2011). Enculturation and Alcohol Use Problems Among Aboriginal University Students. *The Canadian Journal of Psychiatry*. 56(12): 735-742.
- Hart, M. (2010). Colonization, social exclusion and Indigenous health. In L. Fernandez (ed.). *The social determinants of health in Manitoba*. Winnipeg: CCPA-MB.
- Holmes, D. (2006). Redressing the balance: Canadian university programs in support of Aboriginal students. Ottawa: Association of Universities and Colleges of Canada.
- Hull, J. (2009). Post-Secondary completion rates among on-reserve students: Results of a follow-up survey. *Canadian Issues*. Winter: 59-64.
- Kirkness, V., & Barnhardt, R. (2001). First Nations and Higher Education: the four R's- Respect, Relevance, Reciprocity, Responsibility. In R. Hayhoe & J. Pan (eds.). *Knowledge across cultures: a contribution to dialogue among civilizations*. Hong Kong: Comparative Education Research Centre, University of Hong Kong.
- Krebs, E., Hurlburt, G., & Schwartz, C. (1988). Vocational Self-Estimates and Perceived Competencies of Native High School Students: Implications for Vocational Guidance Counselling. *Canadian Journal of Counselling*. 22(4): 212-225.
- Kulchyski, P. (2007). *The Red Indians: An episodic, informal collection of tales from the history of Aboriginal people's struggles in Canada*. Winnipeg: Arbeiter Ring Press.
- Laenuie, P. (2000). Process of Decolonization. In M. Battiste (ed.). *Reclaiming Indigenous Voice and Vision* (pp. 150-160). Vancouver: UBC Press.
- MacKinnon, S. (2012). Neo-liberalism and the Aboriginal second-chance learner: Stifling development and reinforcing exclusion. Retrieved from <http://www.cpsa-acsp.ca/papers-2012/MacKinnon.pdf>.
- Malatest, R. A., & Associates. (2004). *Aboriginal Peoples and post-secondary education: What educators have learned*. Montreal: The Canadian Millennium Scholarship Foundaton.
- Martin, D., & Kipling, A. (2006). Factors shaping Aboriginal nursing students' experiences. *Nurse Education in Practice*. 6(6): 380-388.
- Mendelson, M. (2006). *Aboriginal Peoples and postsecondary education in Canada*. Ottawa, ON: Caledon Institute of Social Policy.
- Milloy, J. S. (1999). *A National Crime*. Winnipeg: University of Manitoba Press.
- Pidgeon, M. (2008-2009). Pushing against the margins: Indigenous theorizing of "success" and retentions in higher education. *J. College Student Retention*. 10(3): 339-360.
- Sloane-Seale, A., Wallace, L., & Levin, B. (2001). Life paths and educational and employment outcomes of disadvantaged Aboriginal learners. *Canadian Journal of University Continuing Education*. 27(2): 15-31.

- Smith, D., Gold, S., McAlister, S., & Sullivan-Bentz, M. (2011). Aboriginal Recruitment and Retention in Nursing Education: A Review of the Literature. *International Journal of Nursing Education Scholarship*. 8(1): 1-22.
- Thompson Economic Diversification Working Group. (2012). Housing action plan: Final report. Thompson, Manitoba: TEDWG.
- Tierney, W. G. (1993). The College experience of Native Americans: A critical analysis. In L. Weis & M. Fine. (eds.). *Silenced voices: Class, race and gender in United States schools* (pp. 209-324). Albany, N.Y: State University of New York Press.
- UCN. (2012). The University College of the North Annual Report 2011-12. City of The Pas, MB: UCN.
- Wilson, A., & Battiste, M. (2011). Environmental scan of educational models supporting Aboriginal post-secondary education. Saskatoon, SK: Aboriginal Education Research Centre, University of Saskatchewan.

# GENDER CHALLENGES & HUMAN CAPITAL IN THE ARCTIC

Kathleen Lahey, Eva-Maria Svensson & Åsa Gunnarsson

*This paper brings critical gender perspectives to the interrogation of northern human capital discourses, most of which tend to deploy gender-neutral concepts in analyzing productive capacities to perform labour and produce measurable economic value. From gendered and Indigenous perspectives, this concept of human capital excludes unpaid work relating to social reproduction, human welfare, and subsistence or in kind production, as well as the value of traditional and indigenous knowledges and processes. In Arctic/northern contexts, burgeoning interest in industrialized resource extraction, transportation, and fisheries affects labour market sectors mainly occupying men, and, not surprisingly, risks intensifying the social, economic, and political marginalization of women and Indigenous peoples.*

*As members of the TUAQ Arctic Gender Equality Network, the authors approach these issues from governance perspectives, noting that despite state obligations to mainstream gender issues in policy development and to respect Indigenous rights under domestic and international agreements, women's and indigenous peoples' voices are largely absent from discussions of the economic, environmental, and human development policies that shape human engagement in relation to the north. This paper outlines governance gaps, gender and indigenous women's inequalities, and economic imbalances that flow from this situation. The paper concludes with an analysis of how the costs and losses of the 'paradox of plenty' borne by women, indigenous, and northern communities can be reversed, and calls on multilateral governance bodies to take firm steps to implement these measures.*

## **Gender Equality, Indigenous Peoples, and Circumpolar Governance Issues**

The Arctic has become increasingly important because of the many climate, economic, social, and legal changes affecting the peoples living in this region, and because of the increased focus on the

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energy, mineral, transportation, environmental, and security implications of circumpolar economic development. While several international organizations have been founded to support research, policy analysis, and development in this region, few gender and indigenous issues have been integrated into consideration of substantive economic, social, governance, or fiscal policies that have been implemented to date.

The marginalization of gender and indigenous issues in (post-)neoliberal policy discourses is accomplished by subsuming gender equality and indigenous rights within the language of economic rationality and ongoing fiscal austerity (Oksala 2013: 37), and by enveloping gender-related claims in economic projects such as social investment in human capital, seemingly universalist concepts that quickly erase the specificities of indigenous and gender identities (Kuokkanen 2012: 226; Jenson 2009: 467). The comparative research carried on by networks based in Tromsø, Norway, Umeå, Sweden, Arkhangelsk, Russia, and Kingston, Canada universities (TUAQ) counters those approaches by identifying barriers to equality faced by women living in Arctic and northern regions, all of which are affected by the lack of domestic and international governance structures capable of addressing issues of sex/gender equality and indigenous rights effectively.

### *Circumpolar Human Development and Sex Equality*

Given that the eight Arctic circumpolar countries are all among the richest and most prosperous in the world, it might be expected that women and Indigenous peoples are thriving in this region. Indeed, all but one of these countries are classified as very high human development countries, and even Russia, which is ranked lower, is classified as a high human development country.

As shown in the table below, however, high levels of human development do not necessarily guarantee high levels of sex/gender equality, indigenous development, or indigenous women's equality. For example, Norway has the very highest level of human development, but women and men in Norway, while enjoying low levels of inequality, are not the most equal in the world. In contrast, women and men in Sweden are the most equal, even though the overall level of human development in Sweden has fallen in recent years. The US and Russia, which have dramatically different levels of human development, both have much higher levels of gender inequality than other circumpolar countries. Studies on indigenous development have not yet been carried out comprehensively, although it is clear from those rankings that are available that indigenous peoples' levels of human development are far lower than their country averages.

If the Arctic and northern regions of these countries were evaluated and ranked separately from the rest of the regions in each country, there is no doubt that those human development and gender equality rankings would be quite different. The sole exception is Iceland, which exhibits urban/countryside divides but not the same north/south divides typified by the other Arctic regions. In Canada, for example, which has large Indigenous populations in the north, the effects of colonial governance remain plain for all to see. As the United Nations special rapporteur on the rights of indigenous people in Canada reported in 2014, despite previous warnings from the UN and Canada's own Auditor General, he found 'the distressing socio-economic conditions of indigenous peoples in a highly developed country' to be 'most jarring.' He found that all but four of the 100

Canadian communities ranked at the bottom of the Community Wellbeing Index were First Nations communities, while only one First Nations community was in the top 100 (Anaya 2014: 7). He also found a long list of severe violations of Aboriginal women's rights (7-20). These First Nations communities are not all located in the Canadian Arctic, but they tend to be more northern and isolated compared with southern and more urbanized regions.

**Table 1:** Human development, gender inequality, and indigenous development rankings

	Human Development Index	Gender Inequality Index	Indigenous Development Index	Maternal death rate	National seats held by women	Women in paid work	Men in paid work
<b>Norway</b>	1	6	n.a.	7	39.5%	63.0%	71.0%
<b>USA</b>	4	47	44	24	16.8%	58.4%	71.9%
<b>Canada</b>	6	20	44	12	24.9%	62.7%	73.0%
<b>Sweden</b>	10	1	n.a.	5	45.0%	60.8%	69.2%
<b>Iceland</b>	14	9	n.a.	5	42.9%	71.7%	83.1%
<b>Denmark</b>	16	3	n.a.	5	38.0%	60.3%	70.6%
<b>Finland</b>	22	5	n.a.	8	42.5%	57.0%	64.9%
<b>Russia</b>	66	59	n.a.	39	11.5%	57.5%	68.2%

**Sources:** Human Development Index (HDI) and Gender Inequality Index (GII) ratings are reported in 2011 and are based on data from 2009 (UN, 2011: table 4, 139-140); Aboriginal Human Development Index figures are derived from the UN 2001 HDI and are based on 1999 data, but were only calculated for four countries (Cooke *et al.*, 2007: table 6, 9).

To date, no reports have been published regarding northern women's rights generally, although the gender chapter in the *Arctic Human Development Report* (Williamson et al. 2004) did identify problems of migration, mobility, gendered violences, and political representation, and provides valuable contextual information.<sup>1</sup> New research on these and other problems, such as the effects of cross-border marriages, intergenerational demographic changes, trafficking, diverse patterns of indigenous recognition and self-determination, and economic issues, is being conducted by the TUAQ network.<sup>2</sup>

### *Governance and Legal Structures*

Given the wealth and high levels of human development of the eight circumpolar countries, and particularly given the extremely high levels of gender equality attained by the Nordic countries, it is not surprising that almost all these countries have implemented domestic governance structures that have promoted equality between women and men. Nordic laws and policies do not all explicitly require sex equality or equality between women and men in those terms, but the more general concept of gender equality falls under general equality objectives, and many Nordic policies are expressly aimed at promoting equality between women and men (Gunnarsson and Svensson 2012;

Bergquist 1999). Even constitutional equality provisions have not succeeded in eradicating all forms of sex and/or indigenous discrimination in the circumpolar countries, however. The Russian Federation has built gendered stereotypes based on paternalistic concern for women into labour laws, and Canada continues to discriminate against First Nations women directly on the basis of sex and ancestry by placing more constraints on inheriting First Nations legal status through female ancestral lines than through male lines (Anaya 2014; CEDAW 2008).

In many Arctic regions, colonial regimes imposed European presumptions of male privilege on indigenous peoples at an early stage. Where these have not been displaced, these presumptions have made their way into constitutional and legal provisions affecting indigenous governance, rights, and status. In turn, these provisions embed women's disadvantaged economic and political status in indigenous governance documents, and can then effectively deny them full representation and participation in formal politics beyond municipal and community levels.

International treaties are also significant in this context. With the exception of the US, all the circumpolar states have ratified the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW 1981), as well as the extensive implementation obligations spelled out in the Beijing Platform for Action (1995). When the eight circumpolar countries joined together to establish the most important inter-state governing body, the Arctic Council, more than 15 years after CEDAW was ratified and a year after the Beijing Platform was adopted, seven were already under detailed CEDAW treaty obligations 'to pursue by all appropriate means and without delay a policy of eliminating discrimination against women' (CEDAW 1981: art. 2), and all were parties to the International Covenant on Civil and Political Rights since 1976, which includes provisions on gender equality (ICCPR 1976: art. 2, 3).

CEDAW obligations include all the work states do in international cooperation with other states, including the establishment and operation of the Arctic Council. The Arctic Council was formally established through the Ottawa Declaration, by which it became 'a high level intergovernmental forum to provide a means for promoting cooperation, coordination and interaction among the Arctic States, with the involvement of the Arctic Indigenous communities and other Arctic inhabitants on common Arctic issues, in particular issues of sustainable development and environmental protection in the Arctic' (Arctic Council, 1996: art. 1(a)) made up of the circumpolar states as Permanent Participants (art. 2). However, neither in 1996 nor subsequently have any of the signatories to the Declaration taken any steps to ensure that women 'represent their governments at' and 'participate in the work' of the Council 'on equal terms with men' as required by CEDAW (art. 8). While international human rights treaties have traditionally been open for ratification or accession to states only, this tradition was overcome when the UN Treaty on the Rights of People with Disabilities was open to membership by regional organizations (2006).

Lack of compliance with existing international obligations in the establishment of the Arctic Council makes it clear that the founding members of the Arctic Council did not prioritize gender equality at the outset. While the first Finnish chairmanship of the Council held the 2002 Taking Wing conference, which focused on indigenous people and women in particular, and produced several social development projects, and the Russian chairmanship emphasized the integration of gender

equality in the Council's Sustainable Development Action Plan, the Norwegian chairmanship removed both women and indigenous people from its priorities. The Council does still include the domains of gender equality and indigenous people in its Human Dimension (or Human Development) portfolio, but it was not until 2011 that Carl Bildt, the foreign minister of Sweden during the beginning of the Swedish chairmanship of the Council, recognized the importance of the equality issue. At that time, he stated that the Arctic is 'first and foremost a home to the people who live there,' that the Swedish chairmanship intended to 'make it a high priority to involve indigenous peoples in the work of the Arctic Council and promote their interests in matters of intergovernmental relevance,' and that 'attention will also be given to gender equality' (Bildt 2011). Despite the finding that 'these issues had been prominently mentioned in [the Swedish Chairmanship's] originally proposed agenda for action,' there is no evidence of any such attention during the Swedish chairmanship, with the exception of a day of open seminars at the May 2013 Minister Meeting in Kiruna, during which the Chairmanship was forwarded to Canada. The day of seminars ended with a panel on gender equality in the late afternoon (Nord 2013) in which the authors of this paper participated.

Much has been said about the importance of the involvement of women and indigenous peoples at all levels of governance (Sloan 2004). There is growing consensus that when women are largely absent or merely hold high positions more as 'window dressing' than as autonomous elected officials, governments tend to downplay or ignore the gender impact of legal and fiscal issues. Similar effects are seen in relation to indigenous issues. Indigenous women's interests in community membership, land use, habitat and environmental protection, economic development, and new forms of geographic and economic displacement tend to be subsumed within the views articulated by official entities like government ministers and representative indigenous individuals who themselves may gain position more through their relationships with governments than because they are community leaders. Although women often play stronger roles in community-level politics, ethnic identities are often given precedence over gender representation. At the same time, however, gender is often contested at the community level in varied ways, and traditional values may be at odds with state priorities. Thus when powerful actors such as government agencies or resource companies take negotiations to the community level, local or indigenous groups may be too weak, isolated from industry expertise, or governmental lines of communication to engage in effective negotiations, let alone represent women's interests as well (Lewis 2011).

Although diversity in high elected office can be transformative of governance focus, some critical mass of those typically under-represented is necessary. Even women working at ministerial levels are not free to engage on personal and societal levels. Governance in the Arctic poses particular challenges because the burgeoning interest in resource extraction, transportation, and fisheries in this area affects industry sectors mainly owned, managed, and employing men. Thus both governance issues and notions of human capital or development risk reflecting masculine norms and gender roles that implicitly place value on images of masculinity, and make it all the more difficult to identify and address gender issues.

The final factor that makes it challenging to reflect accurately the experiences of indigenous women in gender impact analysis is that while considerable domestic-level and some comparative data on the status and needs of indigenous women do exist, much of it is ungendered, subsuming indigenous women's experiences in seemingly gender-neutral concepts undifferentiated by women's realities. The largest project being carried out in the Arctic region, the *Social Indicators* project following on after publication of the 2004 *AHDR*, has produced a small set of final indicators that do not appear to call for gender-disaggregated data. Nor do enough of these proposed indicators link into existing UN-level gender data that would be of assistance in establishing more comprehensive baselines and sharper issues for further inquiry (Nymand Larsen 2010: 153-54).

### **Key Gender Issues in Northern/Arctic Regions**

The concentration of attention on Arctic/northern economic potential has meant that human development and gender equality issues have received relatively little consideration from domestic governments or transnational organizations. Even indigenous communities that may have experienced some degree of self-definition are now experiencing the pervasive effects of 'economic growth first' thinking.

#### ***Population Balances, Migration Patterns, and Education***

Interest in industrial development and northern shipping routes have grown rapidly as Arctic climates have changed. While some circumpolar states such as Sweden have relatively small non-renewable resource industries, many have described the economic changes taking place in the Arctic as a 'boom.' Sectoral changes have resulted in rapid changes to population balances with the influx of virtually all-male work forces in some regions, accompanied by population displacement from extraction zones, changes in location of indigenous communities, and the effects of women's out-migration have resulted in changes that had become observable nearly two decades ago (Hamilton et al. 1997).

While the relative proportion of indigenous populations in circumpolar regions vary widely, from very small in Russia to virtually all in Greenland, indigenous migration may be markedly different from non-indigenous migrations. Some groups have used broad ranges of territory for traditional seasonal activities, while others have moved or been moved to protect sovereignty, make way for defence installations, provide industrial labour, or promote resource development. Both indigenous and non-indigenous relocations have been carried out in Russia, while many circumpolar states have used Inuit as 'human flagpoles' (Krupnik & Chlenov 2007; Stern 2013: 164-66). Depending on the specific location, migration itself can affect the viability of entire communities, or can have disparate impact on some community members when personal security, levels of violence, or subsistence are affected.

Education has been implicated in these demographic changes. Increasingly, both women and men migrate into and out of established communities for educational purposes, but for different reasons. In some areas, indigenous women out-migrate for educational and income-earning purposes that are integral to sustaining home communities (O'Donnell & Wallace 2011: 30-33) or because they remain

in southern communities while children are in school, while men tend to pursue more mobile traditional economic activities. In other areas, men out-migrate to earn incomes to supplement or replace traditional sources of home support. Some researchers have concluded that indigenous women are 'dominating the realm of education in most of the Arctic' (Johansson & Stenersen Hovdenak 2004: 179-80). Integrating educational gains with community objectives is an important developmental linkage, but treating women's educational attainment as a problem without examining whether education is undertaken to support traditional communities or replace lost sources of support appears to be uncritical. The fact that preferences for male labour in resource industries have broken some links between women's paid and men's traditional employments, and thus have placed pressure on women to adapt through education, is not similarly problematized (Williamson et al. 2004).

### *Labour Market Conditions*

Women's involvement in paid work has been found to promote gender equality in monetized productive relations for two basic reasons: being involved in paid work actually changes how women think about major life decisions like education, marriage, the number/timing of children, and social and political engagement. And being and seeing women living out those decisions has an impact on how both women and men think about gender roles (Jutting & Morrison 2005: 7).

In northern/Arctic regions, paid work may not provide these benefits for women in these ways. Labour market structures, working conditions, hiring practices, transportation issues, and attitudes toward women workers intersect with education, identities, and geographic locations to produce diverse outcomes for women in paid work. In particular, the degree of diversity of regional economic structures will affect women's access to paid work. The ECONOR I project found that in all but Arctic Russia, the service sector is the largest, often with relatively large public components and small trade and transportation components. The service sector provides greater opportunities for women's employment generally, but with industry-specific differences. When the primary sector is dominated by nonrenewable resource extraction, ownership and employment tends to be offsite, while renewable resource activities tend to be locally owned, involve local processing, and employ relatively more women (Duhaime & Caron 2006: 18-20).

When resource extraction activities become significant components of regional economies, women's overall labour market participation rates tend to fall relative to men's because of the gender profiles in the extraction and production industries. Unlike in other male-dominated sectors of the labour market, such as construction and heavy manufacturing, very few women, and even fewer indigenous women, are employed in resource industries (Catalyst 2012). The reasons given for this range from lack of educational, training, and employment programs that effectively support women's employment in this sector, to lack of accommodation for indigenous workers' traditional economic activities and concentration of women in lower-paid service positions (Women in Mining Canada 2010: 13-23). Fly-in/fly-out work schedules tend to polarize gender roles within households, and women willing to adapt to such work conditions still face lack of sufficiently flexible work schedules, care resources, and workplace attitudes. Women who remain at home alone while their partners are

on extended work schedules face heightened time binds, with the result that they may shift to part-time paid work or unpaid work (*ibid.*; O'Shaughnessy & Krogman 2011).

In major resource extraction regions, these effects can be systemic, producing overall reductions in women's paid work and educational engagement. At the same time, women's unemployment can become long term when governments dependent on resource royalties or profits cut spending on job training and care services during production downturns. As early as 2000, women in Canada's West, once the leaders in education and labour force participation rates, faced record high levels of unemployment in what was admittedly a 'red hot' employment market for skilled resource personnel. Consequently, Western women set new post-WWII records for low levels of post-secondary education and rising rates of early marriage, numbers of children, and economic dependency (Roy 2006). Immigrant women had even lower paid work rates than other women in the region. Statistics Canada related these changes directly to the prominence of resource development in Western Canada.

### *Incomes, Social Risks, and Government Services*

Knowing the increased challenges of northern and Arctic conditions, some circumpolar governments engage in long-term planning for balanced stable economic development, with attendant investments in educational, social security, child and elder care, health, fitness, community, and environmental resources. As is evident from the table in the first section of this paper, the Nordic countries rank particularly high on these measures as reflected in the United Nation's composite measure of gender inequality (the GII), even though these countries do differ widely in terms of national economic structures and fiscal approaches. The US, Russia, and Canada rank notably lower on all these measures.

Even when Arctic regional incomes are high, the adequacy of health, transportation, and community services is crucial to those whose cash incomes cannot provide them with minimum acceptable standards of living. Food security, housing, anti-violence programs, care resources, and environmental standards are also essential. Failure to provide adequate resources for women faced with violence cause pervasive problems (Nakray 2012). Local accounts of women's lack of community resources link women's low incomes with high housing costs, homelessness, and prostitution in northern areas (Rolbin-Ghanie 2007), and the *Arctic Human Development Report* links male suicide risks to inadequate health and social supports (Williamson et al. 2004: 190-91).

Although there are wide differences across the circumpolar north, indigenous women generally face much lower levels of formal paid work than non-indigenous women in Arctic regions, and indigenous men do not always do much better. Indigenous peoples caught between the deterioration of traditional practices and poor access to non-indigenous employment, services, and communities face growing levels of homelessness, vulnerability to trafficking of various kinds, HIV/AIDS, and lack of alternatives (Abele et al. 2012). Indigenous women also face the effects of isolation when dealing with violence, and, in Canada, are murdered more frequently, and receive less protection than non-indigenous women (O'Donnell & Wallace 2011: 40).

When indigenous peoples are located in isolated or inaccessible sites, often subject to challenging weather conditions, access to medical care and community services can be quite limited (Morgan 2008: 1, 4). The higher costs of transportation, health care, food, and other services impose greater burdens on women than on men. Depending on specific circumstances, women with lower incomes may have heavier responsibilities for home support, child care, and elder care during male absences for paid or unpaid work, and thus less time for paid work themselves. Or, in areas where school attendance requires children to remain behind during seasonal migrations, women may have sole responsibility for supporting through paid work the family home as well as being physically present with children during nonschool hours.

Traditional foods can augment family resources, but indigenous peoples who can maintain access to wildlife for consumption are exposed to unacceptable levels of contaminants in many of their traditional foods. This poses longer term and intergenerational health risks (Huhnlein 1997), and there is some indication that pollution from resource development creates higher risks of serious health effects. Those health effects place women at higher risk both for themselves and for their children, and protective policies have not kept pace with these realities (Tenenbaum 2009: 117).

### **Arctic Economic Development and Fiscal Management**

The potential effects of climate change and accelerated development of Arctic regions and resources have global as well as domestic significance. For domestic populations, the contradictions between the vast profits to be made from Arctic economic development and the relative under-funding of human development and wellbeing in some of these regions are already becoming all too clear. For the global community, the prospects of private corporate economic exploitation of Arctic resources for profit without responsibility for the human, ecological, and climate effects of such development pose serious questions about how effectively the principles of state sovereignty and neoliberal economic governance can be in meeting those challenges. While each country has a unique resource development footprint and attendant regulatory regimes, the impact of inadequate regulation of Arctic development is relevant to all populations.

Women and indigenous peoples are already experiencing the uneven effects of Arctic change in several circumpolar countries. The ‘paradox of plenty’ increasingly concentrates the financial benefits of Arctic change in the hands of owners of corporate capital, while the human costs are borne more heavily by those at the bottom economically and politically, and environmental damage is left to be borne by ‘nature.’ Partial solutions are already available, and more comprehensive solutions can be identified at this stage.

#### ***The ‘Paradox of Plenty’ and Fiscal Governance***

The ‘paradox of plenty’ arises when productive economic activities become centred heavily around resource extraction and thus ‘crowd out’ other forms of economic activity. The larger the resource extraction sector, the more pronounced the ‘crowding out’ effect as large-scale resource extraction activities shift the focus of government and industry planning and development away from other sectors like agriculture, manufacturing, and trade. Consequent changes in employment and skill

demands of extraction industries can affect the composition of regional and even national workforces, and can also influence education and development priorities. At the same time, governments can obtain large economic revenues by simply selling the rights to assets 'in the ground' to developers, and can win short-term popularity with voters by claiming that they can 'cut taxes' due to increased government efficiencies (Karl 1997).

The classic paradox as documented by Karl was originally noted in relation to Middle Eastern oil countries like Saudi Arabia, where resource development is often accompanied by abandonment of government responsibilities for regulating industrial labour market standards, risks to lands, waters, habitats, and soils, and reclamation measures. Worst case scenarios see these 'externalities' left on the ground for governments with shrinking tax revenues to clean up at some later date, while transnational corporations transfer resource profits to low- or no-tax jurisdictions, and governments may have begun dismantling educational, social service, and other government programs in the name of fiscal efficiencies. Since the paradox was identified, it has become visible in increasing numbers of contexts, not all related to oil and gas production.

In the circumpolar context, it has become clear that income inequalities are likely to intensify as the result of these processes. As documented by Statistics Canada in 2006, women in Alberta were the first identifiable group in Canada to experience the most severe forms of inequality produced by the rapid development of Alberta oil resources. The effect of rising demand for male labour saw women's rates of labour force participation and advanced education falling as rates of early marriage, childbearing, poverty, and economic dependency rose (Roy 2006). Other researchers have found that as resource expansion reduces women's involvement in paid work, women lose social, political, and household influence. They lose social and political influence simply due to absence from those spheres. They lose household influence because women's intra-family bargaining power increases or falls with the levels of their outside earnings. Thus de-monetization of women's work leads to economic dependency on either the state or family members, and less social and political engagement outside the home. As women's power contracts, government policies tend to give more weight to male preferences. Forming policies to suit men's preferences leads to government subsidies supporting larger families, greater support for men's interests, and further increases in male power and wealth (Ross 2006; Burns et al. 2001).

The end-point of the processes referred to as the 'paradox of plenty' is sometimes referred to as the 'Dutch disease.' This is considered to be an end-point of the paradox in which resource-rich countries exhibit slower or stagnated growth rates, diminishing economic diversification, decreased social spending, and growing levels of unemployment, poverty, and overall economic inequality.

The blame for what is sometimes referred to as the 'resource curse' arises from the specific political institutional effects of resource extraction activities in each particular country. Governments seeking resource rents do not have to do much beyond negotiating contracts or selling resource rights to obtain those rents or royalties. When governments employ this revenue strategy, and resource rents reach a level at which they provide significant revenues, governments do not have to rely as heavily on tax revenues. From an institutional perspective, this in turn creates the risk that governments can begin to conduct themselves as if they were answerable not to voters, but to the businesses that

provide resource revenues. The next step in this shift in political alliance is to focus tax and regulatory holidays, fiscal subsidies, and other benefits on the resource sector, further depriving people of the attention and benefits usually associated with progressive democratic governance.

In their recent study of resource development and governance, Humphries, Sachs, and Stiglitz conclude that easy access to significant resource revenues enables governments of resource-rich countries to ignore the fact that 'human capital investment is an essential part of wealth creation.' As they explain: 'When states start relying on natural resources wealth, they seem to forget the need for a diversified and skilled workforce that can support other economic sectors once resource wealth has dried up' (2007: 10). As a result, education, gender equality, labour productivity, and other key economic factors become less important to those formulating development policies, even when qualified administrative and regulatory personnel are essential to democratically representing long term local interests and economic diversity.

Detailed studies have identified the negative effects of this 'crowding out' process. Karl relates government budgetary reliance on resource rents to lessening concern with issues of tax fairness, accountability, transparency, and sustainable economic development – even more so in the wake of the 2008-9 economic crisis – and has found strong relationships between the size of domestic oil reserves to poor ratings on international governance and human development indicators. Some of the factors she has flagged include falling per capita incomes; increasing reliance on temporary foreign workers; reduced spending on health, education, and social development; authoritarian and repressive methods of dealing with heightening social tensions; and political 'splitting' tactics that exploit geographic and political differences.

Least developed countries are at greatest risk in this developmental dynamic. But no country can afford to ignore the risks of resource revenue dependence: oil and other natural resources in the ground are part of their common wealth, part of the physical capital of the country. When resources or rights are sold, those revenues become like the proceeds of sale of a capital asset, such as a home or a business. These are revenues that cannot come again.

For a country to direct its development heavily in the direction of resource revenues means that when those resources run out, the country will have to begin anew to then develop the social, political, cultural, and developmental practices that will not only enable it to fill the resulting revenue gap, but will also maintain stability as people, communities, and regions redevelop themselves.

### *Solutions to the 'Paradox' and Promotion of Sustainable Equalities*

The Arctic and northern regions of circumpolar states contains the world's largest pools of valuable fossil and mineral deposits (Duhaime & Caron 2008: 17). With sparse populations to lay claim to this wealth, international investment companies rushing to exploit it, and a burgeoning world population demanding ever more energy and raw materials, the governance issue posed by this situation is which model of economic development and use of resource revenues might be best, if resource revenues there will be?

The first point to be made is that given the volatility of natural resource markets generally and of fossil fuel prices particularly, countries that can maintain a balanced array of types of economic activities and avoid imbalanced dependence on extractive industries have a better chance of maintaining stable and steady growth rates than extractive countries. For example, Sweden's high UN HDI and GII ratings over a long period of time suggest that by placing the emphasis on improving the quality of life, human development, and gender equality, it may fare better than more resource rich countries. Sweden has a thriving renewable resource industry in its forestry sector, and significant mining deposits, suggesting that resource exploitation is not the big problem – it is the way in which exploitation of volatile and nonrenewable resources is managed that is the biggest risk. Sweden and Norway also increasingly integrate indigenous land use needs and rights with balanced long term economic planning. For example, when expansion of the massive state-owned LKAB iron mine in Kiruna Sweden threatened traditional reindeer migration routes, reindeer bridges were built as part of the overall municipal relocation plan to offset further fragmentation of contiguous forest lands.

Many of the other circumpolar states, however, have significant nonrenewable energy resources, and the models for managing those resources range from corporate neoliberalism to state ownership. In the neoliberal model, resource royalties are paid to local or regional governments and federal states make do with increased corporate and personal income tax revenues (if any), while developers are allowed to displace indigenous and other communities, and environmental, human development, and inequality effects are left to be absorbed by the rest of the population. The corporate social responsibility model is not much different from the neoliberal model, the main difference being that while developers do seek 'partnerships' with local communities, indigenous groups, and other interest groups, this model still prioritizes private profit, and is not associated with equal ownership or division of profits.

Countries that see their role as something beyond facilitating corporate enterprise may impose taxes on resource rents in order to derive revenues from royalty payments. Unless there is revenue sharing between levels of government claiming royalties, this can increase costs, but depending on the terms and conditions leading to setting royalties and rent taxes, this approach can help internalize many of the externalities involved in resource extraction. However, when this type of tax is used for state revenue production, it does represent revenue that can be quite variable during periods of market volatility, or that will disappear entirely once a resource is exhausted. The advantage of this approach is that it does call for considerable transparency on the part of the government, and treats these payments as subject to standards of equity and fairness. But it does not solve the problem of literally 'consuming' national capital to produce short-term revenues.

State ownership models move further along the continuum of treating royalties or rent taxes as belonging to the population as a whole, and may seek ways to use them as budgetary resources, distribute them as direct 'dividends' to residents, or commit them to social spending funds like the Norwegian Statoil fund. When used in this fashion, issues of sustainability of revenue flows, intergenerational fairness, and distributional equity still have to be faced, but this approach does

'invest' physical capital in human development that captures a larger part of the profits of exploitation for domestic use.

Policy and academic research into these options has expanded as demand for fossil fuels has grown. Little economic attention is being paid to the environmental impact of high levels of GHG emissions from contemporary extraction strategies, beyond suggesting that carbon taxes would help everyone care more about GHG levels. However, there is growing awareness that careful management of resource industries offer governments a chance to increase the rate of formation of human skills and knowledge, invest physical capital in social infrastructure such as care resources and in conservation, anti-pollution, and renewable energy infrastructure, and accumulate sovereign wealth funds that can be used to reduce national debt, stabilize economic swings, or develop national capital in new forms.

Norway is frequently held up as a 'paragon of plenty' because it has largely escaped the paradox of plenty, and has also invested state oil revenues in a sovereign wealth fund that is set aside for pension stability. Norway also uses its jurisdiction over its own oil reserves to require local supply, operating base, and labour content in development contracts, and its development agent, Statoil, is not permitted to securitize new oil finds, but is required to own and develop them. Although the Norwegian government owns its own extraction company (now shared with private investors via public stock exchange listings), countries that exhibit anti-state ownership biases like the US have never had any difficulty welcoming Statoil into their oil fields as a developer.

Each of these resource revenue management models can still leave women in northern regions, indigenous women, and women throughout each circumpolar state increasingly under-developed and even impoverished. Gender-equal taxation and distribution of state resource revenues is as important as indigenous self-governance and gender-equal employment, access to resources, and state supports. Even the countries at the very top of the human development and gender equality rankings have not solved these problems fully. Norway has done the best job of maintaining a significant degree of state ownership of resource capital in all forms, but much less than Sweden in securing gender equality. In contrast, Sweden has combined diversified economic development with the highest levels of gender equality overall, but one of the highest rates of women in part-time work and low levels of wage equality (Pettit & Hook 2009: 5-8). At the same time, Sami women in Sweden have high levels of educational attainment but constrained control over traditional resources and much less income equality. Thorough examination of the full array of fiscal gender issues is thus called for as an aspect of solving the paradox of plenty now facing all circumpolar states.

## **Conclusion**

As circumpolar states empower the Arctic Council and other regional governance bodies to take on increased leadership roles, it is urgent that they take three crucial steps toward fulfilling their responsibilities:

- Ensure that membership in such bodies secures equal representation and participation for women and Indigenous peoples, to be chosen via non-governmental civil society organizations;
- Make binding commitments to using governance authority via multilateral treaties to require state members to secure gender and Indigenous women's equality in all laws, practices, and programs as required by the ICCPR, CEDAW, and other human rights treaties, and implemented consistent with the Beijing Platform for Action; and
- Make binding commitments to using governance authority via multilateral treaties to prioritize environmentally sustainable resource and economic development combined with use of resource revenues to fund investment in durable forms of human development and physical capital.

## Notes

1. Some follow-up information on gender in the specifically circumpolar Arctic has been prepared (Nymand Larsen 2010). In the forthcoming second report (AHDR II), gender issues will run through all chapters, but there will be no separate chapter on gender.
2. Original research from the most recent TUAQ-sponsored conference held in 2014 is in preparation for publication. Details of the program are archived at <http://femlaw.queensu.ca/conferencesFLSQ.html>.

## References

- Abele, F., Falvo, N., & Haché, A. (2012). Homeless in the Homeland: A Growing Problem for Indigenous People in Canada's North. *The Homeless Hub*. Retrieved October 29, 2012, from <http://www.homelesshub.ca/resource/homeless-homeland-growing-problem-indigenous-people-canadas-north>.
- Anaya, J. (2014). *Report of the Special Rapporteur on the Rights of Indigenous Peoples: The Situation of Indigenous Peoples in Canada*. United Nations, Human Rights Council, sess. 27, item 3. Retrieved from A/HRC/27/52/Add.2.
- Arctic Council. (1996). Declaration on the Establishment of the Arctic Council. Retrieved from <http://www.arctic-council.org/index.php/en/document-archive/category/4-founding-documents>.
- Bergquist, C., Borchorst, A., Christensen, A-D., Ramstedt-Silén, V., Raaum, N. C., & Styrkárssdóttir, A. (eds.). (1999). *Equal Democracies?: Gender and Politics in the Nordic Countries*. Oslo: Scandinavian University Press.

- Bildt, C. (2011, May). Presentation by the Minister for Foreign Affairs of Sweden, Mr. Carl Bildt, on the Swedish Programme for the Chairmanship of the Arctic Council at the 7th session of the Arctic Council in Nuuk on May 12, 2011, Foreign Ministry Promemoria (2011-05-04).
- Catalyst. (2012). Women in Gas, Mining & Oil in Australia, Canada and the US. *Quick Takes*. Retrieved from <http://www.catalyst.org/publication/524/women-in-gas-mining-oil-in-australia-canada-the-us>.
- Convention on the Elimination of All Forms of Discrimination against Women, GA Res. 34/180, 34 UN GAOR Supp. (No. 46) at 193, UN Doc. A/34/46; 1249 UNTS 13; 19 I.L.M. 33 (1980). [CEDAW]
- Cooke, M., Mitrou, F., Lawrence, D., Guimond, E., & Beavon, D. (2007). Indigenous Well-Being in Four Countries: An Application of the UNDP'S Human Development Index to Indigenous Peoples in Australia, Canada, New Zealand, and the United States. *BMC International Health and Human Rights*. 7(9): 11p. doi: 10.1186/1472-698X-7-9. Retrieved from: <http://www.biomedcentral.com/content/pdf/1472-698x-7-9.pdf>.
- Duhaime, G. & Caron, A. (2008). The Economy of the Circumpolar Arctic. *The Economy of the North*. Retrieved from [http://www.ssb.no/a/english/publikasjoner/pdf/sa84\\_en/kap2.pdf](http://www.ssb.no/a/english/publikasjoner/pdf/sa84_en/kap2.pdf). [ECONOR I]
- Gunnarsson, Å., & Svensson, E-M. (2012). Gender Equality in the Swedish Welfare State. *Feminist@law*, 2(1): 27p. Retrieved from <https://journals.kent.ac.uk/index.php/feministsatlaw/article/view/51/147>.
- Hamilton, L.C., Seyfrit, C.L., & Bellinger, C. (1997). Environment and Sex Ratios among Alaska Natives: An Historical Perspective. *Population and Environment: A Journal of Interdisciplinary Studies*. 18(3): 283-299.
- Humphreys, M., Sachs, J. D., & Stiglitz, J. E. (eds.). (2007). *Escaping the Resource Curse*. New York: Columbia University Press.
- International Covenant on Civil and Political Rights, GA Res. 2200 (XXI), 21 UN GAOR Supp. (No. 16) at 49, UN Doc. A/6316; 9999 UNTS 171 (1976). [ICCPR].
- Jenson, J. (2009). Lost in Translation: The Social Investment Perspective and Gender Equality. *Social Politics: International Studies in Gender, State and Society*. 16(4): 446-483.
- Johansson, G., Paci, C., & Hovdenak, S. S. (2004). Education. *Arctic Human Development Report*. 169-186. Retrieved from <http://www.thearctic.is/AHDR%20chapters.htm>.
- Jütting, Johannes, & Morrisson, Christian. (2005). *Changing Social Institutions to Improve the Status of Women in Developing Countries*. Paris: OECD. Retrieved from <http://www.oecd.org/dev/povertyreductionandsocialdevelopment/35155725.pdf>.
- Karl, T. L. (1997). *The Paradox of Plenty: Oil Booms and Petro-States*. Palo Alto, Ca: University of California Press.
- Krupnik, I., & Chlenov, M.. (2007). The end of 'Eskimo land': Yupik relocation in Chukotka, 1958-1959. *Études/Inuit/Studies*. 31(1-2): 59-81.
- Kuhnlein, H. V., Receveur, O., Muir, D. C., Chan, H. M., & Soueid, R. (1995). Arctic Indigenous

- Women Consume Greater Than Acceptable Levels of Organochlorines. *Journal of Nutrition*. 125: 2501-2510. Retrieved from <http://jn.nutrition.org/content/125/10/2501.full.pdf>.
- Kuokkanen, R. (2012). Self-Determination and Indigenous Women's Rights at the Intersection of International Human Rights. *Human Rights Quarterly*. 34(1): 225-250.
- Lewis, S. (2011). Peaceful Protest Leads to Charges. *Windspeaker*. 29(7). Retrieved from <http://www.ammsa.com/publications/windspeaker/peaceful-protest-leads-charges>.
- Morgan, C. (2008). The Arctic: Gender Issues. *Parliamentary Information and Research Service*. Ottawa: Publ. No. PRB 08-09E. Retrieved from <http://www.parl.gc.ca/Content/LOP/ResearchPublications/prb0809-e.pdf>.
- Nakray, Keerty. (ed.). (2013) *Gender-based Violence and Public Health: International Perspectives on Budgets and Policies*. New York: Routledge.
- Nord, D. C. (2013). Creating a Framework for Consensus Building and Governance: An Appraisal of the Swedish Arctic Council Chairmanship and the Kiruna Minister Meeting. In L. Heininen (ed.). *Arctic Yearbook 2013* (249-263). Akureyri, Iceland: Northern Research Forum. Retrieved from [http://www.arcticyearbook.com/images/Articles\\_2013/NORD\\_AY13\\_FINAL.pdf](http://www.arcticyearbook.com/images/Articles_2013/NORD_AY13_FINAL.pdf).
- Nymand Larsen, J. (2010). *Arctic Social Indicators: Follow-up to the Arctic Human Development Report*. Copenhagen: Nordic Council of Ministers. Retrieved from <http://www.norden.org/en/publications/publikationer/2010-519>.
- O'Donnell, V., & Wallace, S. (2011). First Nations, Metis and Inuit Women. *Women in Canada: A Gender-Based Statistical Impact*. Ottawa: Statistics Canada. Retrieved from <http://www.statcan.gc.ca/pub/89-503-x/2010001/article/11442-eng.pdf>.
- O'Shaughnessy, S., & Krogman, N. T. (2011) Gender as Contradiction: From Dichotomies to Diversity in Natural Resource Extraction. *Journal of Rural Studies*. 27(2): 134-143.
- Oksala, J. (2013). Feminism and Neoliberal Governmentality. *Foucault Studies*. 16: 32-53.
- Pettit, B., & Hook, J. L. (2009). *Gendered Tradeoffs: Family, Social Policy, and Economic Inequality in Twenty-one Countries*. NY: Russell Sage Foundation.
- Rollin-Ghanie, M. (2007). For Many Women, Alberta's Boom a Bust. *The Dominion*. Retrieved from <http://www.dominionpaper.ca/articles/1468&>.
- Roy, F. (2006). From she to she: Changing Patterns of Women in the Canadian Labour Force. *Canadian Economic Observer*. Retrieved from <http://www5.statcan.gc.ca/olc-olc.action?ObjId=11-010-X20060069229&ObjType=47&lang=en>.
- Sloan, L. (ed.). (2004). *Women's Participation in Decision-making Processes in Arctic Fisheries Resource Management*. Norfolk, NO: Kvinneuniversitetet Nord. Retrieved from <http://www.sdwg.org/media.php?mid=69>.
- Status of Women Council of the NWT. *Equality for Women in All Areas of Life: Economic Development*. (2013) Retrieved from [http://www.assembly.gov.nt.ca/sites/default/files/td\\_136-174.pdf](http://www.assembly.gov.nt.ca/sites/default/files/td_136-174.pdf).
- Stern, P. R. (2013). *Historical Dictionary of the Inuit*. Lanham, MD: Scarecrow Press.
- Sustainable Arctic Development Working Group. (2004). *Arctic Human Development Report*. Tromsø NO: Arctic Council. Retrieved from <http://www.svs.is/ahdr/ahdr%20chapters/english%20version/chapters%20pdf.htm>.

- Tenenbaum, D. J. (2009). Oil Sands Development: A Health Risk Worth Taking?. *Environmental Health Perspectives*. 117(4): A150-A156. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2679626/>.
- United Nations. (1995). Beijing Declaration and Platform for Action. Report of the Fourth World Conference on Women. Retrieved from UN Doc. A/CONF.177/20. [Beijing Platform]
- United Nations. (2008). Committee on the Elimination of Discrimination against Women. *Convention on the Elimination of All Forms of Discrimination against Women*. Retrieved from CEDAW/C/CAN/CO/7.
- United Nations. (2011). *Human Development Report 2011: Sustainability and Equity: A Better Future for All*. Table 4: 139-140. Retrieved from [http://hdr.undp.org/sites/default/files/reports/271/hdr\\_2011\\_en\\_complete.pdf](http://hdr.undp.org/sites/default/files/reports/271/hdr_2011_en_complete.pdf).
- Williamson, K. J., Hoogensen, G., Lotherington, A. T., Hamilton, L. H., Savage, S., Koukarenko, N., Poppel, Mariekathrine. (2004). Gender Issues. *Arctic Human Development Report*, 187-206.

# ***Regional Economy & Prosperity***



## A QUESTION OF FUTURE PROSPERITY: TRANSFORMING NATURAL RESOURCE WEALTH INTO CITIZEN WELL BEING THROUGH THE NORTHWEST TERRITORIES HERITAGE FUND

Sarah Daitch, Alyssa Schwann, Andrew Bauer, Andre Dias & Julia Fan Li

*“Each generation will reap what the former generation has sown”*

*- Chinese Proverb*

*The Northwest Territories (NWT), Canada’s largest territory, holds significant natural resource potential, most of which is undeveloped. Facing a potential resource boom in minerals, oil and gas, the territory’s government is considering how this finite source of wealth can be harnessed as an engine for development and prosperity. On April 1, 2014 the Devolution Agreement took effect, which transferred control of a portion of resource royalties from the federal Government of Canada to the territorial Government of the Northwest Territories. In 2012, new legislation created a Heritage Fund for the territory, establishing the world’s newest sub-national sovereign wealth fund. This fund aims to bank part of new resource revenues for future generations – but, what governance measures and regulations will be required to ensure the Fund benefits citizens? In February 2014, several authors of this paper co-published a policy report, A Question of Future Prosperity: Developing a Heritage Fund in the Northwest Territories (Briones et al. 2014) outlining key recommendations for the Fund’s implementation. Members of the Legislative Assembly tabled this report in the NWT Legislature, pressing the NWT Finance Minister to commit a higher proportion of revenues to the Fund, and to establish rules for fund management and governance. This paper presents the next phase of an ongoing case study in a public policy research initiative – one that supports regional citizen decision-making on resource governance in Canada’s North. The next steps of effective fund governance, oversight, and accountability require analysis, discussion and meaningful public engagement to ensure the retention of resource wealth in the public’s interest.*

### **Introduction: Natural Resource Funds**

Natural resource funds, a type of sovereign wealth fund, are increasingly popular: more than thirty of the world’s fifty-eight currently active funds have been established since 2000, while more than a

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dozen new funds are being considered (Bauer, 2014a). Natural Resource Funds are a growing trend for oil-, gas- and mineral-rich countries as a vehicle to transfer and save a portion of resource revenues. Canada's Northwest Territories (NWT), rich in non-renewable resources, established the NWT Heritage Fund through legislation in August of 2012. In a recent survey of all identified natural resource funds in the world, the NWT's fund was listed as one of the newest and the smallest operational fund in the world (Bauer, 2014a). Although the NWT fund currently is modest in size, a resource revenue windfall is on the horizon. This paper explores the governance measures and regulations that are needed to build agreement on the fund's objective and to establish strict rules for fund deposits, withdrawals, investment strategy, transparency, and oversight. Successful strategies from funds that have benefitted citizens are examined, including Norway, Chile, Alaska, and Ghana, and their approaches considered within the unique context of the NWT. The issues and options explored in this paper are designed to inform decision-making and to position the NWT Heritage Fund as a world class tool to manage mineral revenues in the public's interest.

### *The Lessons of History*

Throughout the last century, Canada's Arctic has experienced a number boom-bust cycles, which have forever altered the land. This is one consequence of reliance on single-industry natural resources (Briones et al. 2013). Single-industry economies, including the whaling industry, fur trade, gold rush, and recent non-renewable natural resource initiatives, have defined these cycles (Pretes 1984). Periods of rapid economic growth, followed by even faster decline, are an outcome of the North's economic dependence on a few natural resources whose value and availability are prone to fluctuations. More recently, petroleum extraction and mining initiatives have been the driver of boom-bust cycles. For instance, from 1999 to 2003, rising commodity prices and the start of production at the Ekati and Diavik diamond mines increased the sector's economic contribution to the NWT by 173%; when prices collapsed during the global financial crisis from 2007-09, the sector contracted by 37% (NWT Bureau of Statistics 2014).

What's more, in the case of non-renewable natural resources, availability is finite and depletion inevitable. A clear example of the risk of a single-industry economy is the abandoned mining town of Pine Point, NWT; the closure of the town's mine led to a parallel shutdown of its community. Today, all that remains are the outlines of the roads that once connected Pine Point's twelve hundred residents, and an altered landscape that can no longer yield minerals nor sustain a community (Irlbacher-Fox 2013).

The NWT's new Heritage Fund represents an opportunity for the territory to move beyond the past struggles of many Canadian provinces to manage oil and mineral revenue windfalls and develop a culture of public savings from resource revenues (Simpson, 2011). The NWT Heritage Fund could provide a mechanism to move past boom-bust cycles, and to preserve a finite source of wealth for future generations. This paper examines key policy considerations for the territorial government as it implements fund governance, management frameworks, and legislation. Drawing lessons from best practices in fund development from other jurisdictions,<sup>1</sup> recommendations are outlined which support the NWT Heritage Fund's primary objective: to save for the benefit of future generations.

We also explore whether additional objectives might be considered, in order to best allocate resource wealth to the Fund.<sup>2</sup> Additionally, continued public outreach and consultation are highlighted as critical tools needed to achieve support and accountability over the long-term. The viability and success of the NWT Heritage Fund ultimately depends on broad public support, in combination with transparent oversight.

### **The NWT: Devolution and the Quest for Intergenerational Equity**

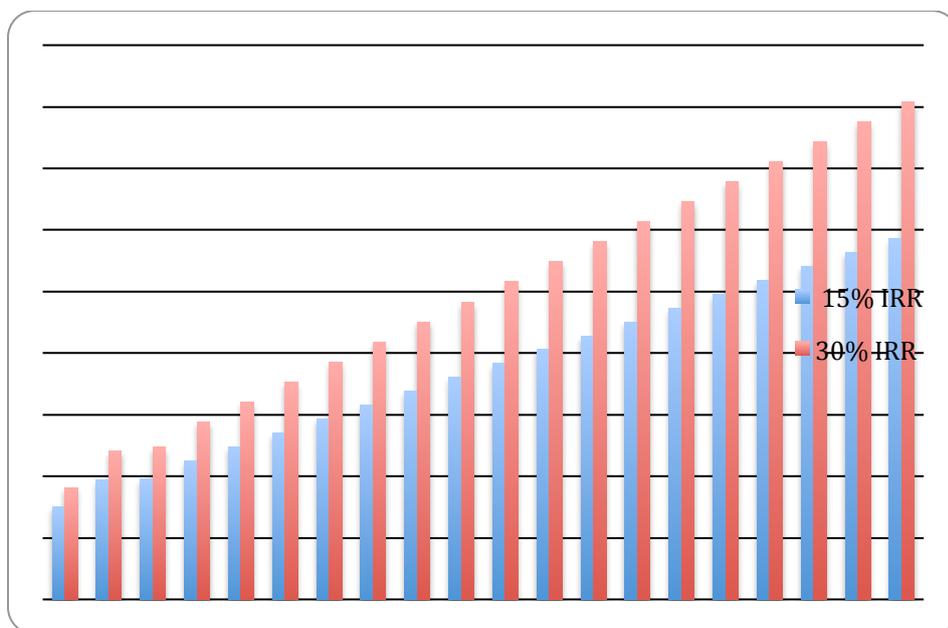
During the last few decades, Canada's Northwest Territories have undergone massive social and political change. The NWT has evolved from a domain of the Hudson's Bay Company, to a region controlled by a federally appointed commissioner in Ottawa, transitioning to an elected legislative assembly in 1979, and finally to a province-like jurisdiction distinguished by both devolution and the incorporation of Indigenous peoples' rights into a constitutional base (Irlbacher-Fox & Mills 2007; Hamilton 1994). A recent and important step in this political maturation was signaled by devolution, which took effect in the NWT on April 1, 2014. Among other things, the devolution agreement allows the NWT, and Aboriginal governments, to retain a portion of mineral and onshore oil and gas royalties, in addition to territorial corporate income tax, while taking on control and administration for lands and resources from Canada's federal government. In short, the GNWT can now retain the lesser of 50 percent of resource revenues (defined as mineral, oil, gas and water-related revenues) or 5 percent of the Gross Expenditure Base (an amount between \$70-100 million per year)<sup>3</sup> (GNWT 2013b).

This marks the first time that the GNWT collects royalties and other resource revenues on public lands; the fiscal strategy for Devolution includes an agreement to share a quarter of the GNWT's share of resources with Aboriginal governments who have signed on to the Resource Revenue Sharing deal, established between GNWT and NWT Aboriginal Governments (GNWT 2014).

The operating budget of the GNWT in the 2012-2013 fiscal period was \$1.4 billion (CAN)<sup>4</sup> (GNWT 2012a). Both the costs of providing services and costs of living are high in the NWT, given its vast geographic region and low population density<sup>5</sup> (Canadian Institute for Health Information 2013). The primary source of funding for the three territorial governments is provided through an annual unconditional transfer from the federal government, known as Territorial Formula Financing (TFF). The formula reflects the principle that territories should be able to provide residents with public programs and services comparable to those offered by provincial governments at comparable levels of taxation. In 2013-2014, the TFF transfer to the GNWT was \$1.121 billion, or about 75 percent of its revenue. The remaining approximately 25 percent of revenues captured from taxes and fees.<sup>6</sup> Under Devolution, the NWT retains 11.5 percent of corporate income tax. In theory, once the cost recovery phase is over and the NWT starts collecting significant corporate income taxes (over a decade from now), that windfall has the potential to rise to the hundreds of millions per year, as the North opens to development. However, under TFF, for each dollar the territory raises itself through taxes, approximately 70 cents are removed from the federal transfer. In other words, even if corporate income taxes rose significantly, much of the revenue would be clawed back. This aspect of the agreement has raised debate amongst citizens, observers and legislators about the equity of the

existing resource royalty regime. For example, an economic analysis done by experts for the Gwich'in Tribal Council found that the current Resource Revenue Sharing agreement does not reflect principles of equalization fairness. However, the report concluded that Devolution under these terms would be beneficial, though not optimal (Irlbacher-Fox 2012; GNWT 2011). In spite of ongoing discussions in the NWT about the devolution deal's shortcomings, including the 5% cap and clawback provisions in the Resource Revenue Sharing agreement, NWT Legislators voted 17-1 in favor of Devolution on June 5, 2013.<sup>7</sup> It is possible that a future review of the Resource Revenue Sharing agreement could result in renegotiating the agreement to reduce the clawback.

The Resource Revenue Sharing agreement is a deal struck under a royalty regime that sells resources located in the NWT relatively cheaply by global standards, informing the question that continues to be debated by citizens, elected leaders and analysts: Is the NWT getting a fair deal for its resources?<sup>8</sup> For example, in 2011, less than \$100 million was collected in royalties on NWT exports worth over \$2 billion, though exact figures are unavailable in Canada (Government of Canada - Natural Resources Canada 2011; Irlbacher-Fox 2012).



**Figure 1:** Government take from mining across the globe, comparing average effective tax rates across jurisdictions for projects with 15% and 30% real internal rate of return (IRR) before tax.<sup>9</sup>

As outlined in Figure 1, the combined federal-territorial 'government take' in the NWT is low by global standards. Since 2003, Canadian jurisdictions have implemented tax rate reductions of a larger magnitude than any other major mineral-producing jurisdictions, while retaining general corporate tax deductions and tax credits for the mining sector (Government of Canada - Natural Resources Canada 2011). In fact, Duanje Chen and Jack Mintz of the University of Calgary's School of Public Policy argue that Canada's mining-tax system should be modernized, and provinces should eliminate these preferential and wasteful tax breaks for the mining industry. In their analysis, provincial treasuries cannot afford these tax breaks, and neither can the Canadian economy as a whole (2013).<sup>10</sup>

In spite of being low by global standards, mining and oil taxation in the NWT - at approximately 26.5% - is similar to the Canadian average. In the NWT, both mines and oil wells pay out royalties according to a sliding scale based on how profitable an operation is. For mines, the first \$10,000 is royalty free. Beyond that, the first \$5 million in profits pays a rate of five per cent, which increases by one per cent per \$5 million in profits. The top rate companies can be expected to pay is 14 percent for any mine that clears more than \$45 million per year. These rates are higher than those seen in Alberta (Alberta operates at a rate of 10% provincial tax), but lower than rates used in eastern provinces such as Newfoundland and Nova Scotia, which have tax rates at 14% and 16% respectively (Windeyer 2014).

With Devolution, the GNWT gains the power to change royalty rates. Member of Parliament for the Western Arctic Dennis Bevington has stated that the first priority should be to switch from a net royalty scheme to a gross royalty scheme to address perceived shortcomings. Finance minister Michael Miltenberger has confirmed that rates will be up for review, stating that “We’re not rushing out to put additional taxes on anybody ... but after April 1, we’ll be having a discussion on the structure of our resource economy,” (as cited in Windeyer 2014). However, the territorial government - citing the already high cost of doing business in the NWT - is reluctant to increase royalty rates.

Non-renewable extraction has a significant impact on the NWT economy, especially given the small population of the territory (just over 43,000 residents) and GDP (approximately \$3.5 billion). The mining, oil and gas sectors represent about 30% of territorial GDP, with diamond mining representing half of that total (NWT Bureau of Statistics 2014). How much of that income stays in the territory is another question, and one that will continue to be debated in the NWT (GNWT Legislative Assembly Hansard March 14, 2013).

The question of fairness aside, based on the most current estimates the GNWT is likely to benefit in 2015 from an additional \$45 million dollar windfall per year in the short-term, given the Resource Revenue Sharing agreement with Aboriginal Governments.<sup>11</sup> This amount is likely to grow over time as the Gross Expenditure Base increases, however, the windfall is not expected to exceed \$65 million in the foreseeable future. In preparation for this modest windfall, the issue of how to manage the additional revenue responsibly and effectively has become central to public debate.

### **The Role of Natural Resource Funds in Retaining Public Benefits from Extraction**

Resource-rich regions across the circumpolar north and around the world are recognizing the socio-economic and environmental risks associated with long-term economic reliance on finite mineral and petroleum resources. In response, many governments, such as Alaska and Norway, have established funds to protect some of the wealth generated in periods of growth, to both preserve use for periods of decline, and for the benefit of future generations (Natural Resource Governance Institute & Columbia Center for Sustainable Investment 2014d).

Norway provides a well-known example of a successful Sovereign Wealth Fund. Though oil

production began in 1970, a plan for savings was only established twenty years later, with the implementation of their Savings Fund – the *Government Pension Fund-Global*. Early on, a decision was made to invest in urgent spending needs, such as education, social services, and infrastructure, with the position that oil wealth should be used to develop a qualitatively better society with more equality (Norwegian Asset Management Department 2013). Transfers to the fund began in 1996, following these primary investments (Drohan 2013). The fund has strict rules, including regular, comprehensive and independent internal and external audits. Further, it is one of most transparent funds in the world.

The NWT, with a vast landscape containing diamonds, gold, silver, copper, zinc, oil and gas, holds a potential resource wealth that has attracted interest from investors, oil and mining companies (Conference Board of Canada 2013). The development of these resources promises to make Canada's North more accessible, with significant economic, social, and political implications (Irlbacher-Fox & Mills 2007). A concern expressed by the NWT citizens and leaders is what the economic and social future holds once extraction has been exhausted, and how the territory can use resource revenues to invest sustainably over the long-term for the benefit of its future generations. While a range of policy choices exist to invest in future generations, the GNWT has chosen to save a portion of its resource revenues through a Heritage Fund.<sup>12</sup>

### *Northern Mining Projections: How Can Minerals Be More Than Just a Boom?*

The NWT has huge resource potential. According to the territorial government, there are an estimated 90 billion barrels of undiscovered recoverable oil, 1,670 trillion cubic feet of recoverable natural gas, and 44 billion barrels of recoverable natural gas, along with proven deposits of rare earths, cobalt, bismuth, zinc, lead, copper and silver, all of which are in various stages of development (GNWT 2012b; The Conference Board of Canada 2013). In 2011, the NWT produced over \$2.1 billion (Canadian dollars) in total mineral shipments, a staggering total for a jurisdiction with a population of only 43,000 residents. There are currently four operating mines in the Territory, including the Ekati Diamond Mine, Rio Tinto's Diavik Diamond Mine, De Beers' Snap Lake Diamond Mine, and Cantung Tungsten Mine, while four other mines are pending production: Canadian Zinc's Prairie Creek, Gahcho Kue Diamond Mine, Avalon's Nechalacho Rare Earth Metals, and Fortune Mineral's NICO site (Personal Communication, September 29, 2014, NWT and Nunavut Chamber of Mines).<sup>13</sup> Economic growth in the NWT is expected to rise by 1.3 percent in 2014, 2.5 percent in 2015, and 7.9 percent in 2016, driven largely by resource development (Conference Board of Canada 2013). The Heritage Fund offers a timely opportunity for the NWT to capture wealth from this forecasted economic growth, and to mitigate the risk of the 'boom and bust' cycle which often characterizes economies dependent on non-renewable natural resources.

### *Lessons from Other Jurisdictions*

Policy makers in the NWT can draw a cautionary lesson on how to address boom bust economies from the Island of Nauru, a clear example of recklessly wasted natural resource wealth. Nauru, an island nation in the South Pacific, was transformed in the 1970's through phosphate mining. The island went from one of the world's poorest nations into one of its richest on a per capita basis. In

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1973, its GDP peaked at \$178 million dollars, or \$25,500 per citizen (in 2005 dollars). However, overconsumption and poor revenue management quickly erased this expansion and, by 2007, its GDP had shrunk to less than \$19 million dollars, or \$1,900 per citizen (Bauer 2014a). The economy has never recovered, and the government remains fiscally troubled (Bauer, 2014a). Mining further caused serious environmental consequences: 80 percent of the island's land was stripped and 40 percent of its marine life killed (Shennon 1995).

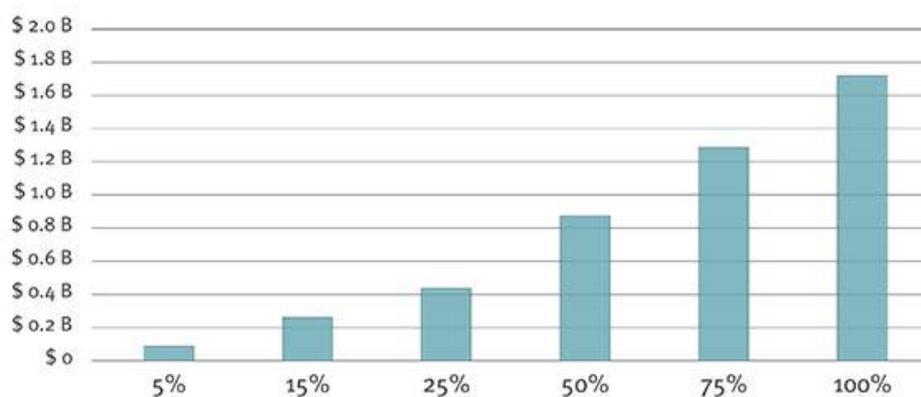
Drawing on lessons from Nauru and other similar cases, some governments have established funds to sustain wealth from non-renewable natural resources. In some jurisdictions, the establishment of a wealth fund arises out of legitimate concerns about the potential impacts that large, volatile, and exhaustible natural resource revenues have on the stability of an economy. In other regions, fund establishment comes from a desire to promote transparent and accountable management of expected revenue flows. Another common objective for establishing a fund is to build an endowment for future generations or the elderly. However, natural resource funds are not always established with the public or national interest in mind. In some countries, for example Azerbaijan, natural resource funds enable governments to avoid public scrutiny or bypass formal oversight (Bauer, 2014a).

### **The NWT Heritage Fund: Legislation (Act), Current Status, and Opportunities**

In preparation for new resource royalties flowing from Devolution, legislation allowing for the establishment of an NWT Heritage Fund was passed in 2012, based on the framework of the Alberta Heritage Fund (GNWT 2013b).<sup>14</sup>

In the fall of 2013, the NWT's Ministry of Finance undertook public consultations on the budget in seven regional centers in the territory. At these public consultations, the NWT's Ministry of Finance proposed that 5 percent of resource revenues be placed into the fund, or approximately \$2.25 million (as of 2013) (Wohlberg 2013), while 95 percent would be earmarked for infrastructure investment and servicing the GNWT debt (GNWT 2013a).<sup>15</sup> This sparked a healthy public debate over the appropriate deposit amount for the fund, given other perceived pressing needs, such as funding infrastructure or servicing debt (Wohlberg 2013).

On February 10th 2014, MLA Wendy Bisaro tabled the public policy report *A Question of Future Prosperity: Developing a Heritage Fund in the Northwest Territories* (Briones et al. 2014) in the NWT Legislative Assembly, in order to press the Minister of Finance to commit more than 5 percent of revenues to the fund, and to introduce legislation to administer it. Following the debate, the Minister of Finance announced that a 25 percent share of the GNWT royalties from the extraction sector will be allocated to the new Heritage Fund. Regulation was passed in 2013 prior to the NWT Fund beginning to accrue significant revenue (Northwest Territories Heritage Fund Regulations 2013).



**Figure 2:** Predicted Size of NWT Heritage Fund in 20 years if annual average royalties are 45 million (75 percent of \$60 million) and the fund achieves a 5 percent rate of return.

The predicted size of the Fund, at a 25 percent deposit rate, could result in approximately half a billion dollars in twenty years (Figure 2). The authors project a 5 percent rate of return based on benchmarks set by other public savings funds. One benchmark used was the Canada Pension Plan's average annual return of 7 percent over the last ten years (Canada Pension Plan Investment Board 2014). However, recognizing the Canada Pension Plan as a much larger sized fund with a long-term investment mandate, whereas the NWT Heritage Fund is smaller and could have multiple mandates, the authors also considered Chile's two lower-risk natural resource wealth funds as benchmarks for the NWT. Chile's Economic and Social Stabilization Fund made an average return of 3.6 percent in USD from July 2013 – July 2014 while Chile's Pension Reserve Fund made an average return of 4.67 percent during the same time period (Government of Chile Ministry of Finance 2014). To project a growth rate for the NWT's fund, the authors averaged the Canada Pension Plan's average annual return over ten years with the returns from the two Chilean funds from 2013-2014. The resulting projection, as illustrated in Figure 2, was a 5.09 percent annual return for the NWT fund, assuming that moderate risk will be taken for the fund's investment strategy.

### **Early Engagement: Building Relationships for Research in Public Policy**

Throughout the public policy initiative that led to this paper,<sup>16</sup> citizen and government engagement was a strong objective guiding the research methodology. Three approaches to consultation were undertaken: 1. Roundtable discussions with industry, government, Aboriginal governments and other stakeholders; 2. Public dialogues; and 3. Open discussion and exchange with the GNWT.

In August of 2013, a Northern Roundtable was hosted<sup>17</sup> in Yellowknife, which focused on critical issues facing the natural resource industry within the NWT. Participants included Aboriginal government and community leaders, elected leaders of the GNWT, representatives from the mining industry, representatives from municipal and federal government, natural resource management experts, and non-profit organizations. The NWT's newly legislated Heritage Fund emerged as an area of developing public policy that could benefit from further research and consultation.<sup>18</sup>

In February 2014, the public policy report, “A Question of Future Prosperity: Developing a Heritage Fund in the Northwest Territories” was launched. The report was a response to perceived gaps in the current proposal for fund governance structure and called for clear deposit rules, a strong investment mandate, and adequate transparency and oversight. Key recommendations sought to inform how mineral revenue management in the NWT could be improved, taking into account the unique circumstances and context of the territory. The six key recommendations made were (Briones et al. 2014):

1. Establish clear fund objectives to achieve a dual objective of savings and stabilization. Allocate more than 5 percent of annual resource royalties to the Heritage Fund.
2. Set up a statutory framework for deposit and withdrawal rules.
3. Appoint a Supervisory Council to oversee the Heritage Fund.
4. Develop a robust investment mandate.
5. Establish strong Fund governance, including transparency mechanisms.
6. Continue citizen engagement to ensure public support and the long-term viability and success of the Heritage Fund.

Since the report’s launch, the GNWT has implemented the first of these recommendations, and is considering others, which are outlined in greater detail in this paper.

### **Roadmap for the Future: Four Key Issues for Fund Implementation**

As a follow up to earlier public dialogues and consultation, in May 2014, the authors were invited by the Legislative Assembly of the NWT Committee on Priorities and Planning to discuss the recommendations for the fund’s implementation. In preparation for upcoming debate on new legislation and regulation, fund oversight and governance were discussed with the Committee in greater detail. Topics of discussion included: the importance of establishing a clear objective for the fund; developing an investment strategy; and governance rules.

In May 2014, citizens were also welcomed to participate in a public dialogue.<sup>19</sup> Attendees expressed concern about transparency, specifically outlining the need for an audited report issued separately from the regular consolidated statements to the Assembly. It was important to people that these statements be available in easily accessible language and contain clear and transparent information about fund activities. Contributors to the public dialogue session recognized that a strong NWT Heritage Fund has the potential to build up capacity for oversight in the territory. As previously outlined, through the Resource Revenue Sharing agreement, Aboriginal governments will also be inheriting new resource royalties at a rate of 25 percent of the territorial government’s share. The key principles of strong natural resource revenue management highlighted in this paper will therefore also be of interest to Aboriginal governments, as they decide on the management of the new royalties.

Work with the NWT Committee on Priorities and Planning and the public has reinforced the need for further research, policy development, and drafting of legislation in the following four key areas:

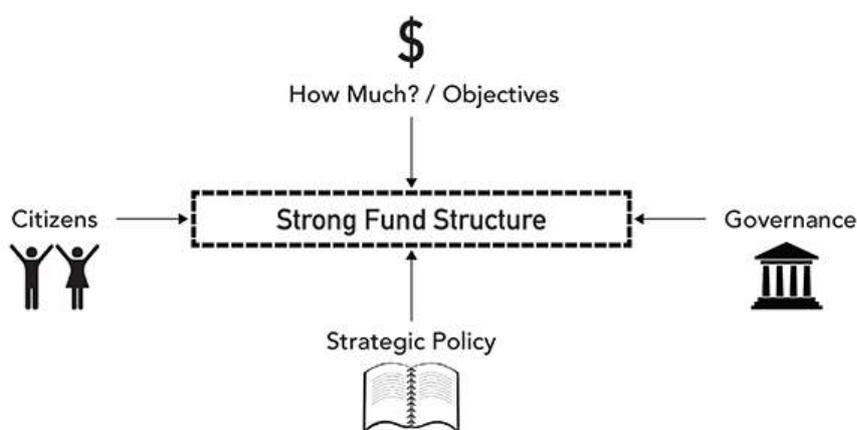
1. Establishing a clear fund objective; 2. Clarify fund deposit and withdrawal rules, including the need to legislate the existing informal agreement for 25 percent allocation of resource revenues to the Heritage Fund; 3. Establish robust transparency and oversight mechanisms, including appointing a Supervisory Council to manage the Fund; and 4. Strengthen citizen engagement.

The rules pertaining to how a fund is managed are critical to its long-term success. Research into best practices<sup>20</sup> indicates that there are three key factors in developing a successful Heritage Fund, ensuring strong internal controls from the beginning. First, establish clear fund objectives; second, define clear operational rules for the fund in line with these objectives; and third, develop a clear and robust governance and oversight structure. A defining principle of a successful Sovereign Wealth Fund is a sound governance framework containing a clear division of roles and responsibilities (International Working Group of Sovereign Wealth Funds 2008). Through establishing a strong governance structure that has independent oversight of the Heritage Fund and a clear division of responsibilities, a robust system of checks and balances can be ensured.

Authority should be provided to governing bodies to exercise objective, independent, and effective judgment, in order to prevent the use of the Heritage Fund for political goals that are not aligned with public interest. The Government, the fund owner, should provide oversight to determine fund objectives, such as broad policy purposes and the investment mandate. However, operational and political separation should be maintained in order to limit political interference into investment decisions of the Fund.

### *Issue 1: Establishing a Clear Fund Objective*

Though the Ministry of Finance indicated that the Heritage Fund has been established purely for savings, our work with the public and Legislative Committee indicated that there is not yet consensus within the NWT about the objective of the Heritage Fund. Views reported to our research team ranged from savings for saving's sake, to creating a fund for investment in specific infrastructure projects (such as telecommunications), and generating a culture of savings, autonomy and long-term vision in the NWT. Economic stabilization, however, is also an important consideration, for which a separate fund for the singular purpose of economic stabilization could be established in the future.



**Figure 3:** Getting it right from the beginning to maximize the success of the Heritage Fund.

#### *Fund Objectives: Savings, Spending and Fiscal Stabilization*

The current objective of the fund outlined in the *Northwest Territories Heritage Fund Act* is vague. The Act describes the fund's purpose as "to ensure that future generations of people of the Northwest Territories benefit from on-going economic development, including the development of non-renewable resources," (2012: 3). The fund's objective needs to be clarified, as the investment strategy and rules all flow from clear fund objectives. These objectives could address one or several of the following:

- a) Expenditure stabilization: To prevent "booms and busts" in the medium term.
- b) Saving for future generations: Savings will smooth the increase in spending when there is a mineral boom until there is enough capacity to spend effectively, thus preventing waste and inflation. Savings will further provide an endowment for future generations, though it is important to keep in mind that investment in education and infrastructure also provides an endowment for future generations. Precautionary savings further makes the NWT less dependent on the Federal Government.
- c) Earmarking mineral revenues for development: Resource revenues can be allocated to specific strategic projects, provided that the fund itself doesn't spend the money directly but that the outflows go into the budget.
- d) Protecting mineral revenues from mismanagement: By putting the money in a fund, and subjecting it to a high degree of transparency and oversight, the money can be protected from mismanagement.

A fund objective must be clear. This will guide all other aspects of managing the fund, supporting sound revenue management to ensure that the correct balance is struck between saving natural resource revenues for future generations, and spending current revenues on projects with long-term benefits.

*Issue 2: Clarify Fund Deposit and Withdrawal Rules - Including the Need to Legislate the 25 percent Allocation of Resource Revenues to the Heritage Fund*

As of June 2014, this deposit commitment from the Minister of Finance, though on the public record, remains an informal agreement (NWT Hansard, February 11 2014). Neither the fund's purpose, nor many of the rules governing the Fund and its deposit rate have been clarified in legislation or regulation. It will be crucial that the government formalize its commitment to a 25 percent deposit rate through legislation or regulation. The remaining 75 percent of resource revenues are allocated for two other targets for investment proposed by the NWT's Ministry of Finance: debt repayment and investment in infrastructure (GNWT 2013c).

Establishing clear deposit and withdrawal rules are critical. For instance, the GNWT's legislation has set a 20-year minimum deposit amount during which withdrawals from the fund are not permitted. The establishment of minimum deposit amounts, outlining the timing of deposits, combined with strict withdrawal rules will support a fund's long-term success. Without these elements, the fund's capacity as a tool to generate wealth for future generations is limited.

Once the legislated twenty-year term has ended, the NWT faces a number of options for how much should be withdrawn from the fund, how the money should be spent, and what it should be spent on. Drawing from the history of both missteps and successes of other natural resource wealth funds, the authors look to lessons from Alberta's post 2013 fund withdrawal rules, where the principal remains in the fund, and only interest on the principal can be withdrawn. (Revenue Watch Institute & Vale Columbia Center 2013). As interest is likely to be volatile, the authors propose that following the twenty-year period, the NWT withdraw a five-year average of interest (less inflation) while leaving the principal entirely in the fund. It is prudent that this interest be spent by government through the budget rather than diverting revenues directly to any initiative outside the budget, as the budget provides a transparent and well audited mechanism.

The authors suggest that withdrawals from the fund's interest be earmarked for a limited number of key underfunded priorities in the NWT. To reach specific development outcomes, it is most effective for the fund to focus on a small number of underfunded priorities. For instance, returns from Chile's Pension Reserve Fund are only to be used to pay for pension and social welfare liabilities (Revenue Watch Institute & Vale Columbia Center 2013). The most pressing pro-development programs or projects that are systemically underfunded in the NWT should be determined through government analysis and citizen input. For example, from its natural resource wealth fund, Texas uses a three-year running average of interest rates to fund education. These funds must be allocated to university capital equipment, scholarships, student services, research, or library books, as overseen by the Board of Regents and University of Texas Investment Management Company (Revenue Watch Institute & Vale Columbia Center 2013). Examples cited in the NWT during this research process included education and municipal infrastructure, however, it will be up to government and citizens to identify underfunded priorities to earmark for the fund's interest following the twenty year period.

The development legacy that could flow from the Heritage Fund's interest rests heavily on the GNWT's ability to establish and follow clear rules. Alberta's Heritage and Savings Fund

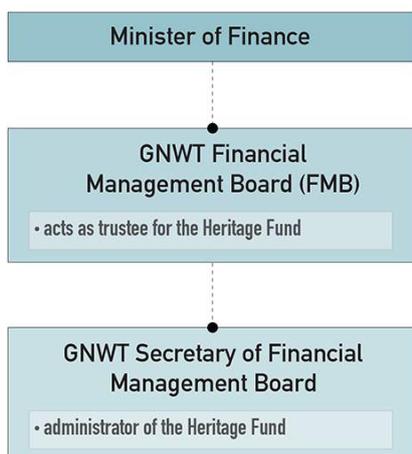
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demonstrates the risk when fund rules can be ignored, particularly if they are not clearly established, or if exceptions allow for significant departures from the rules (The Fraser Institute, 2013). As there were no rules governing minimum resource revenue deposits into Alberta's Fund, regular contributions to the Alberta Fund were suspended from 1987 until 2005 and minimum required contribution deposit rules were established only in 2013 (Revenue Watch Institute & Vale Columbia Center 2013c). Enacting strong deposit, withdrawal, and investment rules will help mitigate potential risks.

***Issue 3: Establish Robust Transparency and Oversight Mechanisms – Including Appointment of a Supervisory Council to Oversee the NWT Heritage Fund***

A key recommendation in the policy report (Briones et al. 2014) was expanding the Secretariat of the Fund to form a Supervisory Council. The Supervisory Council would provide independent expert finance directors, and be composed equally of representatives of various government authorities, legislators, Aboriginal Governments, financial experts, academics, and civil society, to oversee the fund on behalf of the government. The majority of members must have security of tenure and be completely independent of the government for this model to work effectively. This Supervisory Council would replace the Secretary of the Financial Management Board and report directly to the Minister of Finance, as well as to the Legislative Assembly. Successful funds are not only an outcome of good fiscal policy; they are facilitated by robust internal controls, supervision, public oversight, and transparency. For the Supervisory Council to be successful, qualified individuals must be appointed, with a strictly vetted job description process, to avoid the risk that the council could be a channel for nepotism and patronage. The Supervisory Council should include diversity of representation from independent representatives of the public as well as financial experts. Further elaboration by the authors, in consultation with the GNWT, is being undertaken to support regulation in this area.

*NWT's Current Fund Governance Model*



**Figure 4:** Existing Structure of the NWT Heritage Fund's Governance

The NWT Heritage Fund is currently managed by the GNWT Department of Finance. GNWT Legislation states that the Financial Management Board is authorized to act as trustee of the Fund (GNWT 2012c). The Financial Management Board, composed of Cabinet Ministers and Chaired by the Minister of Finance, is responsible for monitoring the performance of the Heritage Fund and, on an annual basis, for directing and supervising the Secretary of the Financial Management Board. The Secretary, a member of the public service, is responsible for carrying the administration and maintenance of the Heritage Fund as directed by the Board.

*The Need for Clear Rules and Independent Oversight of Natural Resource Funds*

The current structure of the NWT Heritage Fund's governance omits an independent layer of oversight and lacks third party separation from the government. However, best practice in fund management suggests that a separate operational management entity, with full delegation to manage investments under a strict mandate, be appointed (Bauer 2014a). Given the small amount of revenues deposited into the Fund to date (as of February 2014), a separate independent oversight entity may be costly to implement at this time, though the Supervisory Council could be established to meet the growing size and importance of the fund as royalties accumulate (such as in a five-year plan). In the immediate term, a minimum of two additional independent observer members should be appointed in order to provide independent assurance: one to the Financial Management Board and one to the Secretariat.

Some of the world's most successful natural resource funds, including Norway, Chile, and Alaska, have independent oversight bodies. Chile, Ghana, and Chad all provide excellent examples of oversight bodies, which can inform building an oversight body in the NWT. For example, in Chile, a law established a new Advisory Financial Committee for Fiscal Responsibility Funds (AFCFRF) to advise the Minister of Finance on investment regulations and decisions related to Chile's two sovereign wealth funds (Schmidt-Hebbel, 2012). The Ministry of Finance selects six independent members, usually academics, from the local community of macroeconomists and financial experts; their overlapping tenure is two years. The Secretariat of the AFCFRF is part of the Ministry of Finance. AFCFRF members discuss financial developments and their implications for the performance of the funds, evaluate fund management, and issue non-binding recommendations about fund investment policy and regulation to the Ministry of Finance. AFCFRF publishes an annual report on the funds' financial results and the Committee's investment policy recommendations to the Minister. Their report is separate from the Ministry of Finance's report. In addition, the fund is externally audited to international standards, with reports available to the public (Schmidt-Hebbel, 2012).

Another relevant model can be found in Ghana. In 2011 the Parliament of Ghana passed the Petroleum Revenue Management Bill, which established a Public Interest and Accountability Committee (PIAC) (Bauer 2014a). PIAC represents the only legislated petroleum revenue management oversight body consisting entirely of civil society members and as such, is completely independent. The 13 civil society members who make up the committee include representatives of the unions, traditional chiefs, journalists, lawyers, chartered accountants, and religious groups who

are appointed by the Minister of Finance for two to three year terms. PIAC is mandated to monitor and evaluate compliance with Ghana's Petroleum Revenue Management Act, to provide a platform for public debate on whether revenues are being used to advance development priorities and to provide an independent assessment of the management and use of the petroleum revenues. The PIAC has already demonstrated effectiveness towards good mineral management - in 2011, it found an unpaid surface rental bill from a major oil field, pressuring government to act (Bauer 2014a).

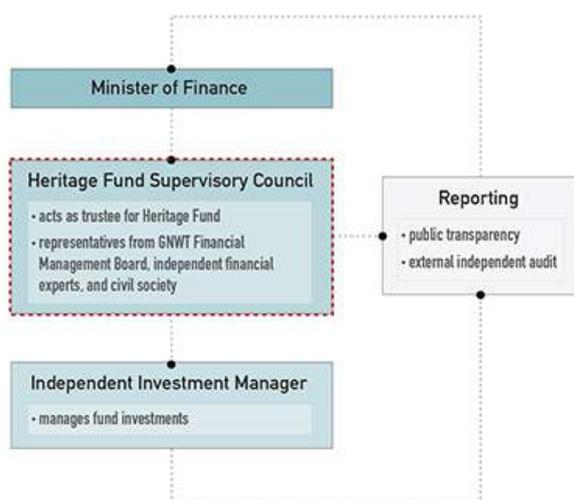
A third pertinent example is Chad's oil revenue oversight mechanism. The Collège de Contrôle et de Surveillance des Ressources Pétrolières (the Collège), is a multistakeholder oversight committee for Chad's oil wealth (Gary & Reisch 2005). It approves disbursements from Chad's fund and oversees the management and use of revenues from the Chad-Cameroon pipeline. The Collège is a nine person joint government-civil society body established to monitor the use of Chad's oil revenues. Supported by four technical staff, it has the authority to exert its control by verifying the alignment between production volumes and deposits into the Chadian accounts, by ensuring that revenues are allocated according to the law, and by participating in the preparation of budgets for expenditures of petroleum revenues. The Collège has leveraged important pressure on government; for example, in 2005 its report highlighted wells and schools that were paid for but not completed. The Collège has successfully attracted attention to mismanagement of public funds, pressuring government to address these issues (Gary & Reisch 2005).

#### *Lessons from Other Oversight Bodies for the NWT*

Concerns have been expressed in the NWT that an oversight board would be expensive to operate, that it would be difficult to find qualified members to sit on the board, and that there is a risk of political patronage appointments from the Legislative Assembly. In this regard, Chad provides a strong model for the NWT, wherein for their Collège oversight committee, hiring technical staff helped to offset the knowledge losses that occurred as trained members rotated out, every two years. The NWT may want to consider hiring supervisory council support staff, such as an economist or a tax expert, similar to staff hired to support Chad's Collège. Training by outside organizations provided for supervisory council members was important for both Chad and Ghana. Organizations such as the Natural Resource Governance Institute and the World Bank offer training to increase effectiveness for newly formed fund oversight groups in developing countries. Ghana's fund provides a useful model to avoid political patronage appointments, whereby specific organizations and groups are identified for representation and selections must come from these designated groups.

Independent oversight from government provides assurances of integrity that internal controls alone cannot provide. Nearly all of the world's top rated natural resource wealth funds, including Alaska, Chile, Ghana, and Norway, have independent oversight. Funds that have been noted to not serve citizen interests as effectively, such as Libya, Equatorial Guinea, and Qatar, do not have independent oversight. To illustrate, the Libyan Investment Authority lost much of a \$1.2 billion dollars investment in equity and currency derivatives following the 2008 financial crisis, partly the result of a lack of independent oversight (Bauer 2014a). In the NWT, the financial stakes are much smaller. However, for the government and citizens, it is an opportune time to carefully consider which

model of independent oversight can best incentivize the government to comply with its own rules to meet long term Fund objectives.



**Figure 5:** Proposed Fund Governance Structure with Supervisory Council

With the deposit amount to the NWT's Fund now decided, though still requiring legislation or regulation, the government of the NWT has important decisions to make regarding governance and transparency. Though the current Fund holding is modest at just over \$500,000 (Wohlberg 2013), this is the perfect time to instill good governance to ensure the Fund's long-term success. Once revenues begin accumulating, it is easy to lose sight of the Fund's mission and objectives.

#### *Deposit and Withdrawal Rules – Cautionary Example of Alberta's Heritage Fund*

If similar funds in Alberta and Alaska are compared to the NWT Heritage Fund, there are differences in operations, management, and transparency and oversight. Each box represents a regulatory standard, essential for promoting consistent use and safeguarding of resource revenues. Green represents the existence of regulation while the red boxes highlight regulatory gaps in fund governance. Alberta did not have strong deposit and withdrawal rules, making their contributions ad-hoc, depending on the government whims of the day (of note, as of 2013 they standardized their deposit rules going forward).

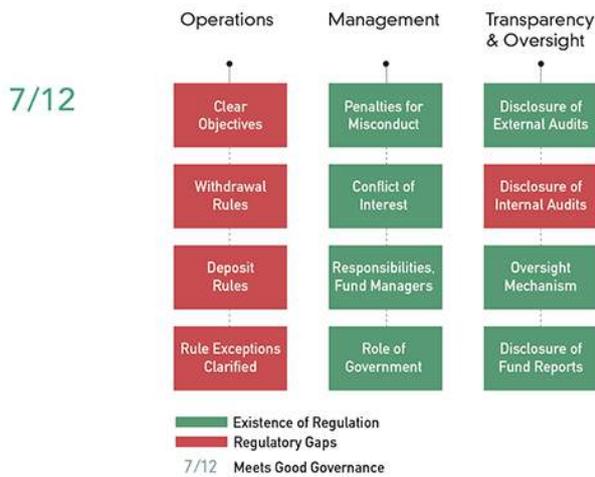


Figure 6: Alberta Heritage Fund pre-2013: Good Governance and Gaps in Regulation

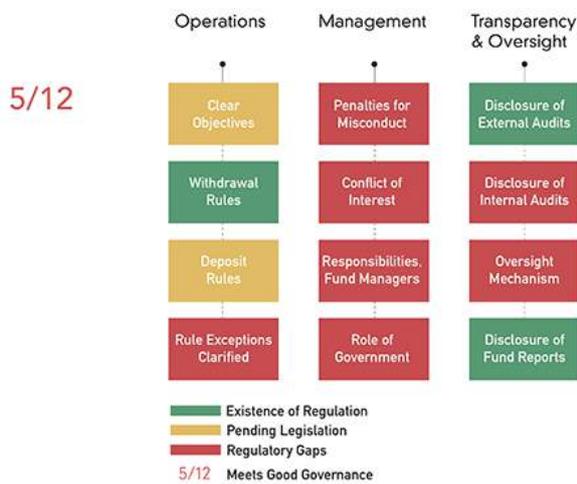
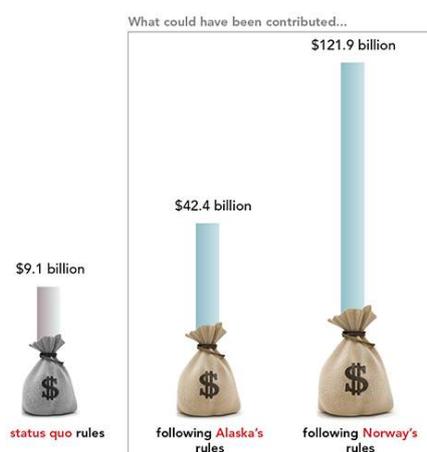


Figure 7: NWT Heritage Fund: Good Governance and Gaps in Regulation

The GNWT’s fund was analysed with the same criteria. There are multiple red boxes, largely as the fund is nascent and the GNWT is in the decision making process about rules and regulations. The yellow colored boxes represent areas which have provisional decisions made, but which have not yet been written into policy or legislation. These regulatory gaps are discussed in the following section.

To illustrate further, if Alberta had followed Norway or Alaska’s governance rules, they could have generated more wealth. For example, instead of the \$9.1 billion saved from 1982-2011, using Alaska’s governance rules, Alberta could have saved \$42.4 billion. Using Norway’s governance rules during the same time period, Alberta would have accrued \$121.9 billion, securing a legacy for future generations.



**Figure 8:** The Potential of the Alberta Heritage Fund (Adapted from Murphy & Clemens 2013)

Strong governance rules will directly affect the wealth that a fund has the potential to generate. Alberta's Heritage and Savings Fund demonstrated the risks when fund rules are ignored, particularly if the rules are unclear. Alaska, on the other hand, has been evaluated as a strong example of good governance. For instance, the public is very engaged with the fund and see direct benefits from it<sup>21</sup> (Murphy & Clemens 2013).

In summary, a framework regulating what goes in and out of the fund will help assure the preservation of wealth over the long-term.

### *Auditing and Reporting*

Under the current structure of auditing and reporting, the Heritage Fund will be summarized in a separate notes section but will not be audited separately from the rest of the GNWT budget. To comply with global standards, an internal audit would need to be reported back to the Ministry of Finance and the Legislative Assembly, while an external audit would be reported to the Supervisory Council, who could use the report to generate asset allocation recommendations to the Minister of Finance and Legislative Assembly. Both audits would be publicly available on a government website. Quarterly internal and annual external audits from the investment manager are critical for assessing compliance with governance and investment rules, and making recommendations to improve the fund's effectiveness. Publicly accessible documentation would give assurances to the people of NWT that resource revenues are being used effectively and responsibly. Transparency further ensures "fiscal policy consistency, more efficient public financial management, and can help prevent fiscal crises. It can also improve the private investment climate and help build trust between the government and the public" (Toledano & Bauer 2014).

To engrain transparency within the management of the NWT Heritage Fund, regular public reporting (through online access and other forums such as public meetings, in easily digestible formats) should include the following: fund size, fund managers, significant fund activities and transactions, deposit and withdrawal amounts, returns on investments, types of assets permitted for

investments, and types of assets invested in. This can help build confidence amongst the people of the NWT that resource revenues are being used effectively and responsibly.

#### *Issue 4: Strengthen Citizen Engagement*

A Heritage Fund is a new concept to most residents of the NWT. Although the GNWT has held public consultations on the Heritage Fund in 2013, ongoing public education and engagement will be important in order to promote public awareness (GNWT 2013e). Continued communication can help equip residents with the skills and knowledge to act as independent overseers to benefit the Fund and its future. Public oversight, beyond the independent body of the Supervisory Council, can be an important force that can help ensure the government follows its own rules and principles to meet the Heritage Fund's objectives. The more the public understands and supports the long-term objectives of the Fund, the more it will hold current and future governments to account to protect the integrity of its original purpose. The viability and success of these funds depends on the public's support for them. For example, Norway enjoys broad public support as a point of national pride and, in Alaska, support is retained through the paying of annual dividends to each citizen (MacKinnon 2013).

#### **Conclusion: Conditions for Tomorrow's Prosperity**

On April 1, 2014, NWT citizens gained greater control over their lands and resources for the first time since confederation. As non-renewable resources are discovered and developed in the territory, one of the government's priorities is to foster well-being for future generations. The future success of the legislated NWT Heritage Fund will depend on strong governance, broad public support, and an effective system of checks and balances to ensure that mineral wealth benefits NWT citizens today and tomorrow. Lessons must be learned from past development and from success and failures alike. The landscape continues to change, opening up new pressures for resource extraction. Northern communities are at the front lines of extreme developments and dramatic environmental implications. For these communities, cultural identity – and survival – is at stake. Furthermore, despite enormous mineral deposits, abject poverty persists in Indigenous communities near lucrative mine sites in the NWT (Irlbacher Fox 2012). Challenges in attaining high quality education, accessing health services, and securing nutritious foods persist. A major challenge is how to harness increased economic, development, and research interests to include and benefit those who reside in Canada's North. The ability of northern territories to absorb the potential benefits of increased economic activity in the region is closely linked to building strong human capital, with a foundation of high quality education systems (Smits, Bertelsen, Justinussen 2014). Building human capital, including the capacity for resource revenue management aligned with global standards, is pivotal to transcending historical cycles of "boom and bust." Localizing decision-making and providing accountability, transparency and oversight in managing resource revenues will improve the likelihood of transforming mineral riches to citizen well being in Northern communities.

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## Notes

1. These best practises in fund development are based on the Santiago Principles, a set of voluntary good governance guidelines for sovereign wealth funds (International Working Group of Sovereign Wealth Funds 2008).
2. There is not yet a clearly articulated objective for the NWT Heritage Fund in either the 2012 Act or Regulations (GNWT 2012c). Fund objectives can range from include savings for future generations; growing a pool of precautionary savings; earmarking resource revenues for specific development projects; or smooth spending of resource revenues over the long-term (Bauer 2014a). In the case of the NWT, the Heritage Fund could also serve to build a culture of savings, autonomous from Canada's federal government.
3. Although 5% of the current gross expenditure base would amount to a maximum of 70 million in resource royalties per year for the NWT, this maximum could increase over 10 years, if the gross expenditure base increases.
4. Nearly 60 percent of the GNWT's operating budget is spent on education, health care, social services, housing, policing, and corrections, while another 13 percent is allocated to municipal and government infrastructure.
5. For example, health expenditure per capita is greater in the territories. In 2013, the total health expenditure per capita in the Northwest Territories was expected to reach \$10,686. This is nearly double that of other regions, such as Quebec (\$5,531) or British Columbia (\$5,775). (National Health Expenditure Trends, 1975 to 2013.)

6. In 2012-2013, approximately 8% of these taxes and fees were corporate tax and 8% were generated from personal income tax (GNWT 2014 <http://www.fin.gov.nt.ca/taxation/revenues/index.htm>)
7. Member of the Legislative Assembly for Dehcho, Michael Nadli, was the sole MLA to vote against the Devolution agreement on June 5, 2013 (Edwards 2014).
8. For example, during the debate in the NWT Legislature on the Devolution agreement, Weledeh Member of the Legislative Assembly Bob Bromley stated, “Our resource royalty regime is no better than it’s ever been, and despite several objective reviews by different parties, including some by the federal government, all concluding our royalty rates are set too low. And despite imminent devolution, there appears to be no intent of this government to protect the public interest as our most valued resources are extracted and shipped off. Consider, for example, that as the federal Minister of AANDC admitted only Monday in Ottawa, the total revenues paid to Canada throughout the life of Giant Mine were \$4 million, a royalty rate similar to what is collected today from diamond mining” (GNWT, June 5 2013: 2850).
9. This chart is adapted from Natural Resources Canada, June 2011 bulletin on how Canada’s mineral tax regime compares to other mineral rich jurisdictions. Details of how the model of comparison was developed can be found at <http://sead.nrcan.gc.ca/prod-prod/2011-eng.aspx>.
10. In addition to minerals, Canadian provinces’ royalty rates for oil and gas are low by global standards. In 2012, for instance, Alberta collected one tenth of the revenue per barrel of oil equivalent in taxes and royalties compared to Norway (Anderson 2014).
11. This figure is based on the Government of the Northwest Territories Department of Finance’s revenue projections, generated using average resource royalties over from 2008-2013 of 120 million dollars per year. This amount will vary from year to year based on mineral revenue flows.
12. Different vehicles for investment in future generations include: Heritage Funds, physical infrastructure, health care, human capital, governance systems or financial assets. An in-depth examination of which mechanism for investment is optimal for the NWT is outside the scope of this paper, though it should be noted that the Government of the NWT has developed a Capital Plan for Infrastructure as one tool to invest for the future (<http://www.maca.gov.nt.ca/home/for-community-governments/community-government-toolkit/infrastructure-planning/>).
13. The NWT and Nunavut Chamber of Mines confirmed that the four NWT mines pending production are in an advanced stage – this means that they have completed pre-feasibility studies or completed or nearly completed environmental approvals processes, and are raising funds for mine construction (Personal Communication, September 29, 2014).

14. NWT citizens have been discussing the idea of a natural resource wealth fund for almost a decade. For example, Yellowknife based civil society organization *Alternatives North* has advocated for setting up a wealth fund since they commissioned the Pembina Institute to produce a policy report on the topic in 2006 (Taylor 2006). The organization also provided submissions during the GNWT's 2013 budget consultation process, and actively participated in the Action Canada task force public dialogues (Alternatives North 2013).
15. The current consolidated debt level in the GNWT and twenty-five public agencies is \$337.9 million.
16. Action Canada is a national fellowship program for promising Canadians, selecting between 15-20 young Canadian professionals each year. The program enhances Fellows' leadership skills, broadens their understanding of Canada and its policy choices, and builds an exceptional network of leaders for our future. Throughout the year Fellows work in teams on public policy projects related to an annual theme. The 2013-2014 theme focussed on Canada's North.
17. The roundtable was hosted by our public policy research team: Jesika Briones, Sarah Daitch, Andre Dias, Julia Fan Li, Martin Lajoie, and Alyssa Schwann.
18. In November 2013, the authors facilitated a public dialogue, held in Vancouver BC, to discuss the future potential of the NWT's Heritage Fund. The session brought together natural resource wealth fund directors, sovereign wealth experts, and NWT Members of Legislative Assembly (MLAs), to understand best practices in fund management and discuss how experiences in other jurisdictions might inform the development of the Fund. The authors further engaged with individuals and groups, through interviews and consultations including: Sovereign Wealth Fund experts, members of the non-renewable resource industry, the GNWT, federal and local government officials, Aboriginal government, academics in the NWT and other parts of Canada, non-profit organizations, representatives from Norway's Ministry of Finance, and leading financial journalists.
19. The purpose of the dialogue was to share the research and hear from the public; to discuss with the public how governance and investment of the Fund could best benefit the NWT and its future generations; and to discuss the important role of the public in the process. The event was held at the Prince of Wales Northern Heritage Centre in Yellowknife on May 27<sup>th</sup> 2014.
20. As defined by the Santiago Principles (International Working Group of Sovereign Wealth Funds 2008).
21. It is important to note that the Alaska Permanent Fund model may not be applicable in the NWT, as the benefit provided in Alaska is in the form of a citizen dividend, or cash to residents. However, Alaska provides a strong example of a transparent and accountable fund (Revenue Watch Institute & Vale Columbia Center 2013).

## References

- Alternatives North. (2013). *Resourcing Our Future Submission*. Retrieved from <http://www.alternativesnorth.ca/Portals/0/Documents/GNWT%20Finances/2013%2011%2015%20GNWT%20Revenue%20Comments.pdf>.
- Anderson, M. (2014, June 30). Tsilhqot'in Nation Gives Canada a New Chance to Do It Right. *Tyee*. Retrieved from <http://thetyee.ca/Opinion/2014/06/30/Tsilhqotin-Nation-New-Chance>.
- Briones, J., Daitch, S., Dias, A., Fan Li, J., Lajoie, M., & Schwann, A. (2014). *A Question of Future Prosperity: Developing a Heritage Fund in the Northwest Territories*. Ottawa ON: Action Canada.
- Bauer, A (Ed.). (2014). *Managing the public trust: How to make natural resource funds work for citizens*. New York, NY: Revenue Watch Institute, Vale Columbia Center.
- Canada Pension Plan Investment Board (2014). Retrieved from <http://www.cppib.com/en/our-performance.html>.
- Canadian Institute for Health Information (2013). *National Health Expenditure Trends, 1975 to 2013*. Retrieved from <https://secure.cihi.ca/estore/productFamily.htm?locale=en&pf=PFC2400&lang=en>.
- Conference Board of Canada. (2013). *Autumn 2013 Territorial Outlook Economic Forecast* [Report]. Ottawa ON: The Conference Board of Canada.
- Chen, D., & Mintz, J. (2012). *2012 Annual Global Tax Competitiveness Ranking – A Canadian Good News Story*. University of Calgary School of Public Policy SPP Research Paper. Retrieved from <http://www.policyschool.ucalgary.ca/sites/default/files/research/tax-competitiveness-2012.pdf>.
- Drohan, M. (2013, March 18). Learn from Alberta's Mistake: Provinces Should Save Resources. *Canadian Business*. Retrieved from <http://www.canadianbusiness.com/economy/learn-from-albertas-mistake/>.
- Edwards, T. (2014, March). The Man Who Said 'No.' *Up Here Business*. Retrieved from <http://upherebusiness.ca/post/78448090068>.
- Frankel, J. (2010). *The Natural Resource Curse: A Survey*. The National Bureau of Economic Research. Cambridge, USA.
- Fraser Institute (The). (2013). *Another lost opportunity: Failure to save resource revenues in Heritage Fund leaves little for Alberta's future generations*. Retrieved from <http://www.fraserinstitute.org/research-news/news/news-releases/Another-lost-opportunity--Failure-to-save-resource-revenues-in-Heritage-Fund-leaves-little-for-Alberta-s-future-generations>.
- Gary, I., & Reisch, N. (2005). *Chad's Oil: Miracle or Mirage? Following the Money in Africa's Newest Petro-State*. Catholic Relief Services and Bank Information Center. Retrieved from <http://internationalbudget.org/wp-content/uploads/Chads-Oil-Miracle-or-Mirage.pdf>.
- Government of Canada, Natural Resources Canada. (2011). *Taxation of Mineral Income 2012: How Canada Compares*. Retrieved from <http://sead.nrcan.gc.ca/prod-prod/2011-eng.aspx>.

- Government of Chile, Ministry of Finance (2014). Retrieved from <http://www.hacienda.cl/english/sovereign-wealth-funds/pension-reserve-fund/financial-situation/returns.html>.
- Government of the Northwest Territories. (2011). *The Honourable J. Michael Miltenburger, Minister of Finance: Proposed Devolution Financial Arrangements*. Retrieved from <http://news.exec.gov.nt.ca/proposed-devolution-financial-arrangements>.
- Government of the Northwest Territories. (2012). *Budget Address 2012-2013: The Honourable J. Michael Miltenburger, Minister of Finance* (Third Session of the Seventeenth Legislative Assembly, May 24, 2012). Retrieved from [http://www.fin.gov.nt.ca/address/archive/documents/2013-14-BudgetAddress\\_001.pdf](http://www.fin.gov.nt.ca/address/archive/documents/2013-14-BudgetAddress_001.pdf).
- Government of the Northwest Territories. (2012). *Investing in the Potential of the NWT*.
- Government of the Northwest Territories. (2012). *Northwest Territories Heritage Fund Act*. Retrieved from <http://www.justice.gov.nt.ca/collections/legislation/acts/NWT%20Heritage%20Fund%20Act.pdf>.
- Government of the Northwest Territories. (2013). *Public Accounts 2012- 2013, Consolidated Financial Statements and Government Indicators*. Retrieved from <http://www.fin.gov.nt.ca//public-accounts/index.htm>.
- Government of the Northwest Territories. (2013). *Northwest Territories Lands and Resources Devolution Agreement*. Retrieved from <http://devolution.gov.nt.ca/wp-content/uploads/2013/09/Final-Devolution-Agreement.pdf>.
- Government of the Northwest Territories. (2013). *Resourcing Our Legacy*. Retrieved from <http://www.fin.gov.nt.ca/Dialogue%202013/documents/ResourcingourLegacy.pdf>.
- Government of the Northwest Territories. (March 14, 2013). Northwest Territories Legislative Assembly Hansard. Retrieved from <http://www.assembly.gov.nt.ca/sites/default/files/hn130313.pdf>.
- Government of the Northwest Territories. (June 5, 2013). Northwest Territories Legislative Assembly Hansard. Retrieved from <http://www.assembly.gov.nt.ca/sites/default/files/hn130605.pdf>.
- Government of the Northwest Territories (October 6, 2013). Public Consultation Report Retrieved from: <http://www.fin.gov.nt.ca/Dialogue%202013/Dialogue2013.htm>.
- Government of the Northwest Territories. (2014). Northwest Territories Intergovernmental Resource Revenue Sharing Agreement. Retrieved from: <http://devolution.gov.nt.ca/wp-content/uploads/2012/04/140310-Signed-Resource-Revenue-Sharing-Agreement.pdf>.
- Hamilton, J.D (1994). *Arctic Revolution: Social Change in the Northwest Territories, 1935-1994*. Toronto, ON: Dundurn Press Limited.
- International Working Group of Sovereign Wealth Funds. (2008). *Sovereign Wealth Funds: Generally Accepted Principles and Practices "Santiago Principles"*. Retrieved from: <http://www.iwgswf.org/pubs/gapplist.htm>.
- Irlbacher-Fox, S. (2013, November 6). *It Looks Like the Decisions Have Already Been Made: What To Do With NWT Resource Revenues* [Web log message]. Retrieved from: <http://www.northernpublicaffairs.ca/index/irlbacher-fox-it-looks-like-the-decisions-have->

[already-been-made/](#).

- Irlbacher-Fox, S. (2012, May 4). *Gabcho Kué Economic Impacts and NWT Devolution* [Web log message]. Retrieved from: <http://www.northernpublicaffairs.ca/index/irlbacher-fox-gabcho-kue-economic-impacts-and-nwt-devolution/#more-851>.
- Irlbacher-Fox, S. & Mills, S.J. (2007). *Devolution and Resource Revenue Sharing in the Canadian North: Achieving Fairness Across Generations*. Walter and Duncan Gordon Foundation.
- MacKinnon, P. (2013). *A Saskatchewan Futures Fund: A Report to Premier Brad Wall on the Saskatchewan Heritage Initiative*. Retrieved from <http://www.scribd.com/doc/182399660/MacKinnon-A-Saskatchewan-Futures-Fund-pdf>.
- Murphy, R.P., & Clemens, J. (2013). *Reforming Alberta's Heritage Fund: Lessons from Alaska and Norway*. Alberta Prosperity Initiative. Fraser Institute. Retrieved from <http://www.fraserinstitute.org/uploadedFiles/fraser-ca/Content/research-news/research/publications/reforming-albertas-heritage-fund.pdf>.
- Norwegian Asset Management Department. (2013). *Petroleum Revenue Management: Basic Analysis and the Norwegian Framework on Petroleum Revenue Management* (Norway Government Pension Fund).
- Pretes, M. (1988). Underdevelopment in Two Norths: The Brazilian and the Canadian Arctic. *Arctic*. 41(2): 109-116.
- Revenue Watch Institute & Vale Columbia Center. (2013). *Natural Resource Funds: Norway*. Retrieved from [http://www.resourcegovernance.org/sites/default/files/nrf\\_Norway\\_July2013\\_RWI\\_VCC.pdf](http://www.resourcegovernance.org/sites/default/files/nrf_Norway_July2013_RWI_VCC.pdf).
- Revenue Watch Institute & Vale Columbia Center. (2013) *Natural Resource Funds: Alberta*. Retrieved from [http://www.resourcegovernance.org/sites/default/files/nrf\\_Alberta\\_September2013\\_RWI\\_VCC.pdf](http://www.resourcegovernance.org/sites/default/files/nrf_Alberta_September2013_RWI_VCC.pdf).
- Revenue Watch Institute & Vale Columbia Center (2013). *Natural Resource Funds: Wyoming*.
- Revenue Watch Institute & Vale Columbia Center (2013). *Natural Resource Funds: Chile*. Retrieved from [http://www.resourcegovernance.org/sites/default/files/NRF\\_Chile\\_August2013.pdf](http://www.resourcegovernance.org/sites/default/files/NRF_Chile_August2013.pdf).
- Revenue Watch Institute & Vale Columbia Center (2013). *Natural Resource Funds: Texas*. Retrieved from [http://www.resourcegovernance.org/sites/default/files/NRF\\_Texas\\_October2013.pdf](http://www.resourcegovernance.org/sites/default/files/NRF_Texas_October2013.pdf).
- Revenue Watch Institute & Vale Columbia Center (2013). *Natural Resource Funds: Alaska*. Retrieved from: [http://www.resourcegovernance.org/sites/default/files/NRF\\_Alaska\\_August2013.pdf](http://www.resourcegovernance.org/sites/default/files/NRF_Alaska_August2013.pdf).
- Revenue Watch Institute & Vale Columbia Center. (2014). *Fiscal Rules in Resource-Rich Countries* [Factsheet]. New York, NY: Bauer, A.
- Shennon, P. (1995, December 10). A Pacific Island Nation Is Stripped of Everything. *New York Times*. Retrieved from <http://www.nytimes.com/1995/12/10/world/a-pacific-island-nation-is-stripped-of-everything.html>.
- Schmidt-Hebbel, K. (2012). *Fiscal Institutions in Resource-Rich Economies: Lessons from Chile and Norway*. Pontificia Universidad Católica de Chile, Instituto de Economía Working Paper 416. Retrieved from: [http://www.economia.puc.cl/docs/dt\\_416.pdf](http://www.economia.puc.cl/docs/dt_416.pdf).

- Simpson, J. (2011, May 25) Save resource money for the future? Nah, says Alberta. *The Globe and Mail*. Retrieved from <http://www.theglobeandmail.com/globe-debate/save-resource-money-for-the-future-nah-says-alberta/article624885>.
- Smits, C.C.A., Bertelsen, R.G., & Justinussen, J.C.S. (2014). The Challenges and Opportunities for Arctic Microstates in Developing an Energy Sector: the Role of Human Capital and Knowledge Institutes. *Arctic Yearbook 2014*. Akureyri, Iceland: Northern Research Forum.
- Taylor, A., Francis, E., & Picketts, I. (2006). *Revenue From Non Renewable Resources: A Review of Experiences*. Toronto, Canada: The Pembina Institute. Retrieved from <http://www.alternativenorth.ca/Portals/0/Documents/Mining%20Oil%20and%20Gas/Mackenzie%20Gas%20Project/2006%2006%2030%20Revenue%20from%20Non-Renewable%20Resources%20Review.pdf>.
- The Pembina Institute. (2008). *Boom to Bust: Social and Cultural Impacts of the Mining Cycle*. Toronto, Canada: The Pembina Institute.
- Toledano, P., & Bauer, A. (2014). *Natural Resource Fund Transparency*. New York, NY: Revenue Watch Institute & Vale Columbia Center. Retrieved from: <http://ccsi.columbia.edu/files/2014/04/Natural-Resource-Fund-Transparency.pdf>.
- Proceedings of National Rural Research Network Annual Policy Conference. (2008). *Boom Bust Communities: Impact on Rural and Remote Communities*. Inuvik, NWT: The Rural Development Institute.
- Windeyer, C. (2014, March). Show Me the Money. *Up Here Business*. Retrieved from <http://upherebusiness.ca/post/79270573580>.
- Wohlberg, M. (2013, November 4). Yellowknife Pushes for More Revenues in Heritage Fund. *Northern Journal*. Retrieved from <http://norj.ca/2013/11/yellowknife-pushes-for-more-revenues-in-heritage-fund>.

# GREENLANDIC INDEPENDENCE: THE DILEMMA OF NATURAL RESOURCE EXTRACTION

Erica M. Dingman

*Though the Government of Greenland has its sights on independence through subsurface resource development, numerous impediments may stand in the way of realizing such a future based on a trajectory that depends on rapid foreign investment, favorable market conditions and robust community support. Markets are fickle to say the least, but the value that community members place on cultural, social and traditional economic factors may well unleash public debate into the very nature of the Greenlandic democracy. Indeed, the rising demand for informed and transparent public debate would suggest that unbridled development will not easily come to light without the inclusion of those who are most affected by resource extraction. Focusing on a mounting division between the educated urban elite and less educated rural community members, this article will examine Greenlandic development in the context of equalizing economic, political and social opportunities as primary conditions of democracy.*

“Oil seduces those who would control it, feeding dreams of instant wealth and economic transformation.”

Oil, Gavin Bridge & Philippe Le Billion

## **Introduction**

Greenland is arguably an emerging geostrategic location based on a presumed abundance of accessible hydrocarbon and minerals deposits. The rising interest of foreign entities, which the Government of Greenland has actively courted, prompted Greenland to regard non-renewable natural resource extraction as a pathway to financial freedom that could transform Greenland from

its semi-independent status as a region of Denmark into a fully functioning independent state. However, the rate at which development has taken place has caused internal strife. The 2013 decision by the Inatsisartut, Greenland's parliament to lift the ban on uranium extraction further exacerbated tensions arising from the paradox of development with the potential for increased large-scale development. Large-scale development could lead to independence through economic freedom. In contrast, opponents of unbridled development have cited preservation of cultural traditions, the paramount dilemma of climate change and a construction of nation building that may be anathema to traditional Inuit hunting and fishing practices, as reason to advance with caution. Indeed, the paradoxical conditions of development need consider not only economic freedom, but must also address political freedoms in the form of public debate. Simply, how do the Greenlandic people at large envision their society in the future? This debate takes on a heightened significance given that 89 percent of the population is of Inuit origin (CIA).

The value of political and economic freedom is not in dispute. But who are the beneficiaries? How will government balance the interests of pro-development Greenlanders promoting the attributes of foreign investment with the interests of the greater Greenlandic citizenry? Economic freedom on a national scale does not necessarily equate to distributed social opportunity, nor does it ensure that the democratic value of public participation is sufficiently incorporated into the decision-making process. For this reason community participation, based on the values of transparency, freedom of speech, and accessibility to accurate and lucid information must be addressed as a factor of democratic state-building.

### **Home Rule, Elites and a Desire for Independence**

On May 1<sup>st</sup>, 1979, when the Greenland Home Rule Government first met in Nuuk, the occasion was seen as a collective victory across the pan-Arctic Inuit community. The success attained by Greenlandic Inuit represented the collective aspiration of Inuit everywhere in that the goal of democratic self-determination was within reach (Hopson 1978). In attendance at that inaugural meeting of the Greenland Landsting (Assembly), Eben Hopson (1978), founder of the Inuit Circumpolar Council (then Conference), eloquently captured the spirit of the moment in his address:

As we celebrate this inauguration, we can take pride and satisfaction in beginning here an important new chapter in North American democratic constitutional development. Greenland has become a symbol of new world democratic unity with the old world, and Denmark has become an important part of our North American community.

The adoption of the Home Rule Act affirmed Hopson's (1976) view that the circumpolar land claims movement manifested in Greenland was a "restoration of democratic self-determination." In tandem, the ICC was deeply committed to the principle that subsurface resource extraction must include safeguards that protect the fragile Arctic environment. Subsurface resources could provide economic benefits, but extraction could also be detrimental to the environment and cultural values with which Greenlandic Inuit are endowed. To this end Hopson (1978) stated: "I believe nothing less than home rule can be trusted to protect our entire Inuit circumpolar homeland from environmental harm both on shore and off shore." By this time he had already concluded that the

“politics of the Arctic” was based on the “politics of oil” (as cited in Shadian 2013: 16). In his 1976 address to the Berger Commission, Hopson (1976) noted that the oil industry should support Home Rule: “Our people in Greenland are not being consulted in any meaningful way as their resources are being sold out from under them. Home-rule is the key to an equitable land claims settlement anywhere in the Arctic. It is the heart of the Land Claims Movement.”

Indeed, during negotiations of the Home Rule Act of 1979 the issue of subsurface resources was a key source of confrontation between Danish and Greenlandic representatives of the Home Rule Commission. Recognition of land rights gave rise to the issue of allocation and transfer of resource control from Denmark to Greenland. When the Act was finally written the Commission’s representatives arrived at a compromise (Petersen 1995). The Greenlandic people have “fundamental rights in respect of Greenland’s natural resources,” and Government had the right to veto subsurface resource projects deemed incompatible with Greenlandic interests (Greenland Home Rule Act 1978).

Greenlandic self-rule has materialized as a course of factors related to decolonization. Dahl (1986) argued that during the 1950s and 1960s decolonization, first implemented by the Danish government, was a product of economic and political factors that served Denmark’s interests. As an aspect of this top down approach Greenland’s colonial status was nullified in 1953, but at the same time colonial practices remained. In practice Danish policy promoted modernization through development. Investment into the production sector encouraged the growth of centralized commercial fishing and the “voluntary” movement of people from remote settlements into towns to promote urbanization (Dahl 1986: 317). At the same time a “small, well educated, nationalist elite” (Dahl 1986: 316) of Greenlanders emerged with aspirations of greater social and economic opportunities (Dahl 1986: 317). However, the continuation of oppressive Danish policy led to increasing radicalization among this group of largely Danish educated elite, buoyed by an unrealized promise that this elite class would be equal with the Danes (Dahl 1986: 316-318). Increasingly politicized by Denmark’s top down approach, these educated elites organized into political parties that were to become the backbone of the self-government movement, which in part was aligned with the global fight to end colonization. In 1975, the Greenlandic Provincial Council unanimously passed a resolution demanding that “the land and its resources belonged to the resident population.” (Dahl 1986: 320).

As the Home Rule government came to power in 1979, the political parties that had formed earlier, Siumut and Inuit Ataqatigiit, declared their alliance with the interests of the fisherman, hunters and wage earners, many of whom lived at distances remote from the capital of Nuuk. Promises were broken; but this time the duplicity was internal to Greenland. “Despite explicit promises not to issue oil concessions in Jameson Land, East Greenland, against the will of the local population,” Dahl (1986: 323) says, “the coalition government of Siumut and Inuit Ataqatigiit did so in late 1984.” A political structure dominated by a small group of elite had emerged “creating internal contradictions among people originally in support of common goals” (Dahl 1986: 323).

After a decade of gradual devolution of governance and administrative duties such as education, health and the economy, the 2009 Act on Greenland Self-Government devolved additional

responsibilities including ownership of subsurface resources. The Act (2009), which sets out a complex financial arrangement, links economic independence with hydrocarbon and mineral development. As a highly simplistic explanation, Greenland receives a subsidy of DKK 3,439.6 million (adjusted annually based on price and wage indices) and revenues accrued from subsurface resource extraction go toward reducing the subsidy. Once the subsidy is reduced to zero, the Greenlandic government may enter into negotiations with Denmark regarding future financial relations and the introduction of independence from Denmark. However, whereas Denmark has devolved duties to Naalakkersuisut, Greenland has centralized those duties within Nuuk often sidestepping legislative debate and appropriate public consultation. Nuttall points out, for example, that since “Greenland took over control of sub-surface resources on 1<sup>st</sup> January 2010,” the Bureau of Minerals and Petroleum (BMP) in conjunction with the Employers’ Association of Greenland (GA) have actively sought the interest of foreign companies (Nuttall 2012: 25). Notwithstanding this association, Nuttall notes that a GA report points out that “significant information has been excluded from public view” (Nuttall 2012: 33).

Beyond political conditions, global economic factors dictate that development through subsurface resource extraction is subject to market conditions. Fluctuating **commodity prices** and discovery of cost effective, **easily recoverable oil and gas, such as tar sands and fracking** elsewhere in the world may render Greenland less desirable as a resource frontier. In June 2014, Denmark’s National Bank Nationalbanken, reported that Greenland’s “economic activity is declining, and there are indications that the decline may even be quite rapid.” Currently, companies have put all oil exploration on hold and the only active mine closed in 2013. The low levels of education make it difficult for Greenland to develop a competitive edge. Greenland’s primary industry, fishing, is potentially unstable. Although the fish catch helped Greenland generate enough income to balance the 2012 and 2013 budget, exports declined over the last 12 months most likely because warmer waters are driving prawn stocks to colder waters further north (Denmark’s Nationalbank 2014).

### **The Seduction of Subsurface Resource Extraction**

Greenland is the world’s 12<sup>th</sup> largest country with a small population of just over 56,000 people, a population that has steadily declined since 2005. The average monthly unemployment rate is 9.4% and 70% of the population between the ages of 15 and 64 has only a primary school education (The Committee for Greenlandic Mineral Resources 2014: 47). Education is closely associated with economic opportunity, as well as the capacity of a public to participate in the democratic process. At the crossroads of economic development and democracy, public participation plays a critical role in establishing the direction desired by the Greenlandic people at large. Ideally, those most affected by development actively participate in the decision-making process, much in the same way that Hopson insisted in 1976 that Greenlanders be consulted in a meaningful way on oil exploration on the lands that were then still under the full jurisdiction of their colonial power Denmark (Hopson 1976).

The pursuit of Greenland’s subsurface resources is not new. Mineral exploration began in the 1840s and the first off shore oil drilling started in the 1970s (Hansen 2013: 6). At present, however, the Greenlandic economy is based largely on fishing and tourism, with the percentage of export earnings

at 56% and 37% respectively. In 2010 only 1% of export earnings were derived from the mining sector, although issuance of mineral licenses has increased from less than 20 in 2002 to slightly shy of 100 in 2012 (Nielsen 2012). In addition to minerals, the U.S. Geological Survey (2011) estimates that hydrocarbon deposits in West Greenland could reach 31.4 billion barrels of undiscovered oil, gas and natural gas liquids. If accessed, this would rank Greenland as the world's 19<sup>th</sup> largest oil and gas producer. Although multinational interest is most often attributed to climate change, Mark Nuttall (2012: 25) points out that mounting interest over the last five to ten years is "largely a result of an active international marketing campaign by the Ministry for Industry and Mineral Resources," alongside the Employee's Association of Greenland which provides a link between Greenlandic and foreign businesses.

To a large degree the Greenlandic government is banking on economic independence through large-scale development. A 2013 amendment to the 'Large-Scale Project Act' stipulates that the expected value of the project must exceed DDK 5 billion. A primary goal of the Act is to regulate the employment of foreign workers during the construction stage. However, the global corporate law firm, Evershed (2013), notes that the amendment affords "foreign companies great opportunities to use their own collective bargaining agreements as the Act does not regulate, for example, overtime payments, holidays, etc." At present, the prospect for large-scale projects is limited, although the much-publicized large-scale London Mining iron mine Isua project was recently approved and Australian Greenland Minerals and Energy (GME) Kvanefjeld uranium and rare earths project awaits approval in the near future. Isua, projected at a cost of approximately DKK 14 billion, is seeking investment from numerous global investors including the Chinese mining group Sichuan Xinye (McAlister 2014). It should be noted, however, that of the two firms contracted by London Mining to fulfill infrastructure requirements, one of these firms, Chinese Communications Construction Corporation (CCC), has been blacklisted by the World Bank on corruption charges for inflating the price of road-building projects elsewhere. Leonard McCarthy, VP of the World Bank's corruption division said, "This is one of the most significant and far-reaching cases we know" (Nyvold 2013: 28). In the case of the proposed Kvanefjeld project, GME has partnered with China Nonferrous Metal Industry's Foreign Engineering and Construction Co. Ltd. (Greenland Minerals 2014) with a projected capital cost of \$810 million US (Greenland Minerals 2013).

Even if large-scale development occurs to any great degree, 24 concurrent projects would be required to reduce block grant payments to zero, according to Hansen. Development projects of this magnitude would require extensive immigration to fulfill labor requirements; with a workforce of approximately 10,000 workers, possibly accompanied by family members, Greenlandic demographics would be drastically skewed (Hansen 2013: 19). Extensive mining would "radically change the entire structure of Greenlandic society"; local populations that lack the required education would typically stay in low-paid jobs while foreign workers would hold higher-paid jobs and core values such as berry-picking, fishing and hunting would be impaired (Hansen 2013: 23).

The 2014 report "To the Benefit of Greenland" conducted by the Committee for Greenlandic Mineral Resources illustrates the benefits and challenges of mineral extraction in the context of five possible scenarios. The report concludes that contrary to the hopes of the Greenlandic government,

rapid subsurface resource development “will not necessarily benefit Greenland’s economy in the long run” (To the benefit of Greenland 2014: 9). At the same time it will create change but not preserve society as it is today. Indeed, “an independent self-sustaining Greenlandic economy based on mineral resources contains an intrinsic dilemma,” states the report (To the benefit of Greenland 2014: 23). “Extracting sufficient mineral resources to Greenland’s independence within 20 to 30 years would require such extensive foreign investment and massive inflow of foreign labour that there is a real risk that the current Greenlandic population would become a minority in Greenland” (To the benefit of Greenland 2014: 23). The intention of the report is to drive a much-needed “serious” debate amongst Greenlanders as to the kind of society that the population desires in the future. Shadian (2014), for instance, argues that Greenland is at a crossroads negotiating through the muddy waters of decolonization. Shadian remarks:

The Self-Rule Greenlandic government has often remarked that it *de facto* takes into account the indigenous rights of its Inuit by virtue of being a democratically elected government. At the same time, there are others in Greenland who believe the government is not thoroughly consulting with its Inuit. ICC [President] Aqquluk Lynge has made this argument a number of times since the passage of Self-Rule. (Shadian 2014: 204).

Indeed, as many others have found, *To the benefit of Greenland* report suggests that the decision-making process is beleaguered by perceptions that processes related to resource development lack transparency, which would benefit by improved governance through an independent environmental impact authority. Since the physical environment impacts the human environment, civil society needs to engage in informed dialogue with industry and decision-makers at the earliest stages of a proposed development project (Hansen 2013).

A 2012 study conducted by the United Nations Economic and Social Council (2012) on the asymmetrical relationship between extractive corporations and indigenous peoples concurs, exemplified by the numerous cases of developing economies ravaged by the existence of subsurface resource extraction. “These projects inevitably affect indigenous peoples by reducing their traditional management systems” the report notes, “thereby undermining their economic, cultural and spiritual life and threatening their very existence.” The well-being of indigenous peoples depends on the policies and practices of States and international institutions. Although the concept of consultation is now the norm, “ambiguity remains” (United Nations 2012: 5).

### **Participatory Democracy**

In 2008, only months in advance of the enactment of the Greenland Self-Government Act, Mark Nuttall wrote “concern has been expressed in Greenland about the lack of public consultation and hearing processes, land-use conflicts, and the absence of legislation dealing with industrial development projects” (Nuttall 2008). Subsequently, Nuttall’s 2012 exposé of the Isua iron mine suggests that the process of informed public consent is on a serious decline since 2008. Although the London Mining large-scale Isua project has gained the support of the Government of Greenland, public support is highly contested.

If realized, the Isua project will be developed as an open pit mine covering an area of 2 km<sup>2</sup>. To extract the ore the surrounding inland ice will be removed at an estimated 13.5 tonnes a year. During the approval process several informational meetings were followed by public hearings held at the University of Greenland in Nuuk, which is located 150km from the site of the local community in Isukasia. Local concerns have mounted as to the considerable environmental impact over the course of the project (Nuttall 2012: 27). As Nuttall (2012) expressed after observing the hearing process, “they were not really hearings at all – they were information sessions – and they highlighted the reality that Greenland has yet to develop and implement regulatory procedures and public hearings overseen by an independent review panel that guides decision-making processes.”

Yet the remarks relayed to Nuttall by Greenlanders who attended the meetings went further to fervently denounce the intentions of the hearing process. A hunter said that the hearing was a “one-way process and the organizers wanted to be in control. They wanted to avoid debate” (as cited in Nuttall 2012: 29). Another audience member asked, “Have we been bought and can’t change any decisions that have been made?” (as cited in Nuttall 2012: 30). Others cited issues regarding hunting areas that are in jeopardy, infringement on indigenous rights, a lack of experts that can oppose the information and unintelligible materials provided by London Mining. Nuttall points out that questions were “merely recorded” and that “no comments were returned and no answers were given” (Nuttall 2012: 30).

The principle of public consultation is fundamental to democracy. Not only is it critical to the rational assessment of public policy objectives and priorities, it also provides a means of addressing public priorities at large (Sen 1999: 274). Affirmed by the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) the principle of ‘free, prior and informed consent’ is indispensable to issues affecting economic and social well-being. Enshrined in the documents of numerous intergovernmental organizations, international bodies, conventions and international human rights law these principles are regarded as international legal norms.

In Greenland, however, structural inadequacies suggest that public consent is minimized. The Mineral Resources Act of 2009 (amended in 2013), which legislates development of subsurface resources, seeks “to ensure that activities under the Act are securely performed as regards to safety, health, the environment, resource exploitation and social sustainability” (as cited in Hansen 2013). An amendment to the Act in January 2013 split the activities of subsurface resource development into two departments – the Environmental Agency falls within the Ministry of Environment and Nature, while the Bureau of Minerals and Petroleum (BMP) administers licensing and monitoring activities remain as an arm of the Ministry of Industry & Mineral Resources. The Environmental Agency is responsible for Environmental Impact Assessments (EIA) and BMP is responsible for Social Impact Assessments (SIA). However, as with the SIA process, the EIA process remains remarkably with BMP (Naalakkersuisut n/d). Both the SIA and EIA guidelines specify public consultation with relevant stakeholders as a prerequisite of the licensing process and feedback incorporated into the final report before licensing is approved.

Hansen suggests the process of public participation lacks specificity, but that the government needs more time to develop guidelines “tailored to fit the Greenlandic context” (Hansen 2013: 17). At the

same time, extractive industries will impact both the natural environment and the human environment. Depending on the activities planned – type, size, timing and content of project – “impacts can be reversible or irreversible, they can be short or long term and even permanent” (Hansen 2013: 8). There is an aura of distrust in that lack of government transparency in the decision-making process, particularly with regard to BMP linked with the powerful influence of private companies will marginalize local interests. She suggests that there seems to be a fear that “the private sector will set the agenda, not protect local values, and not secure positive development” (Hansen 2013: 11).

Indeed, the process of public participation is fraught with challenges. Whether deemed inconvenient, unintentional, or a process in need of further development, the desire for economic independence may be infringing upon the democratic values of Greenlanders. A cornerstone of democratic freedom is the right to participate in public affairs. The values of participatory democracy requires open communications, argument and the right to demand that ones views are given due consideration, whether supportive or unfavorable.

Understood as a host of freedoms, Amartya Sen, the Nobel prize winning economist notes, “Political and civil rights, especially those related to the guaranteeing of open discussion, debate, criticism, and dissent, are central to the processes of generating informed and reflected choices” (Sen 1999: 153). Democratic values expressed as political freedoms, socio-economic participation and transparency guarantees, will each gain strength from the existence of the others when realized (Sen 1999: 38). However, the enticement of prosperity may give rise to the demise of civil rights freedoms (Sen 1999: 149). In this regard Hansen (2013) suggests that community members may initially tolerate the negative impacts of an extractive industrial project, attracted by the prospect of employment, however, over time the consequences of development may cause societal divisions.

### **NGOs – Calling Authorities to Task**

As pointed out by Erdal (2013) Greenland’s “large-scale resource extraction is fundamental to state-building,” which to a large extent has played out through the forging of diplomatic ties with China, and to a lesser degree significant exchanges with South Korea. Indeed, Nutall (2012: 25) argues that the path toward independence is an expression of nation-building and state-formation” built on the presumption of lucrative subsurface resource extraction. If realized Greenland would be the first independent Inuit state. This presents a double truth. On the one hand, Greenland would simply become a developing nation, but it would also be an indigenous nation bestowed with the legal rights afforded by UNDRIP. Where public participation is fundamental to democratic state-building, it is also closely associated with the international legal norm of ‘free, prior, and informed consent’ enshrined in UNDRIP. With these conditions, the path toward independence should take place with consideration for Sen’s argument that public engagement is a primary condition of democracy that should exist alongside economic development, and with the precondition of ‘free, prior and informed consent.’

This is not to suggest that Greenland is absent of public discussion, but as I am asserting here there is reason to challenge the extent to which government is fulfilling its social obligation of free and

informed speech. At issue is the larger discussion of values expressed through the spiritual beliefs and traditions of the Greenlandic people, and to promote those values in accordance with the type and rate at which development takes place (Nuttall 2013).

In this context numerous organizations such as ICC Greenland, World Wildlife Fund Denmark (WWF) and Transparency International Greenland have raised concerns that the Government of Greenland has not appropriately dealt with the matter of public consultation. It would appear that the process of consultation might be less than complete, or at worst willfully deceptive.

### *Transparency International Greenland*

Transparency International Greenland (TIG) was founded on August 31, 2011 in response to the direction taken by the Government of Greenland toward an extraction-driven economy. The organization promotes open and transparent transactions in government, business and throughout the greater society, and seeks to prevent corruption through transparency. TIG defines corruption broadly to include, bribery, fraud, embezzlement, nepotism and other forms of favors between parties. Government desire for rapid economic growth through the exploration and extraction of subsurface resources has given rise to the potential exposure for corruption. During this preliminary stage of development it is particularly relevant that Greenland develop mechanisms to prevent opportunities for corruption (Transparency International Greenland). Given international evidence, resource extraction rarely benefits society at large. Rather it is most often a source of intergroup corruption and conflict. “To prevent this occurring in Greenland,” TIG notes, “now is the time to ensure that public decisions taken in this area are transparent to the companies that will participate in these industries, but also to the people whose lives and livelihoods will be affected by them” (Transparency International Greenland).

During the application process, TIG contracted with Nordic Consulting Group (NCG) to conduct the first ever study of Greenlandic corruption and integrity standards. The goal of the study was to examine public participation relative to the extent to which governmental systems have the capacity to resist corruption, based on internationally accepted standards, which include accountability, transparency and integrity and the level of independence among the branches of government (Nordic 2012: 3). Based on interviews conducted in 2011, TIG found no indication of bribery, fraud or embezzlement, however, the study affirms that system inadequacies have given rise to behavioral practices such as favoritism. Public officials now motivated by personal considerations could be vulnerable to corruption motivated by personal gain in the future particularly in the extraction sector where large sums of money are at stake (Nordic 2012: 52).

As an overarching observation, the study found that “citizens have little opportunity to hold the authorities accountable” (Nordic 2012: 2). Accountability and transparency is hindered by uneven access to information, government secrecy prevails particularly with regard to BMP, the decision-making process is too hurried, and there is a widespread fear of criticizing authority. In addition, a high level of staff turnover, a limited pool of adequately educated job candidates and legislation that is both incoherent and confusing negatively impacts the administrative duties of public offices. In some cases, established rules are not necessarily followed.

Understood in the context of Greenland's small population, in a country of only 56,000 'everyone knows what everyone else is up to.' On the one hand this attribute suggests inherent societal transparency, however, cultural norms deter criticism. Greenlandic culture is imbued with a deep respect for authority thereby citizens lack the tradition of holding public officials accountable for their actions, although there is now a growing desire for openness and transparency. Fear of retribution, however, limits the extent of public engagement. For example, in the private sector many business owners are either recipients of government funding or rely on government as their primary customer and thus fear that criticism of authorities will jeopardize their economic interests. As another example, media is cited as less than objective. Until recently, all three media outlets – AG, Sermitsiaq and KNR – “were to a great extent subject to unilateral political control.” Although government exerts less direct control, KNR (Greenland radio) is still reliant on public funding. It is too soon to judge how media will respond to its new found independence, however, the study notes that media is often seen as less than objective. Journalists are cited for neglecting to conduct proper follow up and for a reluctance to be critical of public officials and institutions. Those who were critical of public officials reported that future requests for interviews were denied. An independent media foundation is recommended to deal with these issues (Nordic 2012: 11-16).

Dissemination of and access to information in Greenland has far-reaching implications. For journalists and the ombudsman alike the process of attaining public documents is often delayed, sometimes denied or the request simply ignored. Although the legislation on transparency is fairly robust, in practice it is not always forthcoming. In some cases information is gained through the 'back door.' (Nordic 2012: 31-32).

BMP has come under considerable scrutiny for its “general culture of secrecy.” A glaring example of secrecy occurred in 2011 when the Ministry refused to publish the oil spill contingency plan for a Cairn Energy project. The Ministry was later compelled to publish the plan as a result of public pressure. While framework agreements with oil and mineral companies are publically available, individual agreements are not disclosed even to Members of Parliament (Nordic 2012: 33-34). Moreover, BMP has responsibility for virtually all aspects of Greenland's mining and oil sector. Significantly, the Bureau is tasked not only with the issuance of commercial licenses and collection of royalties; it is also responsible for management decisions related to environmental and social impact assessments. During the tenure of Prime Minister Kleist, in 2010, overlapping interests prompted the majority party Inuit Ataqatigiit to call for the “separation of environmental and economic management resources” (Huntington et al. 2012). Separation of government functions occurred in 2013 as mentioned above, however, ambiguity remains.

### *ICC Greenland*

Cultural tendencies that preclude parliamentary and public scrutiny combined with a tendency for secrecy have resulted in lackluster debate, specifically in the case of hydrocarbon and mineral development. However, ICC Greenland has played a critical role in establishing a much needed debate on the impact of extractive projects to the environmental and social well-being of both local populations and the nation as a whole.

In a Statement addressed to BMP dated 21 April 2010, ICC Greenland formally lodged a complaint with the Government of Greenland stating that based on ICCs experience with the Cairn Energy Drisko West Drilling Programme, the hearing process “points to contradictory, confusing, persuasive, hurried, and possibly deceitful” practices (ICC Greenland 2010).

As accounted by ICC Greenland (2010), representatives were invited on short notice to three meetings within the span of 15 days. The first two were promoted as informational only, but during the first meeting on February 1, 2010, BMP representatives left the meeting later explaining “government representatives should not be present during the meetings with others.” ICC Greenland was then questioned by representatives from Cairn Energy, the global consultancy firm Environmental Resources Management (ERM) and other industry agents, none of which had been revealed to ICC Greenland prior to the meeting, giving the impression that the meeting was something other than “informational.” The second BMP invitation was relayed by email and a phone call asking to meet again the next day on February 2. At both meetings ICC Greenland stressed that they did not consider the meetings to be a formal consultation, and that their remarks should not be included in ERMs Social Impact Assessment report (SIA). When ICC was then invited to a third meeting promoted as a “consultation” on February 15, they declined citing the short timeframe and lack of sufficient resources to properly prepare. Against ICCs insistence, ERM not only quoted, but also misquoted ICC several times throughout the SIA report. ICC Greenland noted that it was unfortunate that “time constraints and lack of financial resources” prevented them from conducting a thorough review, thus unable to make a “valuable contribution to the substance of the project.” The ICC Statement expressed broader concerns such as weakness in the broad public hearing; lengthy technical reports (greater than 50MB) that were either too big to download or too costly given the capacity of Greenland’s Internet; or non-technical summaries that leave out critical information and deemed “sloppy.” In total, based on ICC Greenland’s experience, they consider the process as a fundamental violation of human rights, not only for Inuit but also for all indigenous peoples throughout the world.

Following Cairn’s discovery of oil from one of its drill holes off the shores of Western Greenland, Aqqaluk Lynge remarked, “We really need a democratic infrastructure in Greenland,” and proclaimed, “these are not in place” (George 2010). Subsequently, ICC Greenland partnered with Oceans North Canada to commission an independent review of Cairn Energy’s offshore drilling program in Western Greenland. The technical analysis conducted by Harvey Consulting (2013), argued that the Government of Greenland, specifically BMP, obscured information from public view, citing “chronic delays,” missing or redacted documentation and an overall attempt by BMP to avoid public scrutiny of the “response and contingency plans that in theory are designed to protect the public and the environment” (Inuit Circumpolar Council 2013).

ICC Greenland, however, did not rely on its partnership with Oceans North Canada alone to make the point that the Government of Greenland was woefully remiss in its attention to the public consultation process. In 2012 ICC Greenland partnered with the World Wildlife Fund (WWF) again to drive the point that Greenlandic authorities, which are viewed as pro-business, have largely based the decision-making process on economic gain. Gitte Seeberg, the Secretary General of WWF

Denmark, said, “The government has leaned too much in the direction of the companies. There have been few actual debates where people can express their feelings and too much has been rushed through without people’s questions being answered” (Weaver 2013). The ICC/WWF report released in July 2013 made numerous complainants that public hearings were one-sided or biased, information was inaccessible, and that “Members of the public get the impression that the authorities don’t want to take part in genuine dialogue,” and that public input has no affect on the outcome (Langhoff 2013).

Then in October 2013, ICC Greenland, WWF and Transparency International Greenland formed a coalition of NGOs based on the belief that there is strength in numbers. The coalition strives to ensure that the public has an unprejudiced opportunity to engage in the decision-making process. Aaja Chemnitz Larsen, from Transparency International Greenland said: “Eventually, we would like to host open meetings, training courses and other initiatives to enhance informed public participation in decisions about the development of new industry in Greenland.” The coalition prepared a list of recommendations that will be supplied to the Government in consideration of improving the consultation process. Jens-Erik Kirkegaard, Greenland’s industry and labour minister responded that he looks forward to “continuing to work with the NGOs to develop specific plans for greater citizen involvement” (Arctic Journal 2013a).

ICC Greenland has come to the defense of local stakeholders, repeatedly advancing the principle of “free, prior, and informed consent” in accordance with UNDRIP. At the 2013 Arctic Peoples’ Conference Aqqaluk Lynge stressed that it “is important in the new Arctic, that Inuit control the source [of] development in their territories and start on a footing of honesty, integrity, and transparency.” Though Kirkegaard’s response to the recent NGO coalition appeared solicitous of improvements to institutional practices, a recent event suggests that there may be a great deal of acrimony between ICC Greenland and Government. Greenland’s proposed budget for 2014 includes cuts to annual funding for ICC Greenland from 5.4 million Danish kroner (\$1 million) to 1.4 million Danish kroner over a period of four years. Kristian Jeremiassen, an MP for Siumut, the party led by premier Aleqa Hammond, wants to eradicate ICC’s subsidy (Arctic Journal 2013b). Lynge said “Right now, the most responsible thing we can do is prepare to shut down” (McGwin 2014).

## **Conclusion**

Without a doubt Greenland has achieved a notable transformation since the day Hopson avowed the significance of Home Rule as a “restoration of democratic self-determination.” Indeed, as economic and political policies once controlled by the colonial power of Denmark gave way to the gradual devolution of governance and legislative duties, Greenland emerged as a semi-autonomous country recognized for its geostrategic significance, based on a wealth of hydrocarbon and mineral deposits. In hindsight, however, Danish colonial policies that contributed Greenlandic modernization and to the creation of a small group of well educated Greenlanders may well have contributed to the apparent present day division between decisions-makers in Nuuk and a population of less educated rural fisherman, hunters and wage earner. As I have attempted to show

here, the evidence suggests that decisions made in Nuuk do not necessarily align with the aims and objectives of the public at large.

This concerns not only Greenlandic development strategy that seeks to attract foreign investment as a means of generating economic stability; it also underscores the fundamental value of participatory democracy. At the crossroads of economic development and democracy, public participation plays a critical role in establishing the direction desired by the Greenlandic people at large. As Sen (1999: 158) suggests, “a more informed and less marginalized public discussion of environmental issues may not only be good for the environment; it could also be important to the health and functioning of the democratic system itself.”

Without open and informed public debate the future of Greenland will remain in the hands of an educated elite whose views on economic development may not in the long run benefit the society as a whole. On the other hand, community-based decision making combined with a nationwide debate on the overarching risks and benefits of subsurface resource extraction could lead to comprehensive strategy that takes a holistic approach to the political, economic and social freedoms that comprise a democracy. Greenland is without doubt a well functioning democracy, but as we have seen democracy is often messy even in the oldest of democratic nations. The future is yet to be seen, but one can readily assume that Greenland’s future will be the source of increasingly robust debate.

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## References

*Act on Greenland Self-Rule 2009*. (GL).

*Arctic Journal*. (2013a, October 10). Vox populi. Retrieved on May 23, 2014 from

<http://arcticjournal.com/politics/168/vox-populi>.

*Arctic Journal*. (2013b, November 5). ICC Greenland shocked at proposed funding cuts.

Retrieved on May 23, 2014 from <http://arcticjournal.com/politics/230/icc-greenland-shocked-proposed-funding-cuts>.

Bridge, G., Le Billon, P. (2013). *Oil*. Cambridge: Polity Press.

CIA. The World Fact Book: Greenland. Retrieved September 15, 2014, from

<https://www.cia.gov/library/publications/the-world-factbook/geos/gl.html>.

Dahl, J. (1986). Greenland: Political structure of self-government. *Arctic Anthropology*, 23(1/2), 315-324.

- Denmark's Nationalbank. (2014). Retrieved from Google translate website  
[http://www.nationalbanken.dk/da/publikationer/Documents/2014/06/DN\\_Kvartalsoversigt\\_2\\_kvartal\\_2014.pdf](http://www.nationalbanken.dk/da/publikationer/Documents/2014/06/DN_Kvartalsoversigt_2_kvartal_2014.pdf).
- Erdal, L. L. (2013). *Independence on the horizon: A study of the interplay between sovereignty and natural resources in Greenland*. (FNI Report 6/2013). Switzerland: Fridtjof Nansen Institute. Retrieved from [http://library.arcticportal.org/1754/1/FNI\\_R0613.pdf](http://library.arcticportal.org/1754/1/FNI_R0613.pdf).
- Evershed. (2013). Relaxation of labour rules for large-scale projects in Greenland – an update. Retrieved from [http://www.eversheds.com/global/en/what/articles/index.page?ArticleID=en/Energy/Relaxation\\_of\\_labour\\_rules\\_for\\_large-scale\\_projects\\_in\\_Greenland\\_an\\_update](http://www.eversheds.com/global/en/what/articles/index.page?ArticleID=en/Energy/Relaxation_of_labour_rules_for_large-scale_projects_in_Greenland_an_update).
- George, J. (2010, September 22). Inuit plan Arctic-wide oil, gas, mineral summit. *Nunutsiaq Online*: Retrieved on May 17, 2014 from [http://www.nunutsiaqonline.ca/stories/article/2206071\\_inuit\\_plan\\_arctic-wide\\_oil\\_gas\\_mineral\\_summit/](http://www.nunutsiaqonline.ca/stories/article/2206071_inuit_plan_arctic-wide_oil_gas_mineral_summit/).
- Greenland Home Rule Act 1978*. (GL).
- Greenland Minerals and Energy Ltd.* (2013). Arctic clusters of raw materials. Retrieved on June 17, 2014 from [http://acrm.dk/uf/80000\\_89999/89097/6459ea060c9388826fe66b4cb2cc03ed.pdf](http://acrm.dk/uf/80000_89999/89097/6459ea060c9388826fe66b4cb2cc03ed.pdf).
- Greenland Minerals and Energy A/S.* (2014, April 9) GME enters partnership with Chinese NFC. Retrieved on June 17, 2014 from <http://gme.gl/en/gme-enters-partnership-chinese-nfc>.
- Hansen, A.M. (2013). *Community impacts: Public participation, culture and democracy*. (Background Paper for the Committee for Greenlandic Mineral Resources to the Benefit of Society). Retrieved from the University of Copenhagen website [http://nyheder.ku.dk/groenlands-naturressourcer/rapportogbaggrundspapir/Community\\_Impacts\\_Public\\_Participation\\_Culture\\_and\\_Democracy.pdf/](http://nyheder.ku.dk/groenlands-naturressourcer/rapportogbaggrundspapir/Community_Impacts_Public_Participation_Culture_and_Democracy.pdf/).
- Harvey Consulting, LLC. (2013). *Project Review: Cairn Energy's 2011 Offshore Drilling in West Greenland* (Report). Retrieved from [http://inuit.org/fileadmin/user\\_upload/File/2013/Presse/2-18-13\\_HCLLC\\_Cairn\\_Energy\\_Offshore\\_Greenland\\_Report\\_FINAL.pdf](http://inuit.org/fileadmin/user_upload/File/2013/Presse/2-18-13_HCLLC_Cairn_Energy_Offshore_Greenland_Report_FINAL.pdf).
- Hopson, E. (1976). *Mayor Eben Hopson's testimony before the Berger inquiry on the experience of the Arctic Slope Inupiat with oil and gas development in the Arctic*. Retrieved May 14, 2014 from <http://www.ebenhopson.com/papers/1976/BergerSpeech.html>.
- Hopson, E. (1979). *Hopson's address to the inaugural meeting of the Greenland Landsting*. Retrieved May 14, 2014 from <http://www.ebenhopson.com/papers/1979/LandstringSpeech.html>.
- Huntington, H. P., Lynge, A., Stotts, J., Hartsig, A., Porta, L. and Debicki, C. (2012). Less ice, more talk: The benefits and burdens for Arctic communities of consultations concerning development activities. *Carbon & Climate Law Review*. 1: 33-46.
- Inuit Circumpolar Council Greenland. (2010). *Inuit Circumpolar Council (ICC) Greenland*

- statement to the Bureau of Minerals and Petroleum regarding the Capricorn Exploration 1, exploration drilling programme, Sigguk Block, Drisko West, Greenland. Retrieved from [http://inuit.org/fileadmin/user\\_upload/File/2010/Hoerings svar/ICC\\_Greenland\\_Hoerings svar efterforskningsboring\\_1\\_2\\_21-apr-2010.pdf](http://inuit.org/fileadmin/user_upload/File/2010/Hoerings svar/ICC_Greenland_Hoerings svar efterforskningsboring_1_2_21-apr-2010.pdf).
- Inuit Circumpolar Council Greenland. (2013). *Inuit Circumpolar Council – Greenland cover letter to report: “Project review: Cairn Energy’s 2011 offshore drilling in West Greenland*. Retrieved from [http://inuit.org/fileadmin/user\\_upload/File/2013/Presse/ICC\\_cover\\_letter\\_to\\_Harvey\\_report\\_mar-2013\\_ENG.pdf](http://inuit.org/fileadmin/user_upload/File/2013/Presse/ICC_cover_letter_to_Harvey_report_mar-2013_ENG.pdf).
- Langhoff, V. R. (2013). Med folkets mandat? (Report English abstract). Retrieved from [http://awsassets.wfdfk.panda.org/downloads/med\\_folkets\\_mandat\\_dansk.pdf](http://awsassets.wfdfk.panda.org/downloads/med_folkets_mandat_dansk.pdf).
- Mcalister, T. (2014, January 5). Greenland explores Arctic mineral riches amid fear for pristine region. *The Guardian*: Retrieved on May 19, 2014 from <http://www.theguardian.com/world/2014/jan/05/greenland-mines-arctic-fears-pristine-environment>.
- MsGuine, K. (2014, April 7). ICC Greenland faces shutdown after funding slashed. *Arctic Journal*: Retrieved on May 23, 2014 from <http://arcticjournal.com/politics/543/icc-greenland-faces-shutdown-after-funding-slashed>.
- Nielsen, J.S. (2012). *Ministry of Industry and Mineral Resources Greenland*. Retrieved from [http://www.govmin.gl/images/stories/minerals/events/seoul2012/1\\_korea\\_dec.pdf](http://www.govmin.gl/images/stories/minerals/events/seoul2012/1_korea_dec.pdf).
- Nordic Consulting Group A.S. (2012). Integrity study of the public sector in Greenland.
- Nuttall, M. (2008). Self-Rule in Greenland: Towards the world’s first independent Inuit state. *Indigenous Affairs*. 3: 64-70.
- Nuttall, M. (2012). The Isukasia iron ore mine controversy: Extractive industries and public consultation in Greenland. *Nordia Geographical Publications*. 41(5): 23-34.
- Nuttall, M. (2013). Zero-tolerance, uranium and Greenland’s mining future. *The Polar Journal*. 3(2): 368-383. doi: 10.1080/2154896X.2013.868089
- Naalakkersuisut, Government of Greenland. (n/d). Environmental agency for mineral resources activities. Retrieved on May 21, 2014 from <http://naalakkersuisut.gl/en/Naalakkersuisut/Departments/Natur-og-Miljoe/Miljoestyrelsen-for-Raastofomraadet>.
- Nyvold, M. (2013). Chinese companies waiting in the wings. *Greenland Oil & Minerals* (8). Retrieved on June 19, 2014 from <http://old.sermitsiaq.ag/oil-and-minerals>.
- Petersen, R. (1995). Colonialism as seen from a former colonized area. *Arctic Anthropology*. 32(2): 118-126. Retrieved from <http://arcticcircle.uconn.edu/HistoryCulture/petersen.html>.
- Sen, A. (1999). *Development as freedom*. New York: Anchor Books.

- Shadian, J. (2013). *Rethinking Westphalian sovereignty: The Inuit Circumpolar Council and the Future of Arctic Governance* (Working papers on Arctic security, 8). Munk School of Global Affairs.
- Shadian, J.M. (2014). *The Politics of Arctic Sovereignty: Oil, Ice and Inuit Governance*. London: New York : Routledge/Taylor & Francis Group.
- Transparency International Greenland. *Home*. Retrieved on May 18, 2014 from <http://www.transparency.gl/en/>.
- The Committee for Greenlandic Mineral Resources to the Benefit of Society. (2014). *To the benefit of Greenland* (Research Report). Retrieved from the University of Copenhagen website [http://news.ku.dk/greenland-natural-resources/rapportandbackgroundpapers/To\\_the\\_benefit\\_of\\_Greenland.pdf](http://news.ku.dk/greenland-natural-resources/rapportandbackgroundpapers/To_the_benefit_of_Greenland.pdf).
- United Nations Economic and Social Council. (2012). An analysis on the duty of the state to protect indigenous peoples affected by transnational corporations and other business enterprises. Retrieved from <http://www.un.org/esa/socdev/unpfi/documents/2012/session-11-e-c19-2012-3.pdf>.
- United States Geological Survey. (2011). 2011 Minerals yearbook: Denmark, the Faroe Islands, and Greenland [Advance release]. Retrieved from <http://minerals.usgs.gov/minerals/pubs/country/2011/myb3-2011-da.pdf>.
- Weaver, R. (2013, September 27). Greenland failing to inform public about large projects. *Arctic Journal*. Retrieved on May 21, 2014 from <http://arcticjournal.com/politics/138/greenland-failing-inform-public-about-large-projects>.

# TOURISM, HUMAN CAPITAL & REGIONAL DEVELOPMENT IN THREE COMMUNITIES IN GREENLAND: UKKUSISSAT, NARSAQ AND QAANAAQ

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*Communities in the High North, peripheral and of a small scale, struggling for economic self-sufficiency and with a decreasing population, are trying to find new development options and ways to bring in revenues. Tourism has proven to be one of the options, but not all places respond in an equal way.*

*When talking about the development of tourism at a regional scale, local communities are rarely, involved in the tourism planning process. Indeed, tourism is a way to develop something that has an important component, “the human capital”, where the relationship between tourism development and community dynamics directly involves the local residents.*

*For local communities, a significant socioeconomic factor is the proportion of tourism income that can be captured by the local economy. Such income is generated through employment in tourism-related services, such as food and lodging, gasoline, local tour guiding, and selling of souvenirs. Small tourism businesses can often be a good option for young men and women.*

*In this paper, after an overview about the development of tourism in Greenland, I present the achievements and drawbacks of three peripheral Greenlandic communities: Ukkusissat, Narsaq, and Qaanaaq, which are trying to develop tourism as a possible source of additional income. Specifically, I discuss the role of the local person in charge of tourism, the lack of information and access to resources for the local population.*

*The three cases presented here are derived from field work and research projects done in Greenland at different points of time.*

## Tourism in Greenland: A Brief Overview

### *Development and Planning of Tourism in Greenland*

In Greenland, organised tourism started in the late 1950s. Greenland's status as a colony changed in 1953, when Greenland became a Danish province and the authorities decided to open up certain

areas to tourism. The first charter flights started from Iceland at the end of the 1950s, bringing tourists to Narsarsuaq in the South or for a day trip to Kulusuk in the east of Greenland. In the mid-1960s also SAS, a Danish carrier, started to bring tourists to Narsarsuaq and the number of tourists grew steadily.<sup>1</sup>

During the 1970s the Pegatigiit Kalaaliit (PK)<sup>2</sup> association, the Greenlanders living in Denmark, aware of the potential of the tourism business, wanted local residents to be actively involved in the rising business and not just passive observers (Egede Hegelund 2009). Several meetings were arranged in the 1970s with the municipal authorities and with the local people along the coast of Greenland.

In South Greenland, cooperation with the local sheep farmers started, offering as facilities small cabins at the farms and tourists were offered local food and sold sheep wool knitted items. Several Danish Leisure Associations<sup>3</sup> took part in the programme, and maps of the area for tourism purposes were produced.

At the end of 1975 PK further structured the activity establishing a travel agency, INUK travel<sup>4</sup>, and making arrangements with air carriers and travel agencies in Denmark with the purpose of having tourist groups coming to Greenland. Things did not turn out as wished; recommendations made by a report published in 1974 by the Ministry for Greenland's Working Committee on Tourism in Greenland recommend the building of large hotels, the construction of airports and the purchase of aircrafts. This was too challenging for the PK as they felt these recommendations were too much in favour of big business such as the Danish air carriers SAS, Grønlandsfly (Air Greenland) and hotel owners; the local involvement in the tourism business was merely ignored and the impression was that the very large part of the profits derived from tourism activities would go back to Denmark (Egede Hegelund 2009).

At the first conference on tourism in Qaqortoq in 1975 the general agreement was that the Greenland political authorities needed to adopt a national tourism policy.

From the seventies onwards, Greenland - which in 1979 with the Home Rule became a self-governing part of the Danish Realm - was more and more involved in the decision-making process regarding the development of the tourism industry. With the cooperation of the Danish Tourism Board, tourist numbers reached a record of 10,000 in 1981. However unsuitable marketing decisions led to a drastic reduction of these figures to 3,300 in 1987.

In the same period, the Greenland Home Rule Government had to face a series of difficulties, most notably unemployment caused by a crisis in the fishing and fish processing industries (95% of the exports) and the closure of a zinc and lead mine at Maarmorilik.

During the late 1980s the general recognition of the potential of tourism created some expectations for the future development, and in 1990 the Greenland Landsting (Greenland Parliament) approved the first general Tourism Development Plan<sup>5</sup> for the period from 1991 to 2005. The analysis was based on the tourism resources and the attractions of Greenland, and the objective of the plan was to reach a total of 3,000 tourists in 2005 creating as many as 2000-2500 direct jobs and another 1000-1500 jobs in related businesses. Basically, the goal of the plan was to turn tourism into the

main industry in Greenland, and thereby replace the income and jobs lost by the decline of the fishing industry, reduce unemployment and absorb the growth in the workforce.

Geographically, tourism was supposed to be divided: 40% of tourist in South Greenland, where there has been a long tradition of tourism; 30% in the Disko Bay, where tourism was fast-growing during the 1990s; 20% on the East Coast, which could boast the highest number of day tourists from Iceland during the 1990s; and 10% in Central Greenland, where the redevelopment of the decommissioned American base was planned to be the centre for tourists in connection with meetings and conferences. The development was primarily focused on Denmark and Greenland as the main markets for the future (Tourism Development Plan 1991: 4.3.2).

### *The National Tourist Board of Greenland*

Greenland Tourism (GT) was established in 1992 as National Tourist Board of Greenland. The aim was the development of a viable tourism industry in Greenland, to have control over the tourism, creating their own programmes, contacts and having their own guides. In 1994 the concept of “Outfitters” was developed with the goal of having local tour operators. The driving idea has been to give the hunters training on tourism and related aspects, such as service, use of the radio, English conversation, and some professionalism in dealing with tourists.

From 1997 GT assisted the regional tourist boards, called “Destinations”, in building capacities and in the improvement of a framework, mainly dealing with legislation and public investments, for the development of tourism in Greenland.

Another issue was the image of Greenland, which for a long time has been promoted and consequently identified only with two elements: ice and dog sleds which with time, have been transformed as very strong icons. For instance, the regions below the so-called “dog line”<sup>6</sup> felt disadvantaged as the entire southern part of Greenland suffered from the generalisation of the image conveyed by the marketing campaigns.

In 2005 the board changed its name to the Greenland Tourism and Business Council, a government owned agency for the development of tourism and business in Greenland, providing consultancy for entrepreneurial self-starters and small companies focusing on tourism. The goal was to develop and promote Greenland as an adventuresome and exclusive cruise destination through destination development, regional and national branding and innovation & product development.

The strategy was to create and develop a brand encompassing Greenland as a whole and strengthening regional diversities, creating a synergy between the business sectors able to support the overall national brand of Greenland, support regional networks, use knowledge and expertise to guide decision-makers in making the best possible legislative framework for tourism development, and focus and prioritize to ensure the optimal use of the resources. A new web page (<http://www.greenland.com/>) and a new brochure were developed for the new image and marketing strategy, which created a new world around Greenland.

### *The Three Case Studies*

The research focused on tourism, on peripheral places, and on the available development options in remote areas in Greenland. The three cases presented here derive from field work and research projects done in Greenland at different points of time: in the South of Greenland, Narsaq and its area, in 2001; in West-North Greenland, Ukkusissat part of the Uummannaq area in 2005; and in Greenland High North, Qaanaaq, in 2007 (Tommasini 2011).<sup>7</sup>

The fieldwork consisted of a first part devoted to the collection of information, and the building up of a catalogue of tourism attractions and potentials of the area. The second part focused on the interviews with the population, giving special attention to their necessities and expectations.



**Figure 1:** Map of Greenland with the objects of field work.  
**Source:** Greenland Tourism, Nuuk.

Data were collected using qualitative methods aimed to obtain an in-depth insight on the basis of a relatively small number of respondents or observations. A mix of different techniques were used: questionnaire, interviews, official as well as informal meetings and group discussion. A questionnaire was used at the beginning to obtain some basic information and to facilitate the comparison of the data.

The main purpose of the surveys was to investigate how, in a peripheral place, the local community perceives tourism, particularly as a possible source of additional income, and generally intended as a tool for development in the area. The interest of the community to start or increase tourism activities, in addition to the traditional ones, has been one of the interests of the research project.

Other questions, relating to the level of information about tourism as well as tourism development planning, were asked, to know how informed the population was about how to start and develop business in tourism, and how to benefit from it, possibly avoiding the negative effects.

### **UKKUSISSAT (Uummanaq Region, West-North Greenland)<sup>8</sup>**

Ukkusissat is part of the Uummanaq region, one of Greenland's northernmost towns (and former municipality)<sup>9</sup>. The region, although considered to be a peripheral location, is a highly attractive tourist destination. Its impressive landscape contains all the elements of a tourist attraction: harsh landscape with tall mountains, rare vegetation, glaciers and icebergs. It is also attractive for its being "peripheral", which is also part of the tourist lure. Beside the landscape, many attractions can be found in the area: the Qilakitsoq mummies (a burial site containing a number of mummies around 500 years old), the rich geology of the area, extreme events such as the shark challenge and the settlements, like Ukkusissat, where hunting and trapping activities are a great cultural attraction for tourists.

In the village of Ukkusissat, with its 184 inhabitants (in 2005), fishing is the main activity. There is a fish factory from Royal Greenland and, in 2004, the Ulu- Nujus, a factory for drying fish, started again. Traditional food is still important: seal, narwhal and fish (halibut, cod, and ammassat) are the basic diet, also for the approximately 350 dogs.

Here, cruise ship visits are welcome. The engaged inhabitants offer a whole entertaining program for the tourists. The benefits are shared among the people involved and used for social purposes in the community.

Tourist activities started after 1997, when the inhabitants contacted the cruise ship "Disko" that passed by and asked its passengers to come ashore and visit.<sup>10</sup>

Before the tourists arrive, there is a general cleaning of the beach and the village. People are engaged in the cleaning, on the reception or in the dog feeding, the national costumes display or the kayak show work.

The local tourist committee, composed of members of the village, is quite active and young people are interested in future development and in more involvement in tourism activities. They declared to be ready to have more tourists, and are prepared to offer more activities, such as visiting the near old

mine of Maarmorilik, fishing in the fjord, offering *Kaffemik*, the traditional Greenlandic coffee and cake meeting. For this purpose, the tourist committee works on a tourism development plan consisting of a list of attractions and on how to get tourists there.

### *Findings*

The salient aspect, which came out from all the interviews<sup>11</sup> is that the village wants to do its development at its own pace. They want to keep the control over the resource and its development. They want to decide the kind of development that is suitable for the size and the structure of the village. In Ukkusissat there is good cooperation among the residents and between the different institutions.<sup>12</sup> Interviewees declared to have many ideas for future tourism development, from making a web page to considering buying a boat for tourist tours. However, the tourists, predominantly cruise tourists, stay only for three hours, and not very often does anybody else come to Ukkusissat.<sup>13</sup>

The village won an initiation prize from the Home Rule Government in 2003 for tourism initiatives. Ukkusissat showed, as interviewees proudly declared, that they did not need money to start and were able to give a good service.<sup>14</sup>

### **NARSAQ Region (South Greenland)**<sup>15</sup>

The Southern part of Greenland - which includes Narsaq - is the most diverse region in Greenland, rich in natural, historical, and cultural attractions. The Narsaq area (2,076 inhabitants in 2001) is the farmers' region in the South of Greenland.<sup>16</sup>

Forms of rural tourist activities started in the area during the 1960s. Tourists - mostly hikers with limited travel budgets - adventured there in order to experience the beauties of the landscape, and enjoy contact with the local population, staying by the sheep farmers who provided plain accommodation and facilities.

Tourism became very popular and seemed, during the 1970s and 1980s, to be a growing activity. From the tourism point of view, South Greenland is known as the area of the sheep farms<sup>17</sup>, Norse and Inuit ruins, tiny villages and great scenery. The major tourist season is the summer season, from the beginning of July to the end of September.

During the 1970s and the 1980s, the Danish Hikers Organisation (Dansk Vandrelaug) in South Greenland was quite active in organising outdoor recreational activities such as trekking and hiking. Sheep farmers offered houses or cabins and provided facilities for the hikers. This kind of accommodation became very popular in many ways for both tourists and the local population, as the unique experience was possible without high expenses. It also gave way to close contacts with the relatively unknown local population. Besides offering the accommodation, there was a possibility to sell souvenirs, such as carved and sewed items, and sell local products like fresh lamb meat, which generated supplementary income for the inhabitants.

Contrary to the organised package tours the tourist expenditures were retained locally for the benefit of the local population, and despite the shortness of the “good” season this was an important source of additional and most of all, secure revenue.

Accessibility to the area was not a problem thanks to the vicinity of the international airport of Narsarsuaq. Bringing the tourists to the settlements was not a problem either. Farmers provided the transport from the harbour to the cabin by a tractor and local outfitters managed the local boat transportation.

This beneficial form of regional development declined during the 1990s, when other forms of tourism based on ice and sledge activities were privileged by the National Tourism Board of Greenland.<sup>18</sup> Nowadays some of the farmers who took over the farms from their parents or deliberately chose to become farmers are looking for new ideas to increase the revenues and the quality of life. The most concrete alternative is represented by the production of vegetables, and, again, by tourism.

### *Findings*

Many of the interviewees<sup>19</sup> thought about initiating activities related to tourism, and some had already started. Their starting points are different. Some have been involved by an external organisation, the local tourist office or a tour operator, while others have been self-initiated.

Many factors influence the decision of starting a tourism activity. Sometimes there is a wish to do something different, and tourism seems to be a suitable activity. However, as interviewees declared, there is lack of information and support, and even the strongest motivation to start something new sometimes gives way to some disenchantment. Nevertheless to these young, motivated farmers it is clear that it takes time to have some tangible effects. Start-up capital has to be put into the initiative, and for some time gains will be not of importance, even with the good initial performances of the enterprise. Some of the interviewed recognised the discrepancy between all the talks about “tourism is equal to money” and the reality.

In general, tourism is considered as having positive effects. The idea of hosting tourists or being involved in some tourist activity is well considered by the farmers, who are thinking not only of the perceived economic advantages, but also about the possibilities of meeting people, and becoming acquainted with new places and ways of life.

People expressed the need for more local presence. They would like to have a local association for the development of tourism, and to be connected with the main ones. They would like to have more contact with the people in charge for the development of tourism, for the farming opportunities, e.g. vegetable production. As interviewees declared, there is lack of a local leader, or expert to address concerns and issues.

### **QAANAAQ<sup>20</sup> (Greenland High North)**

The community of Qaanaaq (652 inhabitants in 2007) is to be found in the most northern district in Greenland, *Avanersuaq*, which means the place of the farthest north. Archaeological evidence

suggests that the first settlers of Avanersuaq arrived some 5000 years ago after crossing Smith Sound from Canada. The direct ancestors of today's Inuit belonged to the "Thule" culture and reached Avanersuaq soon after 1000 A.D.

Qaanaaq was established in 1952 following the Danish authorities' decision to move the local population, *Inughuit* (the great people) from their home village Ummannaq (Dundas) because of its close proximity to the American Thule Air Base. Greenland's most northern town has a number of facilities including a hotel, a supermarket, a bakery, a post office, a tourist office, and a little, well-equipped hospital, as well as a museum, which is housed in the former home of the famous arctic explorer Knud Rasmussen, who in 1910 established the district's first trading post called *Thule* (named after the Latin name of *Ultima Thule*).

In Qaanaaq, like in the other peripheral districts, hunting activities are predominant and are substantial components of the informal economy and of the subsistence sector. The possibilities to diversify the activities, and thus, having an extra income, are rather limited in this peripheral and scarcely populated area. Besides some administrative jobs, there is a Handicrafts Centre, managed on a cooperative basis but administratively and financially supported by municipal authorities, with facilities for making handicrafts and a shop for displaying and selling.

Some tourism activities are taking place in the area, thanks to the impressive landscape and its remoteness. This together with the mythical aura of the *Ultima Thule*, has great potential for tourism. The region is not always easy to reach and symbolizes one of the last frontiers in tourism. For this reason, tourism is a recurrent issue in the community discourse and is considered as "the" option for future development.

The craft and souvenir shop in Qaanaaq, which is also the Tourism Office, has a variety of activities to offer to the tourists<sup>21</sup>, as well as accommodation in Qaanaaq and the surrounding settlements.<sup>22</sup>

The local hunters and fishermen are involved in the tourism activities. The revenues from tourism activities are considered important in the community, where the main source of income is hunting-products, followed by tourism.<sup>23</sup> However, the number of tourists remain very small. In the 1990s larger groups of tourists (10–16) arrived whereas today, it is mostly individual travellers or smaller groups (2–4) that land in Qaanaaq. Reasons for this trend are among others, more expensive air tickets that were introduced after the building of the airport<sup>24</sup> in 2002.

So far, apart from some seasonal tourism activities, involving a small fraction of the local population, only a little tourism development has taken place.

### ***Findings***

Generally, the interviewees<sup>25</sup> agree that it is a good income to have tourists especially now, that the ice is becoming thinner which is making hunting places difficult to reach. Some of them would like to work mainly as guides, with hunting as a side-activity. However, they admit that they do not have as many sled-dog tourists as anticipated, but on the other hand they recognize that the profits stay in the community.<sup>26</sup>

Interviewees recognise that in Qaanaaq, there is not as much going on with tourism as in other parts of Greenland. Among hunters and their wives, there are a lot of talks and some ideas about tourism, such as quick improvements in making food and hosting tourists. Life up there is still very traditional, as they said, so it can be a special experience for tourists to see the real life in this North. In turn, this would help the income of the families. However, it is very difficult to achieve tourism growth. It is often not only a matter of money or good ideas, but the need to have other people helping and supporting this development.<sup>27</sup>

One of the hindrances is communication with the tourists. English is not always spoken in the community and so hunters cannot explain about their activity and way of life. As a result, tourists cannot have a complete experience because of this lack of language communication. Hunters wish to have courses to learn English and more advertising and a guides' association. They also wish to have meetings and discuss the matters of tourism and to prepare a manual about guiding in order to be ready for tourism and tourists. According to the interviewees, there is a lack of human capital and of information for the local population on how to create a tourism business and to access the necessary resources to start.

## **Conclusions**

A peripheral region is one that suffers from geographical isolation, being distant from the core sphere activities, with poor access to and from the markets, lacking in infrastructures, outmigration, with low or frequently declining population, accruing the sense of remoteness.

In terms of tourism, the characteristic of peripherality, long seen as a drawback, is now seen as offering opportunities. Isolation and remoteness represent peace, difference, even exoticism (Brown & Hall 2000). However, the realities of tourism are not always clearly understood.

Usually, peripheral tourism suffers also from a high proportion of small and/or family owned businesses, which limit tourism development. This may not be the case for the type of tourism which has emerged in peripheral areas in Greenland, i.e. in the settlements where hunters offer tourism services, boat or sledge rides, which fit well as side activities.

Other factors that contribute to the success of tourism development include, among others, the presence of a leader (or focus person) that provides motivation and directions for the stakeholders.

Hindrances include, among others, lack of control over negative impacts, lack of infrastructure, and difficulties with finance. Controlling requires monitoring, carrying capacity management, evaluating, and if necessary, correcting actions (Blackman et al. 2004). Characteristics that limit tourism development in peripheral areas also include limited access to funding and capital, lack of appropriate skills, and high leakage of money to external suppliers of goods and services (Hohl & Tisdell 1995).

Success is associated with long-term financial support from the government, especially for the development and maintaining of the infrastructures and facilities (Blackman et al. 2004). The long-term success of the tourism industry depends upon the acceptance and support of the host community (Murphy 1985; Wearing, Mc Donald 2002). Research indicates that successful alliances

require strong leaders, good cooperation, administrative support, resources and community understanding of tourism, and a shared vision and communication. (Selin, Myers 1998; Blackmann et al. 2004; Moscardo 2008).

The three study cases presented in this article are about places, of small-scale and peripheral, with dominant hunting and fishing activities. The development of tourism activities took place due to a combination of different factors including:

- spontaneous forms, i.e. in South Greenland with the sheep farmers;
- more structured, i.e. in West North Greenland;
- responding to the need of finding alternatives, i.e. the attempts made by the communities of the High North of Greenland.

Not all the places show the same degree of local dynamism and local cooperation. Sometimes it is a person, or a group, who is able to foresee and risk a new initiative, e.g. creating a tourist product for cruise ship tourists like in Ukkusissat. Generally, the attitude in regard to tourism development is positive, but local communities in peripheral areas seldom have the business skills necessary to engage successfully over the long term. The level of information among the local population regarding tourism development options and support is quite limited as shown by the field work. Also, financial and technical assistance as well as training on the different skills necessary when starting with tourism activities were deemed necessary. Interviewees asked for more structured courses and information. At present the involvement of the community in the process of development and planning is almost incomplete when not absent.

It is important to identify the interested actors and establish parameters for the participation and training of local residents in the tourism sector; identify linkages with the local (both, formal and informal) economy that can stimulate multiplier effects; and find the existence of tourist products and experiences that encourage a general approach to promote and enhance the development of tourism in the community (Tommasini, 2011).

When planning for community development, a successful development has to be established in cooperation with the local communities. Such development has to rely on:

- Local initiative (local people developing the living conditions within their own region).
- Local involvement (people who are actively and independently willing to participate in the process).
- Local partnership (cooperation based on the common aims of the local people).

## Notes

1. Tourists were taken there during summertime mainly for angling in the rivers or hiking to the Ice Cap, accommodated in the dismissed huts of the American Army former base in Narsarsuaq.
2. In 1939 the Association of Greenlanders living in Denmark, Pegatigiit Kalaaliit (PK) was established, organising cheaper travel from and to Greenland for the associated members.
3. Among others The Danish Ramblers Association and The Danish Mountaineering and Climbing Federation.
4. INUK travel bankrupt after 14 months of activity, being “unable to obtain by the banks a line of credit” (Egede Hegelund 2009:35); at the time there was no financial support for development projects.
5. This is the “Tourism Development Plan 1991 - 2005” from the Trade and Industry Department of the Greenland Home Rule, made by Hoff & Overgaard Planning Consultants, Copenhagen.
6. The “dog line” is in Sisimiut, and is considered the start of the dog sledding area.
7. Research grant from the Namminersornerullutik Oqartussat - Grønlands Hjemmestyre, Kultureqarnermut, Ilinniartitaanermut Ilisimatusarnermullu Pisiortaqaarfik – Direktoratet for Kultur, Uddannelse og Forskning, Nuuk, Greenland.
8. From the field work done in 2005 in the areas of Sisimiut, Ilulissat and Uummannaq, where Ukkusissat is one of the surrounding villages of the latter for the research project: “Local involvement on tourism business, the dynamics of development at community-base”.
9. On January 2009 the original 18 municipalities of Greenland have been regrouped into 4 (Statistics Greenland 2010).
10. Otherwise no other experiences on tourism, except for the visit of few kayak drivers and some skiers.
11. The total number of the interviews was 18: 9 fishermen and fishermen wives, 3 informers (nurse, school teachers), 2 business owners, 4 young people.
12. There are different associations and many occasions to meet and discuss about matters. Once a year a general meeting is held, and the whole population of the village is invited to participate and discuss the different issues. The social situation in this small and peripheral village is not as problematic as in other places, with unemployment almost being non-existent and no significant social problems.
13. Presently private accommodation is not possible, houses are too little and crowded.
14. The price amounted to 25,000 Dkk (aver. 4,500 USD) to be used for tourism initiatives.
15. From the field work done in 2001 in Narsaq, Qassiarsuq, Igaliku and the sparsely located sheep farms for the research project: “Tourism as a tool for development in rural areas: the sheep farmers in the South of Greenland”.

16. At the time of the field work there were 31 farms in the area.
17. Commercial sheep farming activity dates back to the beginning of 1900, introduced as an attempt to create new livelihoods for the local population.
18. The Tourism Development Plan (1991) recognized that this being “South” was a major drawback “Because South Greenland is situated outside the dog area” (Tourism Development Plan 1991: 5.3.3). Greenland Tourism was seeking for a different image of tourism in Greenland based mainly on “ice-attractions” and dog sledge activities, not in use in the south of Greenland.
19. 11 interviews were recorded (16 farms were visited out of 31). The questionnaire was submitted to farmer families already involved in tourist activities, and farmer families that may wish to start some tourist activity in the future.
20. From the field work done in 2007 in Qaanaaq: “Tourism development in remote places and peripheral areas: Qaanaaq”.
21. From dog sledge to kayak or motorboat tours, to hiking trips to the ice cap, the icebergs, and the glaciers. Whale and bird watching trips are offered as well as ice fishing, and arctic char fishing parties. Tourists can buy a tourist’s license to hunt most game, except polar bear, walrus and whales. Short hikes to the ice cap and visits to archaeological sites can be arranged. The cultural offers include drum dancing, choir singing, showing and telling about traditional costumes, and a kayak show.
22. In Qaanaaq, besides the hotel (5 double rooms), there are nine rooms, which can be rented (at telegraph and ionosphere stations).
23. Actually, and as in many other communities, economic transfers are probably the main source of income in the community.
24. Before the airport was built the last part of the trip was a scenic helicopter flight to Qaanaaq. Now an extra overnight stay is necessary in Ilulissat making the trip more expensive. Before the airport, twin otter airplanes, which could land on the ice, came frequently from Resolute with groups of tourists.
25. In total 26 were interviewed: 13 hunters, 8 hunter’s wives, 2 business owners, 2 carvers, and the tourist office leader (1).
26. Instead cruise ship tourism is not seen as an opportunity because - interviewees said - cruise ship tourists come ashore to take a look around and go again, not leaving any money in the community. In summer 5 or 6 cruise ship arrive, normally with between 50 to 300 passengers (Tommasini 2011).
27. “We should offer to tourists Bed and Breakfast or full accommodation and not only sledge tours. I would like to know what the requirements are to start accommodating people” Wife of informant 4: Professional hunter, Greenlander.

## References

- Blackman, A., Foster F. Hyvonen T. Jewell B. Kuilboer A. and Moscardo G. (2004). Factors contributing to successful Tourism Development in Peripheral Regions. *The Journal of Tourism Studies*. 15(1): 59-70.
- Brown, F. Hall, D. (2000). Introduction: the paradox of peripherality. In F. Brown, D. Hall. (eds.) *Tourism in peripheral areas: Case studies*. Clevedon: Channel View Publications.
- Egede Hegelund L. (2009). Tikeraaq. *Tourism in Greenland*. Nuuk:Milik.
- Greenland Home Rule, Trade and Industry Department (1991). *Tourism Development Plan 1991 – 2005*. Copenhagen: Hoff & Overgaard Planning Consultants.
- Grønlands Statistiks (2001). *Statistisk Årbog*. Nuuk, Statistisk Greenland.
- Grønlands Statistiks (2005). *Statistisk Årbog*. Nuuk, Statistisk Greenland.
- Grønlands Statistiks (2007). *Statistisk Årbog*. Nuuk, Statistisk Greenland.
- Hohl A.E. & Tisdell C.A. (1995). Peripheral Tourism: Development and Management. *Annals of Tourism Research*. 22: 517-534.
- Moscardo, G., (dir.) (2008). *Building Community Capacity for Tourism Development*. Cambridge, CABI.
- Murphy, P. E. (1985). *Tourism: A community approach*. New York: Methuen, Inc.
- Selin, S. Myers, N. (1998). Tourism marketing alliances: member satisfaction and effectiveness attributes of a regional initiative. *Journal of Travel and Tourism Marketing*. 7(3): 79-94.
- The Government of Greenland (1999). “Mål og strategier”, Nuuk.
- Tommasini, D. (2011). *Tourism Experiences in the Peripheral North. Case Studies from Greenland*. Nuuk: Government of Greenland, Ministry of Education and Research, Inussuk: 2.
- Wearing, S., McDonald M. (2002). The Development of Community-based Tourism: Re-thinking the Relationship Between Tour Operators and Development Agents as Intermediaries in Rural and Isolated Area Communities. *Journal of Sustainable Tourism*. 10(3): 191-205.
- Weaver D. (2002). *Ecotourism*. Brisbane: John Wiley & Sons.

# MINERAL EXPLOITATION AND DEVELOPMENT IN GREENLAND: ENGAGING LOCAL WORKFORCE AND PLANNING FLEXIBLE SETTLEMENTS

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*The key question of the paper is how to plan and organize mining projects in Greenland in ways that involve local workforce and develop business as well as settlement potentials. The paper outlines a concept of flexible settlements with the aim to build a socio-economic sustainable future for Greenland.*

*A major contemporary challenge for Greenland is its economic deficit and dependency on state support from Denmark, to maintain its living standard. The evolving decoupling between existing settlements and the main export industry based on marine living resources re-enforced by new mineral extraction based on a workforce that is working temporarily at the mining sites poses a threat to employment in Greenland. At the same time, attracting mineral resource based industries is key to overcome the economic challenges. Mining companies envisage potentials for a fast extraction of the resources using immigrant and migrant labourers that work intensively while living in temporary quarters. The historic experiences of Greenland tell that a different, slower exploitation of mineral resources may contribute to social improvements and competence-building thereby providing long-term improvements for the Greenlandic society. This point to a need for plans and the organisation of mineral exploitations that operate based on coupling local settlements and resources with mining and other forms of activities. This demands new perspectives on the content of social impact assessments as well as new criteria for the planning of settlements and infrastructures.*

## Introduction

The natural mineral and energy resources in Greenland have been researched in detail by Danish state institutions like the Danish Geological Surveys (GEUS) and the former Greenland Technical

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Organization (GTO) for many years. This implies that the hitherto rather scarce exploitation of raw materials and hydropower energy in Greenland is a result of high costs, accessibility, and global market conditions for exploitation, more than a lack of knowledge about their potentials. The increasing global resource shortages of certain raw materials and consequent expectations of price increases is a major explanation for the increased international interest in some of Greenland's mineral potentials. This is also reflected in the global geopolitical considerations towards the Arctic region resulting from changing climate conditions.

From a Greenlandic perspective the global interests in the countries' resources are highly welcomed. Currently, the Danish government contributes almost half of Greenland's government budget (577 million Danish Kr. out of 1.261 million in 2011) (Statistics Greenland 2013) and approximately one third of the disposable gross national income. At the same time, Greenland has the same demographic challenges as a number of other Arctic areas, with increased life expectancy, a declining birth rate which is down to 1.8, and migration from Greenland, which together result in an increased dependency ratio, with consequent growth in public spending. Public spending is also challenged by expectations of increased welfare, education and health, while export incomes are declining, overall resulting in an expected increase in public finance deficits.

The political desire in Greenland for increased political and economic autonomy creates an obviously untenable situation. Over the past decades, the value of mineral exports has been quite modest, while fish and shellfish account for approx. 85% of exports. In recent years a massive political desire has emphasized the need to expand the export incomes to more areas than just living marine resources and this has resulted in the development of new business areas based on the exploitation of mineral resources.

This article explores in section 2 the historic policies of centralization supporting the growth of cities and the reduction in settlements based on subsistence fishing and hunting, but also an increase in the economic dependency of Greenland. This provides a backdrop for an eventual further de-coupling between workplace and habitat, but also raises critical questions on the sustainability of the dominant policy and the concrete strategies for organizing mining projects.

In section 3 the article traces the experiences for local employment resulting from early mining activities in Greenland. This leads to a discussion in section 4 of an alternative to the de-coupling based on flexible settlements that integrate workplace and habitat.

In section 5 the role of social impact assessments, the organisation of mining activities, and the spatial planning for the future of Greenland is discussed from the vision of developing spatial and location planning based on flexible and settlements operating with a higher degree of mobility of people as well as societal support structures and institutions.

## **Contemporary Challenges in Greenland**

Greenland is, like many other Arctic societies, characterized by a very small population in relation to its size, and the country's settlements are widely dispersed. At the same time, all Greenlandic settlements practically operate as "islands" without roads and with few and expensive options for

daily commuting between settlements. This implies that the Greenlandic economy is not coherent, but can be characterized as a number of interconnected island economies. One of the major results is that there exists only little trade between the settlements. Only around 15% of ship cargo is transported between Greenlandic settlements, while around 50% are imports from Denmark, and approx. 35% are exports to or through Denmark (Hendriksen 2012).

For both individual settlements and Greenland as a whole, the traditional exploitation of marine living resources increasingly has been moved from locally-based fishing and hunting, to large, ocean-going trawlers with some processing and freezing on board selling directly to ports outside Greenland, or landed in Greenland ready for export. Most of the raw materials are today exported unprocessed. This means that the impact on employment and thus value for the communities where seafood processing still exists is modest, and that the settlement's localization in reality is de-coupled from its sources of income. Only a small number of settlements still exist where the primary economic base is linked to the exploitation of marine living resources and where the vast majority of the inhabitants and workforce is of Greenlandic origin. For major towns, the primary income base has become the maintenance of society's basic operations, including administration, health, education, retail supplies, telecommunication, construction, etc. (Ibid.)

### *Policies of Centralization*

In the government commission reports from the 1950s and 1960s on economic and social development, policies for centralization were evident in their emphasis on economic developments based on private business activities. After WWII the traditional trade monopoly of the Royal Greenland Trading Company was cancelled while its duties of provision were continued. The goal was to provide a ground for private businesses to make the Inuit society independent (self-sufficient) concerning economic incomes and supply.

At first fishing and fish processing were identified as the new core industry, in combination with increased utilization of the mineral resources in Greenland (Grønlands-kommissionen 1950). There were no customs and import restrictions and government taxes were kept low (Boserup 1963). Some new business activities started in this period, but the owners were primarily persons from Denmark and they concentrated on supply activities taken over from colonial Royal Greenland.

Realizing that private business could not deliver the needed industrial development in Greenland, the Danish government began in the late 1950s to stimulate this through massive investments in the fish processing industry. In parallel, massive investments in public schools, education, public housing and health care were funded through Danish subsidies (Grønlands-udvalget 1964; Boserup 1963).

In the wake of these investments that placed fisheries as the core business activity, policies were set up to centralize the population in larger cities with harbours and fish processing industries. But unfortunately the mono-culture based fishing activities did not continue to grow and private fish processing industries went bankrupt or were taken over by the government. The privatized growth strategy had largely failed. The only private economic actors that survived were those involved in

goods supply and in the housing construction and infrastructure sector dependent upon public spending.

The Danish centralization policy sparked protests in Greenland, which were largely key to the establishment of Home Rule in 1979. In the first decade of the home rule, measures to stimulate the industrial development of the individual settlements included policies and infrastructure development such as establishing a system of purchase and storage plants, service houses and stores in a number of settlements. The focus on a decentralized settlement pattern was based on the desire to exploit local resources locally combined with a more ideologically based intention to take care of the 'original Greenlandic culture' (Bro 1993; Grønlands Statistik 1996 to 2004).

Due to overuse of funds and inadequate financial management, the treasury ended in 1987 in a significant deficit. And after 1990, the cod disappeared from the seas around Greenland, so most seafood purchase and storage plants in both cities and settlements went unused (Danielsen 1998). The combination of deficits in public finances and a sharp decline in export earnings brought Greenland into a recession requiring cuts in public spending. Slowly, there was a transformation of economic policy away from a balanced geographical development, and thus from the focus on small decentralized units, back to the known market economic tools that involved rationalization, economies of scale, and cost optimization.

The discussions and controversies around the role of smaller settlements and the idea that a centralized population living in a few larger cities may best serve the economic development of Greenland is far from over. As part of the focus on large-scale industrial and mining activities the dominant concept promoted has 'again' been to work with centralization of the population as a core policy. This is based on distributed mining activities combined with a workforce living in cities and working in concentrated periods in mining areas supported by city-based supply and infrastructure businesses (Råstofdirektoratet 2009; Mobilitetsstyregruppen 2010).

The Nordic Council report on *Megatrends* (Norden, 2011) supports this development by presenting urbanization as indisputable. The analysis continues with some rather important observations:

In many instances immigrants are hired to keep the fishing and agriculture industries alive. In their place many new economic initiatives are developed based on enclave arrangements, for instance in connection with the establishing of mining and other extractive activities, either with the population staying for a defined and finite period of time, or through on/off working arrangements, generally, two weeks on/two weeks off. In these circumstances the old notion of "the rural" as culturally pure and nationally original quickly becomes obsolete (Norden 2011: 9).

The lesson from the centralization and urbanization processes resulting partly from the centralization processes of the 1960s and partly from people moving to the cities for education, facilities and jobs in Greenland, has been that unemployment and poverty has been a socially challenging companion.

### *Asymmetries and Adaptive Capacity*

In economic theory on agency, emphasis is put on the distribution of knowledge between economic agents including the eventual regulators of economic exchanges. While typified ideal economic models at large build on the idea of distributed and available knowledge, more sociological based approaches emphasize the unequal – or asymmetrical – distribution of knowledge making providing the involved economic and regulatory agents with very different capacities to negotiate and intervene.

Typically, producers have a much larger knowledge of the technologies and market conditions of relevance for the products produced. In contrast, the knowledge of environmental conditions resides with regulatory authorities and not least local people. Experiences concerning social structures also reside within the local communities. Besides the uneven distribution of knowledge and experiences a big challenge is whether these different forms of knowledge are at all made relevant and useful for e.g. negotiations of what could be called the ‘social license to operate’ when it comes to large- scale projects with potential large social and environmental impacts.

This also emphasizes the importance of the interplay between the periphery and political and economic centres that may create new challenges for the local population that they may have limited capacity to handle (Keskitalo et al. 2011; Keskitalo & Kulyasova 2009). Not only is the local knowledge of importance, but the ability of the local population to organize and respond to policies and knowledge derived from the outside, be it the central government or impacts from large-scale projects and economic globalization. The local community draws on its experience, sometimes defined as ‘social capital’, and its ability to form collective action and respond to the different adaptation arenas at play (Hovelsrud & Smith 2010).

When it comes to mining activities and the political and regulatory actions needed, such experience is lacking in Greenland. This requires the administration to build rather independent competence units dependent on knowledge and principles brought in from the outside, but lacking the local competences for building a countering perspective. This asymmetric knowledge originates from the limited capacity of the administration when it comes to understanding the detailed technical and market-based conditions for mining. This is contrasted by the involved companies that typically operate globally and have a lot of established knowledge and skills and also have access to international networks of knowledge institutions, consultants, etc.

The argument from the Greenland central administration has generally been that it was possible to include and use expertise from international legal advisors and consultant companies who were working with similar problems on a global scale. This is a necessary and fundamentally sound strategy as international experience and references are crucial for regulators in this field. It does not however remove the need for basic competence in asking the right questions and being able to assess the advice and solutions proposed. This to avoid the government receiving the same advice from the same experts that provide advice to the mining industry. The expert strategy also does not secure the societal capacity for handling the meeting and exchange of different forms of knowledge

and engagements of relevant Greenlandic actors and local communities in sustainable development. Here especially the local communities have been left behind.

### **Mining and the Use of Local Workforce**

Greenland has, through a long period of time, built a work force capable of running core parts of the country's infrastructure and maintenance activities. This has been the result of the government-funded basic education system in combination with vocational training and a still small system of professional education for teachers at the university in Nuuk, and the Arctic engineering education in Sisimiut. The vocational training comprised of education provided by infrastructure companies like Royal Arctic Line and Air Greenland in combination with a number of specialized technical schools have provided skilled craftsmen to Greenland, recently supplemented by courses in mining.

Though the recently opened mining school in Sisimiut is providing training for miners, the specialized knowledge needed at all levels to run a mining operation is scarce and not currently provided. This is not just a problem for Greenland, as mining operations generally are organized based on global work practices and with a high degree of migrant workers that seem to accept long working hours and a high degree of isolation in temporary barrack accommodations. The needed workforce competencies and skills are not just related to the technical skills of the workforce but as well to the workers' adaptation to the specific social conditions that mining activities share with other 'remote' and not settled types of technical work like the building of railroads, bridges, pipelines, oilfields etc.

Only a few of the current, potential mining sites are directly connected to existing settlements. This supports an often used strategy by mining companies calculating capacity, extraction periods, and the subsequent closing of the activities while balancing the cost of equipment and the development of market price for the minerals in question. The size of the workforce is seen as secondary. This results in the so-called fly-in-fly-out operations based on the use of migrants or emigrant labour accommodated in boarded, temporary accommodations at the mine itself, interrupted by shorter furloughs at home. Intensive periods of work - 12 hour shifts, 6 days a week - are typical for this type of work organization.

#### *Experiences from Mining in Greenland*

Experiences with this type of work organization are not particularly positive in Greenland. From 1972 to 1980 the Canadian (and later Swedish) mining company Greenex operated the zinc and lead mine Marmorilik in the Ummannaq district (Nordregio 2009:12). The shifts were organized as 14 days of work followed by 14 days off (ibid: 13). Approximately 15% of the workers were born in Greenland. (Dahl 1977: 6; Nordregio 2009: 15) An illustration of how Marmorilik was a special community was the percentage of women, which during the period from 1992-1997 was only 9%. (Nordregio 2009: 14) Until 1977 the Greenlandic workforce were discriminated against with lower salary and poorer employment and work conditions. After a work conflict the formal conditions were equalized, however the number of employees with a Greenlandic background were not

elevated, according to Nordregio, because of the company's right to choose who they preferred to employ (Ibid 2009: 13-14).

The only recently operated mine is the Nanulaq gold mine in Kirkespirdalen in South Greenland, Nanortalik district, which has been running since 2004, but for the time being is closed down. The mine has continuously employed 80-100 people, but only in the last period, where it went down to 60 workers, has the mine managed to have more than 50% domestic manpower, of which a large part were working in service activities such as cleaning, catering and transport. This is particularly remarkable as the mine is located in one of the country's poorest districts with massive unemployment.

Relatively more Greenlanders have worked shorter periods at the Nalunaq mine, but few have done it for a long time. The most often heard explanation is that the workers choose to work in the mine for a period long enough to raise money for e.g. a new tractor for their sheep, a dinghy or boat engine for hunting and fishing, consumer goods for the home, or other similar reasons. The working conditions are not acceptable for an extended period of time (Hendriksen 2013). The way work is organized seems not to be acceptable to the everyday life practices and culture of Greenland, where time spent with family counts very much, and many consider having time to get out into the countryside, hunting and fishing, to be very important. This also explains why a relatively large part of the crew on Greenlandic trawlers is recruited outside Greenland from the Faroe Islands, Iceland, Norway and Denmark (Nielsen, 2000).

In recent decades, several hydropower stations and runways have been constructed by contractors from outside Greenland that primarily use migrant workers, while local job creation has been extremely modest. There are indications that the next big mining projects can quickly end up creating the same problem. At the anticipated iron mine at Isua in the bottom of Godthåbsfjord, alone, a workforce of up to 1,000 during the operational phase is expected. The question is whether it is realistic to find manpower at this scale in Greenland under contemporary conditions considering the failure to find more than approx. 50% resident labour for a mine with 80-100 employees.

If a large proportion of local workers are not employed, the socio-economic impact for Greenland from mining may be very modest, as long as the only direct income is taxation of the employees' wages, and workers from outside Greenland are exempted from council tax and only pay national taxes. Because these migrant workers do not live permanently in Greenland, they do not re-circulate their wage income into society for basic consumption, having primarily a negative impact on the local economy.

### *Experiences from the Qullissat Coal Mine*

From 1924 to 1972 there was an active coal mine in Qullissat, which was organized as a diverse community with school, shop, hospital, administration, etc., and where there was a fairly even gender distribution. Although Qullissat's primary industrial base was mining, a broad industrial base of hunting, fishing, construction companies, etc. emerged, and the city developed into an attractive habitat that attracted people from all over the country. For a time, Qullissat was Greenland's second

largest city with about 1,200 inhabitants. Qullissat was an innovation centre and the birthplace of the Greenland trade union movement, as well as a cultural centre for music and politics.

In this context, it is key that the Greenlanders were a very large part of the workers in the mine, and that there was a community adjacent to the mine attractive even for citizens who did not work in the mine. This shows a historical example of mining in Greenland successfully combined with an attractive community with great diversity.

The closing down of the settlement of Qullissat by the Danish government in 1972 was not a success. The closure was based on the low grade of the coal. In addition the easily accessible resources had been extracted and as Qullissat had no port, coal had to be lightered out to the ships that sailed it to Denmark. Another key factor was that Polish and South African coal was cheaper, making world prices crucial for the decision. The decision was made without consulting the locals, and people experienced it as a decree. Inhabitants of the community were forcibly relocated, scattered along the Greenland coastline. This decision became a politicizing factor in Greenland and was an important political mobilized leading to the Home-Rule in 1979.

### **Exploring Alternative Strategies – Flexible Settlements**

Based on the experiences from earlier mining projects, Greenland faces a number of challenges of an economic nature in relation to education and work force recruitment for new large-scale industries. The experiences indicate that the idea of inland migrant workers commuting to mining accommodations and staying for 3-4 weeks followed by a week or two at home, does not look very promising nor realistic. This points to a large need to re-consider the dominant localization and mining policies. Instead of following the dominant trend with temporary migrant workers living in barracks and working hard without a family, the government and administration should look for alternative ways of linking settlements and large-scale industrial and mining projects. These should cater to the daily lives of families with 'normal' working hours and a social life related to the livelihood of workers families and open to a combination of both employments in mining with periods of e.g. traditional hunting practices.

This is not to be seen as an argument against increased mining, as there may be good reason to increase the country's revenue base through the exploitation of mineral resources. It is mainly a question of how the new activities are implemented in terms of securing a socio-economic and socio-cultural sustainability.

#### **Flexible Mining Related Settlements**

As an example, Arctic engineering students from Sisimiut in 2012 have investigated a potential mine on the east coast of Greenland at Kangerlussuaq, midway between Ittoqqortoormiit (Scoresbysund) and Tasiilaq (Ammassalik). Earlier there was a settlement at Kangerlussuaq, which was closed during the Danish Government's efforts to centralize the population. Kangerlussuaq is one of the best fishing and hunting spots in the Ammassalik district, and every summer around 30 families sail the 300 km up to Kangerlussuaq, where they camp and hunt, among other species, narwhals and polar bears. With both mining activities and local fishing and hunting the combination of habitat and

income from new activities could create a complex synergy. These may not be equally beneficial in money terms, but can be seen as combinations of different cultural practices.

Ammassalik district is one of the country's poorest, and the base for hunting and fishing, and fish purchasing capacity is inadequate to effectively support the district's existence. This is a major reason why a part of the population is dependent on social transfers.

Interviews carried out in the local community by the engineering students indicated that they see a fruitful connection between their interest in working at the mine and the establishment of a proper settlement at Kangerlussuaq, including space and institutions that gives way to family life and may also provide work for women and have space for children. In this case the rich marine resources might bring other opportunities even though a closing of the mining endeavour could reduce the size of the settlement. There is also a desire for the work to be organized with normal operating hours, allowing time for family and leisure, which is typically spent on hunting and fishing. In this context, there is a desire for flexibility, allowing for holidays or other forms of free time in the periods where this is e.g. narwhal catch, is something that cannot be planned and predicted in the longer term.

Very often the life span of a mining process is planned to be short. However, if mining is organized as a slightly less intensive and lengthy process, it seems possible to establish a settlement of about 200 inhabitants. Engaging with the strategies of mining companies it might be possible to offer alternatives to a very fast extraction e.g. in relation to the investments and risks involved. Different scales may offer different economic solutions that are equally beneficial. By engaging in a more lengthy extraction process, one fourth to one third of the local population may be employed in the mine while the other part of the population could ensure the settlement's operation as well as work with fishing and catching. This leads to an estimated resource potential of at least 30 years of operation that could help improve the community and motivate social investments. In addition new business opportunities may develop around the mining settlement related to fishing and tourism that can help creating a more diverse economic base that makes the settlement sustainable for a longer period than that of the mineral based 'adventure'.

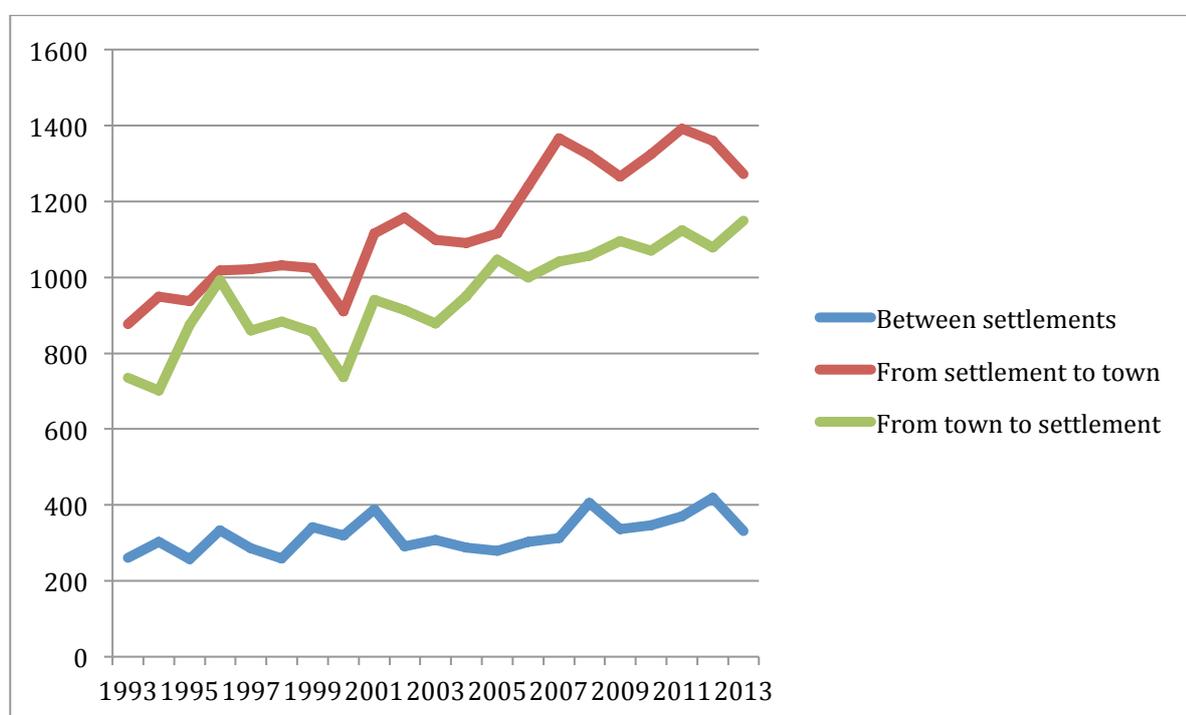
There will obviously be some societal costs of (re)establishing a proper settlement at Kangerlussuaq. However, the alternative may result in the classic Greenlandic problem where major projects are based on outside labour and wage money circulation will take place outside Greenland, with the majority of secondary multiplications thus absent.

### *Mobility within Greenland*

In support of the strategy of more flexible settlements as an alternative to the vision of further urbanization, a relatively high mobility of the population can still be observed which is at present mostly related to engagements in hunting and fishing (Nordregio 2010). Flexible in this context means both able to grow and shrink and eventually to be based on buildings and institutions that can be planned and operated as mobile. The question is whether this mobility can become part of a new environment for mineral extraction, if the work is organized and arranged in accordance with social and cultural frames of reference.

The historically high mobility of the Greenlandic population has continued or even accelerated. From 1993 to 2013 the mobility from one town or settlement to another town or settlement increased from 10% to 13% of the total population. This mobility is partly based on job mobility, and the fact that it is not possible to commute on a daily base from one town or settlement to another anywhere in Greenland. But it can also be seen in correlation with education where many youth have to move to one of the larger towns to finalize their basic education, and for a growing number in additional education. There is also relatively high mobility of people moving for family reasons or the desire to get away from personal problems.

As the foreign part of the Greenland population is not increasing this figure shows that the migration between town and settlements is high and even increasing. It also shows that the net difference is quite small compared to the total migration and to the migration between settlements.



**Figure 1:** Mobility in Greenland between towns and settlements by number of migrants and year. The figures are based on data from different sources in Greenland Statistics 1993 to 2013 (see e.g. GS 2013).

## Challenges to Governance and Planning

In this section the role of social impact assessments (SIAs) and public planning and involvement in relation to mining activities are discussed in order to point to how to open up for alternative strategies. On this basis the section outlines perspectives for governance and research that shall assess the rationales behind the dominant fly-in-fly-out strategies of several mining companies compared to strategies that plan for and prioritize the involvement of local settlements and local workforce not just as a supplement, but as part of the core strategy. This may entail public planning

efforts that combine the building of socially functioning local communities in relation to mining activities at the same time as these are operated as flexible and mobile entities dependent on the other natural (e.g. biological) resources available.

### *Social Impact Assessments as Governance*

Two of the major instruments for the societal and regulatory preparation of mining activities, besides legal conditions of ownership, fees and taxation, are the impact assessment within the social and the environmental field (SIA and EIA). The first also influences the ‘social license to operate’ by forming the basis for IBAs (Impact Benefit Agreements). This framework was adopted in Greenland based on experiences from global regulatory efforts in relation to large-scale industrial projects.

The impact of large-scale raw material projects in Greenland was taken up as an explicit policy issue at the end of the last century in the 1997 report: ‘Impacts of large scale raw material projects in Greenland’ written as part of the preparation for further independence (self-rule) of Greenland (Direktoratet for Sociale Anliggender 1997). In this report, the objectives of eventual large-scale mining activities were pointed out to be:

- Societal developments must be based on the demands and expectations that the Greenlandic population has for a good life.
- The primary male workforce in large-scale projects does pose a problem for the gender balance of the population.
- The negotiation strength for Greenland is its resource base. There is a need for time to scale-up projects in which training of locals can be done to avoid projects being dominated by an immigrant workforce.
- As several mining projects have a limited life span the whole life cycle is important and the impact through the creation of supplementary business activities is crucial.
- Dedicated educational programs are needed to prepare the Greenlandic workforce for these new opportunities.

Though this report is just one among a number of contributions to the formation of the government of Greenland’s policy in the field of mining, its legitimacy resulted from its focus on the social challenges of mining activities.

In 2009 Greenland, similar to many other countries and regions, finally defined its own ‘Guidelines for Social Impact Assessments’ (Bureau of Minerals and Petroleum 2009) based on international guidelines. The following issues are here seen as essential in the Greenlandic context:

- Recruiting Greenlandic labour;
- Engaging Greenlandic enterprises;
- Focusing on knowledge transfer (e.g. education programmes) in order to ensure long-term capacity building of local competence within the mining industry and mining support industries; and
- Preserving socio-cultural values and traditions.

A way of managing the social effects from mining projects is to prepare a Social Impact Assessment (SIA) in which it is important to identify and analyse potential impacts of a proposed action or development on the human environment, and to recommend initiatives to realize both direct and indirect sustainable development opportunities as well as mitigate negative impacts.

These demands reflect the need for situating the new projects within the existing societal conditions as well as staging the transformation of the society to be able to cope with the challenges. This also implies providing the workforce with services that are crucial for an integration of new industrial activities as alternatives to their separation through the building of 'closed communities' around the large-scale projects. At the same time, the explicated goals of the first three points demonstrate a rather instrumental approach to new business activities and the potential migrant workforce while the fourth point reflects a rather defensive approach with the wording of preserving and not specifying what has to be preserved and why. In contrast it is rather common in political debates and in cultural studies of changes in Greenland to emphasize the ability of the population to adapt to new situations and to change, so this fourth point should rather raise the political issues of influence and future choices.

The Greenland government and minerals administration made a very crucial choice when delegating the obligation to produce the SIA and passing the responsibility for public consultations to the mining companies planning the activities. This has resulted in a focus on the single projects at the outset, and leaves it to the company to define the frame and outreach of the project in question. The assumption seems to be that these SIA's can draw on an existing body of knowledge and expertise as well as an informed public and regulatory administration that is capable of maintaining standards and coping with the processes installed by copying the procedures and concepts from the field of environmental impact assessments (EIA). A study of SIAs demonstrates that leaving these to the companies have reduced the scope and reach of the resulting studies. Instead the focus must be on the process of preparation and development within the local communities, which basically follow a process approach to citizen involvement in planning and policy processes.

The preservationist approach does not reflect the anticipated problems as demonstrated with the historic and contemporary examples. A more realistic approach might be to build scenarios for those transformations of the Greenlandic society that will follow with large-scale projects and ask how these can be moderated and how different groups in society can navigate in the rather conflict-based changes of the future. In particular the idea of accepting today's starting point as 'baseline conditions' is problematic in that the society at large is already undergoing huge changes.

What seems much more important is to open up for serious investigation of alternatives to the given project design as provided by the mining company and look into potential impacts as a core part of the planning process, while the contemporary focus on just one solution ('take it or leave it') reduces the relevance of the resulting SIAs. An obvious alternative is to identify large-scale projects as the meeting place between two different cultures (worlds of logics and everyday life practices) of the mineral exploitation and the local communities. A merger resulting in a transformation of the practices from both cultures (and value systems) as the result should be strived for, instead of a result where one of these cultures becomes hegemonic and marginalizes the other, making it become

peripheral and dependent. The intention of ‘Maximization of development opportunities and mitigation of negative impacts’, as stated in the guidelines, seem to be reduced to mere rhetoric as the organization of the mining operations, their timeline, and use of workforce as well as the localization policies are not opened for analysis and questions.

Following the framework of professionalized SIAs as the main tool to handle public participation in Greenland when planning for large-scale projects places great expectations on the formulation of Impact Benefit Agreements (IBA). In such IBAs the company together with the local community can define the responsibility of the company, its rights and duties and its interaction with local society. Legally, these are framed as local agreements and seem to operate more with compensations and procedural modifications, than to influence the projects and their operations. It is also unclear what legal right they give to the local communities in cases of non-compliance.

The imbalance becomes clear in the approach to analyzing ‘potential impacts and alternatives’ where a list demonstrates a much more instrumental set of targets (Appendix 1 to the guidelines). Here local businesses, employment, education, public service, health, and cultural heritage are put in the forefront, while ‘social issues’ related to the process of societal transformation and influence are reduced to resettlements and changed demographics. Instead a more profound focus should be on the processes of social polarisation and disruption resulting from a process of marginalisation and lack of influence.

The hitherto largest project that has also loomed large in public debate in Greenland is the iron mine in the inner part of the Nuuk fjord. The SIA report from this project illustrates the problems outlined by leaving out any questions related to the mining operation project and eventual alternatives and reducing the SIA to a detailed description of the existing circumstances, and focusing solely on employment, education, taxation and settlement issues without any further consideration of the social impact of the project (London Mining and Grontmij 2013).

In this respect, two problems seem to be core to improving the role of SIA’s as a governance tool in relation to mining projects:

- The guidelines must more clearly specify the options concerning the mining operations and their impact on working hours and conditions by requesting alternative project options for analysis and consideration.
- The analysis of social impacts is dependent on culture and localities and consequently the consultations of local and relevant adjacent communities must include the questions of settlement and social, everyday life conditions that surround the mining activity.

### *A Narrow Approach to Planning and Public Involvement*

One of the important issues in the potential future transformation of Greenlandic society is the time span and scale of projects. These obligations are delegated to e.g. the mining companies and their interpretation of how the global market conditions shall be interpreted when it comes to the balancing of costs of equipment, the scale of the project, the speed of start-up activities and the development of market prices for the resources in question. This must be set in contrast to the

impacts on Greenland, where experiences from e.g. Canada and Alaska point to the need to counter the marginalization of local communities due to the growing social problems and disruptions of families and communities that have been shown.

This puts demands on the way the Greenland government sets its societal targets in the changes to come and how public consultation must include issues of social change and new ways of organising everyday life for the potential workforce. This goes beyond the mere training of miners and consultations framed by given single projects. Instead, it must include much broader questions of competence building and new ways of organizing work in mines not leaving behind the security and competence demands that result from potentially complex and dangerous work situations.

Recently the Greenlandic government has announced that potential Greenlandic labour can only be expected to provide transport to and from the mine from a major city, while they themselves must pay for any transportation to smaller settlements, and the government encourages people to move towards the major cities. This illustrates that the government at the outset has a rather narrow approach to the social challenges, and has operated from the assumption that the separation of habitat and work place and migrant working conditions is not to be questioned.

### *New Perspectives for Governance*

There is a great need for more research as well as development of dialogue and planning tools in this area, involving a systematic exploration of experiences from similar projects in areas with indigenous peoples within and outside the Arctic.

It is essential to explore how the local population can be involved constructively in the Greenlandic mineral extraction projects, and how work can be organized so that it will not undermine the existing cultural context, but will be included as a positive element in sustainable development dynamics. In this context, it is necessary to analyse the socio-cultural implications of establishing settlements with an expected service life limit, and how the settlements can be soundly closed when livelihoods are exhausted. Already in the start-up phase, it should be assessed whether the site has other potentials that can enable a long-term establishment and continued run of the settlements or parts thereof. The culture of the Inuit is originally a nomadic culture, and parts of the population have maintained a high mobility. It should therefore be examined to what extent the general mobility can be included as a positive factor in the establishment of settlements of a temporary nature.

In addition, an assessment of the individual mines' socio-economic potentials under different operating modes is needed, including a much broader analysis than just the financial return for the mining company.

Finally, there are a number of technical challenges to the establishment of settlements, which are expected to have a limited lifespan, so that most elements can be reassembled and reused at another settlement, and so that the settlement can also be environmentally sustainable in the operation phase, and that there may be an environmentally sound dismantlement.

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## References

- Boserup, Mogens (1963): Økonomisk politik i Grønland, Grønlandsudvalget af 1960.
- Bureau of Minerals and Petroleum (2009): Guildelines for Social Impact Assessments for mining projects in Greenland, (Danish) Nuuk.
- Dahl, Jens (1997): Miners in Umanaq Municipality (Danish). Kragestedet.
- Dahl, Jens (1997): Mining in a catcher society (Danish). Kragestedet.
- Dahl, O. (2008): Nalunaq Guldminen – på femte år, (Danish) *Geologisk Nyt* 4/08.
- Direktoratet for sociale anliggender (1997): Effekter af storskala råstofprojekter i Grønland - med speciel vægt på de beskæftigelsesmæssige forhold, (Danish) Nuuk.
- Grønlandskommissionen (1950): Betænkning i 6 bind.
- Grønlandsudvalget (1964); Betænkning fra Grønlandsudvalget af 1960, Betænkning nr. 363.
- GS (2013) webpage reference:  
<http://bank.stat.gl/Dialog/varval.asp?ma=BEDBAF2B&ti=Flytninger+efter+til%2Ffrflytningsskommune%2C+art%2C+k%F8n%2C+f%F8dedstet+og+alder+1993%2D2013&path=../Database/Gr%F8nland/Befolkning/Flytninger/&lang=4>
- Hendriksen, Kåre (2012): PhD thesis Greenland settlements - Economy and development dynamics. (Danish) Aalborg University.
- Hendriksen, Kåre & Jørgensen, Ulrik (2014): Hunting and fishing settlements in Upernavik district of Northern Greenland – challenged by climate, centralization and globalization, *Polar Geography*.
- Hertz, Ole (1995): Økologi og levevilkår I Uummannamiut, (Danish) Christian Ejlers Forlag.
- Hovelsrud, G.K. and Smit, B. ed. (2010): Community Adaptation and Vulnerability in Arctic Regions. Dordrecht, Springer.
- Ilisimatusarfik & Københavns Universitet (2014): Til Gavn for Grønland, Udvalget for samfundsgavnlig udnyttelse af Grønlands naturressourcer.
- Jørgensen, U. (2003): The hidden networks of knowledge in ISO 14001. Paper for the Greening of Industry Network conference in San Francisco.

- Keskitalo, E.C.H. and Kulyasova, A.A. (2009): The role of governance in community adaptation to climate change. *Polar Research*. 20: 60-70.
- Keskitalo, E.C.H. et al. (2011): Adaptive capacity determinants in developed states: examples from the Nordic countries and Russia. *Regional Environmental Change*. 11: 579-592.
- London Mining and Grøntmij (2012): Vurdering af samfundsmæssig bæredygtighed for ISUA-jernmalmprojektet for London Mining Greenland A/S.
- Mobilitetsstyregruppen (2010): Mobilitet i Grønland, Grønlands Selvstyre.
- Nielsen, Jens Kaalhaug (2000): Criteria for Greenland's economic sustainability - and its strategic implications (Danish). *Politika*, Institut for Statskundskab.
- Norden (2011): Megatrends, TemaNord 2011:527.
- Nordregio (2009): Mobility in Greenland. The comparative analyse & The summary. (Danish). Nordregio.
- Råstofdirektoratet (2009): Erhvervsmuligheder i råstofsektoren – Mineraler.
- Råstofdirektoratet (2011): Mineralefterforskning i Grønland 2011 - Beskrivelse af aktiviteter. (Danish) Grønlands Selvstyre.
- Statistics Greenland (2013): Annual statistics, Nuuk.

# WORK CREATES COMMUNITY: THE ROLE OF TOURISM IN SUSTAINABLE DEVELOPMENT OF A EUROPEAN ARCTIC COMMUNITY

Kristín Rut Kristjánsdóttir

*Tourist destinations in the Arctic regions are dependent on very fragile ecosystems and distinctive cultures. Therefore it is crucial that sustainability principles are included in tourism development. This participatory action research, conducted with a transdisciplinary approach to tourism studies and sustainability science, illustrates how tourist hosts in a rural community in northern Sweden perceive their possibilities of producing shared sustainable benefits for their community. Micro-situational variables were identified with in-depth interviews and broader contextual variables were identified with qualitative participatory system analysis. The themes that emerged from these methods were analyzed with the framework of conditional cooperation for sustainable use of common pool resources. The study concluded that the level of cooperation is beneficial and thus tourism can function as the empowerment needed to activate drivers for sustainable development at a community level. The participants are learning and are reciprocal in developing a practice that is both environmentally and socially sustainable for the community. They are adapting to limiting infrastructural and social conditions and are confident that others in the community commit equally to meeting these challenges. Together they create community capital in projects and initiatives that create net benefits in the community. The main driver of this reinforcing relationship is the common interest of being able to continue living in their community and continue working with tourism. Standardization and centralization in national and municipal policies are the main limiting factors for sustainable development of this peripheral community, and for sustainable development of tourism as an employing industry in this area.*

## Introduction

As natural peripheral areas are becoming increasingly more popular as tourist destinations, Arctic regions are expected to experience increased environmental, economic and social impact of tourism in the coming years (Ólafsdóttir & Runnström 2013; Hall, Müller & Saarinen 2009). Meanwhile Arctic communities are often marginalized in policies and decision-making (Vik, Benjaminsen & Daugstad 2010, Hall, Müller & Saarinen 2009). Because of this, sustainable use of natural resources becomes a necessity to be able to make a living and maintain a good quality of life in European

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Arctic (EA) communities. This article aims to paint a picture of Gunnarsbyn, a rural community in northern Sweden where tourism is one of the few industries to be reliant on.

This article is a contribution to the emerging studies in tourism research that recognize sustainability science as inherent (Briassoulis 2002; Farrell & Twining-Ward 2004; Miller & Twining-Ward 2005). These studies embrace the concept of sustainable tourism, which seeks to meet the economic, social and environmental needs of both tourists and host communities in a manner that does not compromise future needs (Swarbrooke 1999; Gunn 2002), but call for a more indepth analysis of livelihoods and more hands-on solutions. These studies also emphasize the relevance of common pool resources to tourism, namely those resources “for which exploitation by one user reduces the amount available for others, but for which exclusion of additional users is difficult or impossible” (Ostrom 1990). Tourism activities are often practiced on land that tourist hosts do not hold property rights to and are therefore subject to a dilemma situation where cooperation is needed. Sustainability is therefore viewed as a dynamic process that requires adaptive capacity in resilient social-ecological systems (Berkes, Colding & Folke 2003; Kates et al. 2001). Additionally, this article aims to fill a research gap in sustainability science identified both by Vollan & Ostrom (2010) and Kates et al. (2001), namely to identify context specific conditions that enhance shared long-term benefits.

The research question is: how do tourist hosts in Gunnarsbyn perceive their possibilities of producing shared sustainable benefits for their community? In order to answer this question, we need to learn about specific aspects of tourist hosts’ work and in-depth descriptions of their interactions within and outside the community. The sub-research questions are thus: (1) Why are tourist hosts practicing tourism in the manner that they do today?; (2) How do the tourist hosts perceive common sustainability challenges?; (3) What systems of collaborative action are important for meeting common sustainability challenges in the community?; and (4) What are the net benefits of tourism practice for the community? The four sub-sections of the results address each of the sub-research questions. The last sub-section furthermore summarizes the results of applying participatory qualitative system analysis and through these provides an analysis of the shared sustainable benefits of the work done by the tourist hosts. Before presenting the results the following two sections give more insight into the problematics of tourism development in the European Arctic and the methodology of this study.

## Research Setting

Tourism development is significantly different between cultures, climates and ecosystems and conditions are specific for each community. Nevertheless the Arctic areas of Europe (figure 1) share certain conditions. Common challenges are low population density, out-migration, fragile ecosystems and few industries to be economically reliant on (Mikkola 2014). On the other hand, in most EA communities the law of free movement through all territories (*s. Allemansrätten*) gives individuals and organizations the right to travel through and stay overnight in the nature, including protected areas (SEPA 2009). This makes it possible for tourist hosts to create their attraction without ownership of land.



**Figure 1:** The Arctic areas in Europe as referred to in this study: large parts of Iceland, Greenland and Faroe Islands, and northern parts of North Ireland, Ireland, Scotland, Norway, Sweden and Finland. Source: The EU Northern Periphery Programme, retrieved from [www.northernperiphery.eu](http://www.northernperiphery.eu), 2014.

Gunnarsbyn, the setting of this study, is a small community in Norrbotten, northern Sweden (Figure 2). It is located close to the polar circle where it is usually covered with snow from November till March, continued by the spring-winter referred to as the best time of the year by locals. Summers are relatively short but warm. A small population spread over large territories is descriptive for the north of Sweden. The town of Gunnarsbyn has 157 inhabitants located in Boden municipality where 27,500 people are spread over 4,300 km<sup>2</sup>, a density of 7 people per km<sup>2</sup> (SMCLRA 2011). Out of Sweden's 53.7 million overnight stays in 2013, 2.15 million of these were in Norrbotten. Although this number does not seem like a lot, the overnight stays in Norrbotten have increased by 13% since 2008, which is significant compared to the national increase of 7% (Statistics Sweden 2014). It could be assumed that Norrbotten has premium conditions for development as a tourist destination all year round. But despite small scale tourism activities, tourist hosts in Gunnarsbyn need to adapt to the municipal, national and global conditions of the tourism industry.



**Figure 2:** Location of case study, Gunnarsbyn. Source: SMCLRA (2011).

Sweden is, according to the 2013 Travel and Tourism Competitiveness Report, the 9th most competitive country for tourism (out of 140). The T&TC index consists of 14 pillars, whereof Sweden's highest score is in 'environmental sustainability' (ranks number 1 out of 140), but

the lowest scores are in 'government prioritization of the T&T industry' (64), and 'T&T government expenditure' (100) (World Economic Forum 2013). In 2012 the tourism industry accounted for 3% of Sweden's total GNP, which is a larger percentage than agriculture, forestry, mining or fisheries account for (SAERG, 2012).

Despite its economic significance worldwide, the tourism industry is vulnerable in three main ways: (1) it includes small scaled businesses which are highly market sensitive; (2) it is categorized in the service sector where employees generally have the very lowest salaries; and (3) it is highly dependent on the carrying capacity of ecosystems. While tourism is generally treated as a solution to many economic, social and environmental challenges worldwide the sector's vulnerability lies in its lack of recognition as an employing industry and therefore lacks the agenda to impact development in an encompassing and sustainable manner (WTO 2011). This contradiction stalls the sector's development globally, which in turn has an impact on all tourism activity.

## **Methodology**

This participatory action research (PAR) encompasses a social constructionist view of socio-ecological systems theory. Through the lens of micro social constructionism (as proposed by Burr 2003), claims about the constructed reality of a certain practice can only be made by descriptions of "what people at a particular time and place take as real, how they construct their views and actions, when different constructions arise, whose constructions become taken as definitive, and how that process ensues" (Bryant & Charmaz 2010: 610). Inquiring about people's reality should have a direct purpose for those individuals themselves, empowering local expertise while providing tools that facilitate the discussion. After all, "individuals are the experts of their own lives" (Esterberg 2001: 136) and should thus be active participants in creating data about their community.

Describing the experience of each person around a constructed reality is too complicated to be represented without any kind of generalization in order to identify phenomena of interest. In order to explain the dynamics of the system of tourism practice in Gunnarsbyn, a participatory systems analysis was incorporated into a semi-structured interview design where the goal was to "explore a topic more openly and to allow interviewees to express their opinions and ideas in their own words" (Esterberg 2001: 87). The first part of the interview included open questions about work and perceptions of sustainable development. The second part of the interview aimed to tie the wider discussion down to concrete descriptions of the dynamics of their system with participatory modeling.

Participatory modeling has mostly been used in formal public participation processes, which usually are done in large groups and contain quantitative modeling methods (Mendoza & Prabhu 2006). Cognitive or qualitative modeling, on the other hand, is considered appropriate as a scoping method to identify key concepts and variables. In this study, qualitative system analysis was applied to gain information about the perceived relationship between variables by adding a positive or negative value to the relationship (Haraldsson 2004). The interviewees were asked to draw models, using the method Causal Loop Diagrams (CLDs), not including a time range or space for change; rather it was

to show the contemporary state of the system at the time of the interview. Four main steps were used as guidelines to the method:

- 1) Explaining the basics of CLDs with help of an example diagram that does not relate to the aim of the interview.
- 2) Clarifying the goal of the diagram: *Does local tourism practice make the community sustainable?*
- 3) The interviewee starts defining variables with help of questions, e.g. ‘what is important to know about the context of this system?’
- 4) The interviewee defines the relationships between the variables with help of questions, e.g. ‘which strategies are the most relevant to be able to meet these challenges?’

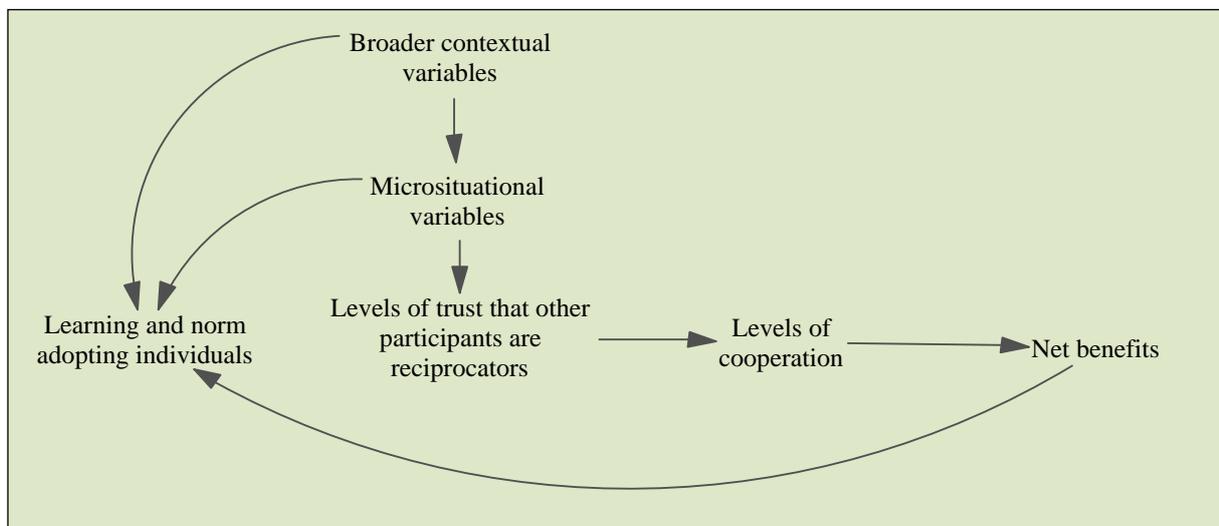
Fieldwork was done in Gunnarsbyn March 2<sup>nd</sup> – 15<sup>th</sup>, 2011. The participants represented all tourist hosts in Gunnarsbyn (Table 1). They were chosen by purposive strategy, already established connections with people that could give the greatest possible insight into the topic in this area (Esterberg, 2001). This may be seen as a challenge to the role of a neutral researcher and creates a risk for bias. On the other hand the researcher did not have the possibility of choosing participants by any other methods since these individuals are the only tourist hosts in their community. The interviews were conducted in Swedish and translated in the transcribing process. The quotes provided in the following chapters are therefore a word for word translation. The translation and transcription was done by the author. The presented quotes were sent to the participants to be confirmed before publishing. Additional ethical considerations that need to be addressed are those regarding mutual reward of participation to both the researcher and the participants. The interview questions were designed in a manner that helped the participants reflect on their own situation and the participants commented that the outcomes of the participatory system analysis method provided them with an overview of their situation. During follow-up communication one of the participants, Tatiana, mentioned that she had used the results of the interview in her work in a municipal networking project. The correct names of the participants are used in the results with their permission.

**Table 1:** List of Participants

<i>Participants</i>	<i>Description of business</i>
Kurt Selberg Maria Prellwitz	<i>North Craft</i> : Cabins and catering, producer and retailer
Lorentz Andersson Carina Andersson	<i>Ävdalsturisten, Camp Svanis</i> . Cabins and catering company
Love Rynbäck	<i>Creative adventure</i> : recreation & outdoor adventure tourism company
Tatiana Rynbäck	Manager of Tourism Networking Project in Gunnarsbyn AND <i>Creative adventure</i>

As the subjects that were brought up in the interviews vary in scale and time perspectives it was decided to use *codes* to organize the transcribed content and compare the codes to *themes* inspired by the framework of conditional cooperation for sustainable use of common pool resources (Poteete, Janssen & Ostrom 2010), namely: norm-adopting individuals; reciprocity of other participants; cooperation and; net benefits (Figure 3). In the analysis process, space was left for *categories* to emerge from the resulting participatory diagram (Figure 4 in results).

The theoretical background to the conditional cooperation framework advocates that “humans do not universally maximize short-term self-benefits and can cooperate to produce shared, long-term benefits” (Vollan & Ostrom 2010: 923). It provides a pragmatic view of humans as norm-adopting, learning and dependent on reciprocity in the context that they live and work in. This opposes the rational-choice model that inspired the conventional theory of the tragedy of the commons where “individuals are assumed to have complete information about the structure of the situation that they are in”, and are thus “assumed to select the strategy leading to the best expected outcome for self” (Vollan & Ostrom 2010: 923). The analysis assesses the degree in which collective action in tourism in Gunnarsbyn is *conditional* if the variables support a reinforcing relationship between (1) norm-adopting individuals; (2) reciprocity; (3) cooperation; and (4) net benefits (Vollan & Ostrom 2010; Poteete et al. 2010).



**Figure 3:** Learning and norm-adopting individuals are attracted to certain situations, and then are affected by the behavior of other actors facing the same situation. Source: Vollan & Ostrom (2010).

## Research Limitations

The presented results address the perspective of tourist hosts and therefore do not describe the net benefits for other stakeholders in the community. However, it is important to keep in mind that the community is small and the interviewees also belong to other stakeholder groups. They are representatives of residents, residents that have other jobs, and residents that are active in local politics. The tourism sector is highly dependent on an outside market and is therefore practiced at a

community level, regional level and international level simultaneously. Thus, when describing a system of local practice in tourism, it is impossible to exclude outside complications entirely. On the other hand the scope of this study is restricted to represent the perspective of the tourist hosts specifically. The components that are described are thus limited to the accounts of the tourist hosts and what they see as their system in everyday life. Due to this, the system boundaries were set on the community and these specific actors. Also, the study does not account for climate impacts of air travel.

## Results

### *Norm-Adopting Individuals*

*Why are tourist hosts in Gunnarsbyn practicing tourism in the manner that they do today?* The first research question aims to describe how the tourist hosts are i) *norm-adopting* in sharing common pool resources and; ii) *learning* in developing a practice that is sustainable for their community.

Common standpoints from the interviews emphasize that their practice is vulnerable because governmental and municipal policies in Sweden are centralized, and efforts in the Swedish periphery mostly serve traditional industries (forestry, mining, hydropower and agriculture). These efforts leave little attention to the tourism industry and limit the possibilities of tourist hosts to invest in their business and employ people. Work opportunities in the traditional industries are currently being substituted by technology and outsourced to foreign companies, especially forestry, thus “the effect is: fewer and fewer people that rely on the industry, which naturally leads to a demand for other industries to be reliant on” (Lorentz, participant). Six main reasons to why the interviewees think that the tourism industry is vulnerable in this area were deduced:

- i. Attitudes that indicate that working in tourism is not economically stable, which makes people prefer to be employed by traditional industries.
- ii. Employment tax is too high for small-scale tourism companies to be able to employ other people.
- iii. Employment policies in Sweden are centralized.
- iv. Services and infrastructure are centralized both on governmental and municipal levels and reaches the community with great inertia even though they are paying the same taxes.
- v. Despite active involvement in dialogue with politicians, influencing decision-making and policies has not been fruitful.
- vi. Marketing is essential for tourism, but tools for common marketing from government and municipalities are lacking.
- vii. Free movement through land provides freedom and opportunities, but it also creates the dilemma of sharing natural resources with larger industries, forestry, mining and agriculture.

The interviewees emphasized that current subsidized industries are in decline and do not serve a purpose for EA areas, and they have difficulties in seeing results of both national and regional politics locally.

Now they are saying tourism is the fastest growing industry in Sweden, well yes it is, then why don't you believe in the people who are willing to work in the industry? Why not give them the same prerequisites to work? [...] the cabin isn't supposed to be worth less because it's used for tourism or because it's built on a ground that you don't own, it doesn't make any difference, it's not like the material is less expensive depending on the definition of the ownership of the land, it's exactly the same, it's just that I won't get a loan from the state. That's one sentence that you need to change in the law that would change everything (Lorentz, participant).

The tourist hosts describe their position as the worst place to practice tourism and totally economically irrational. But since they want to continue living in the area, their hands are tied to the system that they work within (Love, participant). Contributing to a changing community is about learning to manage with change (Folke 2006). In order to tell something about how tourist hosts in Gunnarsbyn understand sustainable development you need to understand *why they are practicing tourism the way they are doing today*. According to the interviews, the tourist hosts practice tourism with the goal of: (1) fulfilling the needs of their guests; (2) adding personal value to their work and; (3) following a code of conduct of working in the nature inspired by their own 'close to nature' lifestyle.

The interviewees were asked to describe specific practices in their everyday work and why they do them. Kurt resembles most of the interviewees when he says that in his work most of his time goes to: (1) Prepare wood and make fireplaces in the cabins, sauna, bonfire and outdoor bath; (2) fill the outdoor bath with water from the lake and; (3) prepare meals. Maria adds that the most important attributes are that "Kurt has built those houses where the people are staying, the food is homemade and locally produced and the guests are always pleased". This way a unique place for the hosts becomes a unique place for the guests. The joy of being able to provide this particular service in this particular place is thus the main driver for the development of the practice.

The interviewees emphasized that their activities are designed "according to nature" (Tatiana, participant). They feel obligated to meet ecological limitations while turning environmental goods into social goods, and a cultural experience. Furthermore, engaging in dialog with guests about the environment that they are currently sharing creates unproblematic awareness making, and can easily encourage a more pro-environmental behavior of both actors.

These messages reach us all the time scaring us, the catastrophes and the sudden weather changes, there must be a reason for all this. And if the explanation is that we soon have used up all the resources on our planet and consumed unnecessarily much, then that is horrible and we need to re-evaluate [...] that's why I think it is very important that the guests are with us in taking care of the place, and that they understand why we have the rules we have. We tell them that there is a set of thoughts behind everything, because we are concerned for the future of the lake (Carina, participant).

Concerning adapting to sustainability challenges, all of the interviewees replied with concrete examples of everyday practice. Love says that when organizing activities they always use local materials and service, "so that we can support local knowledge and capacity available in local micro-economies". He says that the supply that meets the needs of the company within the boundaries of

Gunnarsbyn is only 10- 15%, “but if I look at it with a bigger parameter, about 100 km, we get most of what we need, so we use very few foreign producers for our company” (Love, participant). All of the interviewees seem to share the view that products and services for creating tourism experiences should be local. This is an example of how complicated sustainability challenges can often be simplified into individual efforts that make a difference. Adaptive planning is also visible in how the hosts attract visitors through own marketing.

### ***Reciprocity***

*How do tourist hosts in Gunnarsbyn perceive common commitments to sustainability challenges?* The second research question aims to describe the levels of trust in that other tourist hosts are reciprocators in the vulnerability challenges described above, and commit equally to meeting these in the long-term perspective.

The previous section described how tourism practice cannot easily be disconnected from the tourist hosts’ lifestyle. The reasons are threefold: (1) they are living in symbiosis with the company; (2) the physical environment is their workplace at the same time as it is used for leisure time recreation and; (3) they want to contribute to their community in their work but do so also through choosing to live there. This kind of norm-adoptive integration of lifestyle and work indicates trust in a common code of conduct and a critical attitude towards other types of tourism practice. “You don’t need to build a hotel or big constructions that consume the nature when you can make use of the resources that are already there” (Love, participant). All of the interviewees did in fact mention that their practice does not comply with mass-tourism, but that they want the same prerequisites as areas that practice mass-tourism. Finland’s northern peripheries were a popular comparison because they share similar tourist attraction but have the prerequisites needed for expanding.

The described lack of trust in policies for external assistance has the effect that these tourist hosts put their hopes on the tourism industry and on the community. Kurt pinpoints the dilemma in this: “especially foreign tourists will just become more and more interested in the area. The less people that live here and the more deserted it seems, the more interesting the area is, unfortunately!” Furthermore, using natural resources as a tourist attraction in a sustainable manner creates a dilemma as increased demand and income is positive for economic development at the same time as increased demand increases the need for infrastructure and policies that enhance the carrying capacity of ecosystems and communities. If the conventional theory of the *tragedy of the commons* were to provide a solution to this, only external authorities could provide this. The problem is that they do not remember the development of the socio-ecological system in the same manner as local people and therefore they are not making any efforts to provide what is needed.

By contrast, the tourist hosts call for a combination of inputs from both external and internal sources. They talk about a need for new people that want to live in the community at the same time as they talk about a need for a community that remembers. It is evident that the generation that bridges these two is lost in Gunnarsbyn. As Kurt puts it: “Right now we are a community with a lot of capacity, but that capacity is in a population where too many are 65 and older. The community

itself is dying out”. This generation gap means that young people lack reasons to visit the north, and also lack incentives to want to live there.

We have been neglecting the jobs. Now there are not many jobs left, not up here in the north, and we have to take these jobs, not because they are bad jobs but because they haven't existed before [...] take the example of Ice Hotel in Jukkasjärvi, they have existed for 20 years but were not really acknowledged until 8 years ago, what were they doing the first 12 years? Exactly the same things as now, but all of a sudden they reach a threshold where the concept is accepted (Lorentz, participant).

It is evident that the Ice Hotel was accepted as an important source of employment by the time the company started accounting for revenue in millions, and the multiplier effect in the community in Kiruna became measurable. This is understandable considering that economic growth is the dominant measurement for development. However, the results of the participatory modeling in figure 4 show how uncertainty in tourism business development threatens the economic stability of their socio-economic system of the community.

According to this, it would not serve a great purpose for external actors to use economic growth as an argument to change tourism practice in Gunnarsbyn. Rather, the interviewees seem more responsive to arguments of increasing social well-being of communities in the northern peripheries with the long-term perspective of increasing economic stability and increasing population density. In a way the interviewees promote a form of *development without growth* (Daly 1996) when they say “we don't need more money! Money is absolutely not a limiting factor! Just change the policies so that we have the same prerequisites to do our work! Provide us with the same base to start on as other industries!” (Kurt, participant). The described desire to live and work in the northern periphery is a concrete example of how sustainable development (as defined in ‘Our Common Future’ 1987) can play out in reality; namely the desire for development that meets the needs of the present without compromising the ability of the future to meet its needs, in this particular area. When asked about the future, Tatiana and Love agree that they will probably not live to see measurable results of their work. But they work for the future of their children, and “we have come quite far, if we accept that” (Tatiana, participant).

The tourist hosts do not see their situation of sharing common natural resources as a dilemma when communicating with other actors within the community. The dilemma situation is visible when communicating their needs to the larger system. The danger of choosing an alternative structure that maximizes short-term individual returns (Poteete et al. 2010) is thus not present in their current practice. Unofficial rules and strong norms seem important for monitoring their own actions.

### *Systems of Cooperation*

The third research question is: *What systems of collaborative action are important for meeting common sustainability challenges in the community?* While specific practices are important accomplishments for sustainability on an individual level, these also contribute to form strategies and norms that can prove important for sustainability of the community.

The tourist hosts cooperate by using local products and services to fulfill the needs of their guests. Love explained that cooperation was a part of his business plan from the beginning. The idea was a mobile adventure experience company that would produce services for other companies. “This accounts for about 30% of our work today [...] I cooperate with 150 other companies, that means that I can provide a wide range of things in many areas. I buy services from my colleagues, which means that they buy services from me, we help each other out to be able to service big groups and support each other. That’s a very central thing” (Love, participant). Maria and Kurt say that this is important to keep in mind if you arrive as a new part of the community, “so that you know where you fit into the puzzle”, “there’s no need to reinvent the wheel”. This dominating cooperation-instead-of-competition atmosphere is what makes the common culture in this tourism practice dynamic.

All of the interviewees have participated in different community projects in Gunnarsbyn. A recent accomplishment, an analysis of the local economy in Gunnarsbyn, is a comprehensive report of resource flows in the community (Rynbäck 2011). The main results of this project were three suggestions that would make the local economy more sustainable, which are now ongoing projects. One of them is Destination Råne Älvdal, a tourism networking project that aims to coordinate all production and tourism products with common marketing, “to create our own identity and to find our customers, that is to highlight what is Råne Älvdal” (Tatiana, participant). In three years, the project will result in a functioning system of local tourism industry that emerges from the outcomes of cooperation of entrepreneurs. The project reveals initiatives that are considered important for the future of the community and therefore the central goal of the project is “to know that we got people on board and that it’s about common work” (Tatiana, participant).

Lorentz is a member of the Boden municipality council for rural areas. His work in the council is an attempt to create a link between community level goals and municipality level commitments that most of the interviewees considered lacking. He says that now is the time to invest in new infrastructure in the community; improvements would make Gunnarsbyn more attractive and sustainable for inhabitants and for visitors:

Compared to the situation now where there are two shops fighting for survival with no security. This is about sustainable development of our area [...] nobody says it’s a bad idea, but people are reluctant to build new buildings, it’s easy to think ‘yes well we can think of that next time we are building’ or ‘that seems expensive’. There is nothing that is too expensive today. I don’t see costs as a limiting factor in anything, absolutely not! Because if the costs steers everything that you do, there is no reason to even recycle, because it’s not for the money, it’s for being able to breath for 50 years more without gasmasks (Lorentz, participant).

According to the interviewees the problem does not lie in lack of money, rather the distribution. Therefore economic development needs to make sense in the local context. As an example, construction of a hydropower station in Råne river has been rejected many times by local organizations, at the same time as it is still advocated for as an important tool for development by the government. Accordingly, “a community will not flourish in the long term if growth in one form



conduct which requires an environmental behavior of both tourist hosts and guests that increases *environmental awareness*, which eventually results in less *water and air pollution*, which in turn increases the value of the local *natural environment*. Welcoming guests to experience the EA environment transforms environmental goods into social goods which contributes to *well-being of a greater society*.

The tourist hosts engage in *marketing* on their own since marketing strategies based on governmental and municipal policies focus on *establishing tourism industry on a national level* and are not sufficiently effective locally. *Marketing* reinforces both the flow of *guests* and brings *positive attention to the community*, which contributes to increase the population density, crucial for reinforcing the *community economy*. The *community economy* is thus reinforced by employment, marketing and in addition *cooperation and community level initiatives*. These are reinforcing for the local tourism practice but since they are vulnerable to policy constraints have a relatively low impact. *Cooperation and community level initiatives* are necessary to obtain and maintain *local service and infrastructure* since governmental and municipality level inputs are insufficient.

The relationships explained above are all reliant on the tourist host's ability to continue living in the community, and evidently their ability to continue their *local tourism practice*. The relationships that emerge with involvement of *governmental and municipal policies* are more balancing than reinforcing. These prioritize forestry, mining, hydropower and agriculture, grouped as *traditional industries*, which makes tourism economically vulnerable. Limited *investment opportunities* for tourism decrease possibilities for tourism to serve as an employing industry in the community. Sharing the *natural environment* with forestry directly decreases the *natural environment* since Sveaskog is obliged to cut 5% of their forest holdings every year. Sveaskog also threatens the ability to continue working with *local tourism practices* through the authority to increase rent or sell land without notice. The *global economy* is an important component as it does provide an input to tourism practice, with more *guests*, but it also reinforces *traditional industries*, a process that is much bigger than the local tourism practice.

## Discussion

Love told me when we moved here that we would probably not see results within 20 years, and I didn't believe him, comparing to where I come from, Ecuador, South America's third poorest country, my point of reference was totally different both for the possibilities of the tourism industry and for Sweden, I thought I was coming to one of the most developed countries in the world, but in terms of tourism, there is nothing (Tatiana, participant).

The framework of conditional cooperation includes that "behavior is more directly influenced by micro-situational variables, which in turn are more influenced by the broader contextual variables" (Poteete et al. 2010: 220). The tourist hosts in Gunnarsbyn had no problem identifying relationships between micro-situational variables and broader contextual variables within their socio-ecological system, defining these as either reinforcing (creating net benefits), or balancing (working against development of net benefits). The main driver of reinforcing relationships is the common interest to continue living in the community and continue working with tourism. Together the tourist hosts create community capital in projects and initiatives in tourism that have net benefits in the community although they say that these are small in scale and develop slowly.

It can be concluded from the interviews that the tourist hosts have a high propensity to conditional cooperation and are capable of producing shared sustainable benefits for their community. Each participant is confident in the reciprocity of other tourist hosts in the community and agrees that main dilemmas in their practice involve communication with national level or global actors. Thus, they support the acceptance of a new behavioral theory, that “if enough individuals initially cooperate, they slowly obtain benefits from the [natural resources], and levels of cooperation grow” (Vollan & Ostrom 2010: 924). In the projects that are facing them right now, each of the interviewees are leaders for increased cooperation and increased sustainability of the community, and are slowly changing the acceptance in the rest of the community to manage and maintain the common natural resources locally.

This does not mean that they are immune to disturbances like distance to market, lack of infrastructure and service and an aging population. The national level system still makes the rules for their work. This could be interpreted in several ways: 1) rules established by an external authority that “crowd out” the group’s motivation to cooperate (Vollan & Ostrom 2010: 924) and makes them pessimistic about the future of the community; 2) a systematic lock-in that disables the community’s resilience to handle shocks or expand in their work, “My hands are tied to the system that I work within” (Love, participant) or; 3) a system that provides opportunities for their work and cooperation in terms of e.g. financial support for development projects, leasing of land and free access to use land for tourism and own recreation activities. Adding to the complexity of things, the answer is indeed that the national level system provides pathways to all three options. In the future vision deducted from the interviewees’ accounts one thing is clear: sustainable tourism goals cannot be disconnected from the goal of sustaining the community. Thus can tourism function as the empowerment needed to activate drivers for sustainable development of Gunnarsbyn on a local level.

## **Conclusions**

This study is descriptive of the infrastructural and demographic vulnerability involved in livelihoods and tourism development in European Arctic regions. The main outcome of this study is that tourism is a strategy to cope with geographical and political vulnerability but the problem is that the tourism sector is also vulnerable in itself. The interviewees have confirmed this by emphasizing that both their community and the tourism industry are of low priority in national politics.

In order to explain how tourist hosts understand sustainable use of common natural resources in their context, the analysis included accounts of (1) their current practice, as a description of an ongoing practical accomplishment in reaction to both local and global sustainability challenges; (2) the vulnerability involved with tourism practice in this place and; (3) their dependence on common pool resources. It became clear that vulnerability is involved with the entire complex system of their choice of lifestyle and practice. The tourist hosts do not see their situation of sharing common natural resources as a dilemma when communicating with other actors within the community. The dilemma situation is visible when communicating their needs to the larger system. The problem of insufficient infrastructure does not lie in lack of money, rather the distribution. The community

norm seems to be supportive of a lifestyle of common commitments to deal with long-term sustainability challenges.

The methodological contribution of this study was to apply qualitative participatory systems dynamics to the theory of conditional cooperation for sustainable use of common pool resources. The micro-situational and broader contextual variables that were accounted for by the interviewees proved relevant to make the assessment that cooperation is in this case conditional: tourism can function as the empowerment needed to activate drivers for sustainable development of Gunnarsbyn on a local level.

The approach of micro social constructionism became relevant to the core questions of sustainability science as it puts personal accounts of work in relation to sustainable development of communities. Further investigations of approaches that identify context-specific conditions that enhance shared long-term benefits are needed. Suggestions for further research thus include studies of other peripheral areas in Northern Europe and a comparison of their strengths and weaknesses in developing cooperation for sustainable use of common natural resources. Further research should also include other stakeholder views and elaboration of how the policies that are mentioned in this study have influenced livelihoods in European Arctic regions.

## References

- Berkes, F., Colding J. & Folke, C. (eds.) (2003). *Navigating Social-Ecological Systems. Building Resilience for Complexity and Change*. UK: Cambridge University Press.
- Briassoulis, H. (2002). Sustainable Tourism and the question of the Commons. *Annals of Tourism Research*. 29(4): 1065-1085.
- Burr, V. (2003). *Social Constructionism 2nd edition*. Routledge.
- Bryant, A. & Charmaz, K. (2010) (eds.). *The SAGE Handbook of Grounded Theory*. SAGE Publications Ltd.
- Callaghan, E. G. & Colton, J. (2008). Building sustainable & resilient communities: a balancing of community capital. *Environment, development and sustainability* 10(6): 931-942.
- Daly, H. E. (1996). *Beyond Growth. The Economics of Sustainable Development*. US: Beacon Press
- Esterberg, K. G. (2001). *Qualitative Methods in Social Research*. US: McGraw Hill
- Folke, C. (2006). Resilience: The emergence of a perspective for social-ecological systems analyzes. *Global Environmental Change*. 16: 253-267.

- Farrell, B. H. & Twining-Ward, L. (2004). Reconceptualizing Tourism. *Annals of Tourism Research* 31(2): 274 – 295.
- Gunn, C. A. (2002). *Tourism Planning: Basics, Concepts, Cases*. New York/London: Routledge.
- Hall, C. M., Müller, D.K. & Saarinen, J. (2009). *Nordic tourism. Issues and cases*. Buffalo/Bristol/Toronto: Channel View Publications.
- Haraldsson, H. V. (2004). *Introduction to Systems Thinking and Causal Loop Diagrams 5<sup>th</sup> ed.* Reports in Ecology and Environmental Engineering, 1. Lund University: Department of Chemical Engineering.
- Kates, R. W., William C., Clark, R., Corell, J., Hall, M., Jaeger, C.C., Lowe, I., McCarthy, J., Schellnhuber, H.J., Bolin, B., Dickson, N. M., Faucheux, S., Gallopin, G. C., Grübler, A., Huntley, B., Jäger, J., Jodha, N.S., Kasperson, R.E., Mabogunje, A., Matson, P., Mooney, H., Moore, B., O'Riordan, T. & Svedin, U. (2001). Sustainability Science. *Science*. 292(5517): 641.
- Mendoza & Prabhu (2006) Participatory modeling and analysis for sustainable forest management: Overview of soft system dynamics models and applications. *Forest Policy and Economics* 9: 179-196.
- Mikkola, P. (2014). *NPP 2020 – the gateway to the Arctic? Arctic Dimension in the Northern Periphery Cooperation. Preparatory project, Final content report*. Regional council of Lapland, Northern Periphery Programme 2007 – 2013, EU.
- Miller, G. & Twining-Ward, L. (2005). *Monitoring for a sustainable tourism transition. The challenge of developing and using indicators*. CAB International
- Ostrom, E. (1990). *Governing the Commons: The Evolution of Institutions of Collective Action*. Cambridge: Cambridge University Press.
- Ólafsdóttir, R. & Runnström, M. (2013). Assessing hiking trails condition in two popular tourist destinations in the Icelandic highlands. *Journal of Outdoor Recreation and Tourism* 3(4): 57–67.
- Poteete, A.R., Janssen, M. A., & Ostrom, E. (2010): *Working Together. Collective Action, the Commons, and Multiple Methods in Practice*. Princeton: Princeton University Press.
- Rynbäck, T. (2011). *Slutrapport: För en livskraftig ekonomi i Gunnarsbynområdet*. Sweden: Gunnarsbyn: Råne Älvdals Utveckling ab. Råne Älvdals Utveckling (2010). *Vår lokala ekonomi. En presentation av den lokala ekonomin i Gunnarsbynområdet*. Sweden: Gunnarsbyn: Råne Älvdals Utveckling ab.
- SAERG, Swedish Agency for Economic and Regional Growth (2012). *Fakta om svensk turism: Turismens effekter på ekonomi, export och sysselsättning samt volymer, beteenden, utbud och efterfrågan. Fakta & statistik, 2012*. Stockholm.
- SEPA, Swedish Environmental protection agency (2009). *Vad är allemansrätten?* Retrived from <http://www.naturvardsverket.se/sv/Att-vara-ute-i-naturen/Allemansratten--en-unik-%20mojlighet/Vad-ar-allemansratten/%20on%2015052011>.
- Statistics Sweden (2014). *Accommodation statistics 2013, Sweden*. Retrived from [http://www.scb.se/Pages/Product\\_11818.aspx%20on%20120414](http://www.scb.se/Pages/Product_11818.aspx%20on%20120414).

- Swarbrooke, J. (1999). *Sustainable tourism management*. Cambridge: CABI Publishing.
- Vik, M. L., Benjaminsen, T. A. & Daugstad, K. (2010). Synergy or marginalization? Narratives of farming and tourism in Geiranger, western Norway. *Norske Geografiske Tidsskrift – Norwegian Journal of Geography* 64: 36-47.
- Vollan, B. & Ostrom, E. (2010). Cooperation and the Commons. *Science* 330: 923-924.
- World Commission on Environment and Development (1987). *Our Common Future*. Oxford: Oxford University Press.
- World Economic Forum (2013). *Travel and Tourism Competitiveness Report 2013. Reducing Barriers to Economic Growth and Job Creation*. Blanke J. & Chiesa, T. (eds.). Geneva.
- World Tourism Organisation (2011). *Mainstreaming Tourism in the Global Agenda. 5th Excelltur Tourism Leadership Forum 'Prospects and Challenges of Tourism's Recovery for 2010/2011' Madrid Spain*. video, retrieved from <https://www.youtube.com/watch?v=NKJfTeCYsbg>.

# ARCTIC TOURISM: REALITIES & POSSIBILITIES

Patrick T. Maher, Hans Gelter, Kevin Hillmer-Pegram, Gestur Hovgaard, John Hull, Gunnar Þór Jóhannesson, Anna Karlsdóttir, Outi Rantala, & Albina Pashkevich

*This paper addresses human capital in the Arctic in relation to tourism. More specifically, with an ever-increasing number of tourists recognizing the attractiveness of the Arctic, tour companies are increasingly recognizing the opportunities. The media (typically southern media) sells the image, either before or after the tourists arrive, and communities are often left to deal with the repercussions – whether those are social, economic, environmental, or the like. Many of the repercussions are negative; however, even when perceived as positive they can create tensions within small communities and showcase a variety of capacity issues.*

*This paper focuses on the realities and possibilities of tourism in the Arctic. It offers an up-to-date descriptive overview of tourism numbers and valuations. In addition, ‘realities’ also focuses on the current suite of challenges and ‘possibilities’ addresses critical questions that need to be asked as tourism grows. We are in an uncertain age and academic critique of the Arctic tourism phenomenon is growing as the numbers. This paper is almost fully circumpolar in outlook, written by individuals from those jurisdictions, and aims to intersect with other sectors active in the Arctic.*

## Arctic Tourism – Definitions and Resources

Tourism in the Arctic starts at the North Pole and quite literally spreads out in all directions from there. Attractions include charismatic mega fauna such as polar bears and narwhal, the cultural uniqueness of a variety of Indigenous peoples, vast tundra and taiga landscapes, icebergs and glaciers and even a few built facilities of note. One of the critical concerns in understanding Arctic tourism is in recognizing its boundaries. Using a geographical perspective to delineate Arctic tourism, this paper defines the Arctic as:

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All of Alaska, Canada north of 60°N together with northern Québec (Nunavik) and Labrador (Nunatsiavut), all of Greenland, the Faroe Islands, and Iceland and the northernmost counties of Norway (Nordland, Troms, Finnmark and Svalbard), Sweden (Västerbotten and Norrbotten) and Finland (Lapland)...(and in Russia) the Murmansk Oblast, the Nenets, Yamalo-Nenets, Taimyr, and Chukotka autonomous okrugs, Vorkuta City in the Komi Republic, Norilsk and Igrska in Krasnoyarsky Kray, and those parts of the Sakha Republic whose boundaries lie closest to the Arctic Circle (Stefansson Arctic Institute 2004: 17-18).

Beyond its geographical scope, it is common that Arctic tourism is characterized as remote and difficult to access (although this is not true across the entire Circumpolar North); as beset by human capital issues (e.g., lack of trained staff, or even a population large enough to handle the task); and as occurring in fragile natural and cultural environments. More so than most other destinations worldwide, Arctic tourism has strong seasonality due to the extreme variations in daylight hours, but winter tourism appears to be a growing phenomenon (Müller 2011).

In the past decade there has been significant scholarly research on tourism in the Arctic. The International Polar Tourism Research Network (IPTRN; see <http://iptrn.rmfi.is/>) has produced three recent publications from their community-embedded conferences (see Grenier & Müller 2011; Müller, Lundmark & Lemelin 2013; Lemelin, Maher & Liggett 2013). This network is complimentary to the University of the Arctic's Thematic Network on Northern Tourism. Through these two networks, as well as many other means, scholars have dealt with a number of segments of the sector including: the peripheral realities (Müller & Jansson 2007); unique sub-sectors such as cruise tourism (Lück, Maher & Stewart 2010); and the inherent interconnectivity of environmental changes afoot (Hall & Saarinen 2010; Maher, Stewart & Lück 2011). From the socio-cultural perspective, Indigenous tourism has emerged as a significant dimension of Arctic tourism (Butler & Hinch 2007; Viken and Granås 2014). In addition, industry groups such as the Association of Arctic Expedition Cruise Operators (AECO; see <http://www.aeco.no>) provide excellent sub-sector oversight in some regions, and inter-governmental agencies such as the United Nations Environment Programme and working groups of the Arctic Council show occasional interest in the sector as a whole.

## **Realities and Possibilities**

This paper is set up to address three specific questions for each country, or region of a country that is contained in the Arctic:

1. What are the up-to-date tourism numbers and the value of that tourism?
2. What are the current challenges, and possible solutions, for tourism?
3. What might the future hold for tourism?

It was the hope that this paper would provide comprehensive coverage, and a co-author from within each region was sought, so as to provide a credible and "local" voice. The reality was that an author from every country was not willing or able to respond and as such this paper is partially incomplete

as it is lacking Norway (including Svalbard) and Greenland. However, this should not diminish the contributions from Alaska, Canada, Iceland, the Faroe Islands, Sweden, Finland and Russia.

### *Alaska*

Alaska constitutes the Arctic presence of the United States of America (USA). Alaska's economy is dominated by federal spending and natural resource extraction – primarily oil and gas but also mining, seafood, and forestry – but tourism also plays an important role. Moreover, Alaska is an iconic tourism destination for many Americans, with glaciers, wildlife, scenic nature, and hunting and fishing serving as key attractions (GMA Research Corporation 2011).

The Alaska state government contracts an independent research firm to compile statistics on the state's visitor industry; where visitors are defined as non-state residents. The most recent report covers the 12-month period of October 2012 through September 2013 (McDowell Group 2014). In this period, an estimated 1.96 million individuals visited Alaska, with approximately 51% arriving on cruise ships, 45% traveling by air, and 4% by highway or ferry.

Visitor spending within the state was estimated at \$1.82 billion US. Total employment resulting directly and indirectly from the industry was estimated at 39,000. Combined revenue to municipal and state governments was estimated at \$179 million US for the period. While these numbers are relatively small compared to oil and gas activities, which were estimated to contribute over \$2.6 billion US to the state's revenue in fiscal year 2013 (AKDOG 2014), tourism is a significant source of income for many Alaskans, especially in the south central and southeast regions of the state (McDowell Group 2014).

While tourism provides a rare non-extractive economic option for Alaska, it has its own challenges. One set entails mitigating the negative impacts of tourism on the environment and on communities. Cruise ships in the southeast have been criticized for polluting marine ecosystems and disrupting the daily activities of residents (Ringer 2010; Cerveny 2004). There are also cases of non-resident hunters infringing on the territory of Alaska Natives, who rely on access to game for subsistence (personal communication). While tourism is economically valuable, it must be prevented from overwhelming ecosystems and subsistence-based life-ways through appropriate regulation.

A different set of challenges results from efforts to expand and maintain Alaska tourism – which is predominately nature-based – in the face of climate change. Tourism has been proposed as a tool for economic development in remote far-north communities, but is severely hampered by a lack of infrastructure, including search and rescues capacities for ship-based tourism. While marine access to remote coastal communities is expected to improve as Arctic sea ice shrinks, terrestrial access has been predicted to decrease as permafrost beneath the ground thaws (Stephenson et al. 2011).

Retreating glaciers and shifting ranges of wildlife are causing visitors and tourism operators to alter their spatial patterns in order to secure viewing opportunities in many parts of the state (personal observation). While the Alaska tourism industry possesses economic and lifestyle incentives to adapt to the rapidly changing environment, their capacity to adequately respond is not fully understood.

Focusing more on other types of tourism (e.g., historical, cultural) may be important for the future of the industry.

It is difficult to predict the future of Alaska tourism due to the high number of variables influencing visitor numbers. It is likely that visitors will continue to hunt, fish, and experience nature throughout the state as long as opportunities exist at competitive prices. There could even be a temporary spike in visitations as people hurry to experience such attractions before they are altered by climate change (see Lemelin et al. 2010). However, the high cost of getting to Alaska has been cited as a deterrent to visitation, so global fuel prices could play a large role in future trends (GMA Research Corporation 2011).

### Canada

The Canadian Arctic is a region experiencing rapid social, economic, and environmental change as a result of climate change and from the growth of Northern governments and institutions (Dawson, Stewart, Lemelin and Scott 2010; Government of Canada 2009; IPCC 2007; Johnston 2006). In 2009, the Canadian government launched the Northern Strategy providing a clear vision for promoting a prosperous and stable region in the Canadian Arctic through four priorities: (1) exercising Arctic Sovereignty; (2) promoting social and economic development; (3) protecting the environmental heritage; and (4) improving and devolving northern governance (Government of Canada 2009). In promoting economic development, the tourism sector has only, until recently, begun to consider the possible impacts of climate change (Dawson et al. 2010), identified as one of the greatest challenges for the global tourism industry in the 21<sup>st</sup> century (UNWTO-UNEP-WMO 2008).

In the Canadian Arctic, tourism numbers are uneven across the region as a result of inadequate transportation infrastructure, scarcity of local products, a lack of skilled labour, and insufficient marketing resources (Northern Development Ministers Forum 2008). In recent years, a summary of visitor statistics reveals that the region welcomed approximately 528,000 international and domestic visitors annually with visitor spending totaling approximately \$388 million (see Table 1). The Yukon is Canada's most visited Arctic destination.

**Table 1:** Tourism Statistics in Canadian Arctic Destinations

	Yukon (Belik 2013)	Nunavut (Belik 2013)	Northwest Territories (Belik 2013)	Manitoba (City of Thompson Manitoba 2012) Churchill	Nunavik (Tourism Quebec 2010)	Labrador (Government of Newfoundland and Labrador 2011)
Visitors	314,450	30,525	64,380	20,747	88,000	10,394
Visitor Spending	\$200 million	\$40 million	\$99.5 million	\$21 million	\$18 million	\$9.9 million
<b>Total visitors</b>	<b>528,496</b>					
<b>Total visitor spending</b>	<b>\$388.4 million</b>					

In the Canadian Arctic, tourism is considered both a stimuli and an agent of change for the region (Stewart, Draper, Dawson 2011). The promotional budgets for tourism in the region are lower than for the Canadian provinces with the Yukon (\$5.2 million), Northwest Territories (\$2.6 million), and Nunavut (\$1.9 million) spending \$9.7 million in total on marketing activities in 2011 (Belik 2013). Tourism in the Canadian Arctic is mainly based on wildlife and landscape linked to the extensive network of protected areas in the region (Lemelin & Johnston 2008; Dawson, Maher, & Slocombe 2007). The Yukon attracts three times as many visitors as the Northwest Territories and Nunavut due to greater accessibility from an extensive road infrastructure and cheaper airfares. The lack of roads in the eastern Arctic and higher airfares limit the numbers of leisure tourists, attracting mainly business travellers. Nunavut tour operators also report that sport hunting is declining and non-consumptive, ecotourism is increasing (Belik 2013).

The growth of expedition cruising in the Canadian Arctic from increased access due to climate change is also resulting in negative cultural and environmental impacts in the form of people pollution, the sale of marine mammal parts for souvenirs, and increased garbage in local communities (Maher, 2012, Stewart, Dawson & Draper 2011; Klein 2010).

The following recommendations are proposed as an overall strategy to promote sustainable forms of tourism in the Canadian Arctic:

- Need for guides in the Canadian Arctic to educate visitors about impacts of climate change and need for lifestyle and behavioural changes (Maher 2012; Luck 2009).
- Increased national and regional marketing budgets to be competitive with other destinations (CTC 2012).
- A review of transportation cost structures in Canada especially aviation cost structures that download taxes and fees on the individual traveler, making Canada one of the most expensive destinations in the world (IIAC 2012).
- A comprehensive monitoring and surveillance system examining expedition cruising in the Canadian Arctic (Maher 2012; Stewart, Draper, & Dawson 2010).
- Empirical studies and adaptation strategies addressing the issue of climate change for the polar tourism sector (Kajan, 2014; Dawson, Stewart, Lemelin & Scott 2010).

### *Iceland*

Tourism in Iceland has in recent years experienced a dramatic growth. Since 2000 the number of tourist arrivals has increased annually by 8% on average and was estimated to be 807,000 in 2013. From 2012 to 2013 the growth was 20% (Ferðamálastofa 2014). At present, tourism exports provide around 26.8% of foreign currency receipts and provides jobs for about 7000 people or about 5% of the workforce (Arion banki 2013; Ferðamálastofa 2014). The rapid growth has created opportunities as well as challenges. Here the major challenges of tourism in Iceland are condensed into four interrelated key points: 1) tourism policy, 2) social and environmental impacts, 3) infrastructure, and 4) research, education and training.

Tourism development has historically been driven by entrepreneurs within a weak organizational and institutional framework (Jóhannesson & Huijbens 2013). A general tourism plan has been in place from 1996, but crucial issues of planning have not been dealt with adequately and there is need for a revision of tourism policy in Iceland with respect to both the country's tourism resources and to tourism as a resource for socio-economic growth. Those include defining and zoning particular areas for development and protection, monitoring and planning of tourist flows, securing the necessary investment in infrastructural improvements ranging from toilet facilities to road construction and general policy about accessibility and entrance fees for natural attractions.

Tourism in Iceland is largely concentrated both in time and space. The result is that some of the island's key attractions have come under severe pressure. The Arctic and sub-Arctic natural environment is extremely vulnerable for degradation due to too much tourist flows. Research on carrying capacity is being undertaken at several places but studies of social implications of tourism are still largely absent (Ólafsdóttir & Runnström 2013; Sæþórsdóttir 2010). This includes studies of economic benefits of tourism development. There are currently signs of overinvestment in the industry, especially in terms of accommodation and an emerging informal economy. A recent survey shows that only 40% of hotels in the capital region yielded profit in 2012 (KPMG 2014).

While basic infrastructural improvements have been widely recognized by stakeholders as critical, such as road construction and construction of facilities at key attractions other kinds of infrastructure is also in dire need of attention. Safety and rescue is one of the more pressing issues. Iceland has increasingly come to serve as a gateway to the high north for Arctic cruise ships. The establishment of a rescue coordination center at Keflavik (former NATO airbase) is therefore being realized involving coordinated SARS exercises by Greenland. However, given the vast oceanic rescue zone in question, the Icelandic coordination center will have to be a regional hub with others, i.e. Norwegian and Canadian centers collaborating on any action.

Investment in research, education and training has historically been miniscule and still does not reflect the socio-economic importance of the sector. Vocational training for careers in tourism as well as tourism studies at the university level are split between institutes and thus there is an inefficient use of limited funding resources. Statistics Iceland has only sporadically had the financial means to produce Tourism Satellite Accounts and other basic statistics about the industry. Finance for on the ground research on tourism is even more scarce. Hence, the knowledge base around tourism is weak, which hampers possibilities for effective policy directives for more sustainable development (see Jóhannesson, Huijbens, & Sharpley 2010).

In 2013, an increase in tourist numbers by 20% should serve as a timely wake-up call for Icelandic authorities and other stakeholders in tourism. The whole sector has reached a cross-road where the choices are to continue stressing growth in quantity or to build up tourism activities with the objective of long term sustainability and quality of the sector.

### ***Faroe Islands***

In 2012, it was estimated that 100,000 accommodation spaces were available in the Faroe Islands. This was an increase of 10,000 spaces from 2011. Cruise tourism is the largest user group with

52,000 guests registered in 2012. A rough estimate would be that the economic turnover in 2011 from tourism was about €55 million, and it is expected to have grown slightly each year since. Generally speaking, tourism statistics are poor in the Faroes, but some efforts have been made recently to improve this (VisitFaroeIslands 2014).

The Faroes have not yet been particularly good at “getting their share” of the large and growing global tourism business. The relative level of visitors is about the lowest in Europe and the capacity of guesthouses has been stalled since the 1980s. On the other hand, the quality of the hotels and the number of restaurants, especially in the capital Tórshavn has improved substantially in the last decade. As in many other cold island communities, tourism is seen as an important way to generate economic growth. Tourism is expected to grow significantly, and the important “Faroes Tourism Branch” has recently had a financial injection of funding, is newly reorganised, and has adopted a new tourism strategy, which by 2020 has the ambition to: (1) double the number of accommodations; (2) double the number of employees in the industry, and (3) increase the turnover from about €60 million today up to €125 million (VisitFaroeIslands 2014; [www.visitfaroeislands.com](http://www.visitfaroeislands.com)).

Faroese tourism has developed from the enthusiasm of many devoted single entrepreneurs, who have combined their devotion – for example to save an old sailing ship from destruction and thus create possibilities to earn income. It has also developed from public and public/private investment in the necessary infrastructure – an airline and a European ferry link. You could say that “the big players” have the job to get the tourists to the Faroes while the job of the “small players” is to “entertain them” when they are there (Hovgaard 2014).

Current challenges and the future of Faroese tourism conveniently take their departure from the new tourism strategy. This new tourism strategy has its focus on “branding” and “external” relations. Although branding is extremely important, a larger increase in the number of tourists will also create a need for increased local viability, better “product” and “experience” experimentation and innovation (Sundbo 2014).

Thus there is a need for investments, in social capital as well as other resources, which still seem to be institutionally under prioritized (Hovgaard 2014). There is also a need to balance the new strategy with wider planning issues, as doubling the number of tourists undoubtedly will put added pressure on local infrastructure, local culture and the environment in general. Simple questions like the social and cultural consequences of more tourists, for instance if people are willing to give up their “local way of life”, need to be addressed. There is a need to discuss such issues further, and find reasonable and balanced ways to proceed (Laursen 2014).

Faroese nature is normally advertised as being “unspoiled”, yet there are parts that are already under stress, and therefore there is a need to combine environmental and tourism policy to manage further stress. One important factor in successful tourism development is to professionalize the business aspect, and research shows that local entrepreneurship, innovation, professionalization and further research are necessary preconditions to develop destinations and the experience economy in general (Sundbo 2014).

### *Sweden*

In Sweden the two most northern counties of Norrbotten (“*Swedish Lapland*”) and Västerbotten together constitute 34% of the area of Sweden, with a population of only 5.5% of the Swedish population of 9.6 million. The region is characterized by a decreasing and ageing population and an economy mainly based on forest production, mining and hydroelectric power production, but it has also developed into an important tourist destination as of late (Müller 2011).

The main attractions in the mountainous area are ski-resorts, large national parks such as Lapponia, and the authentic Sámi culture with reindeer herding. Attractions in the boreal forest are fewer, but include the Ice hotel, Tree Hotel, and fishing and rafting in the rivers. The coastal areas attract mainly camping tourists from Norway to the “Riviera of the North”, and more traditional rural and cultural tourism in the coastal cities. Thus, nature-based tourism is the main attraction in Northern Sweden, having the highest concentration of ecotourism companies licensed according to the Nature’s Best certification (Müller 2011).

Accessibility is, compared to other Arctic areas, very good with a well-developed road network and daily flight connection from Stockholm to nine airports, as well as a railway along the coast to the mountains (Müller 2011, Swedish Lapland Tourism 2014).

The destination of Swedish Lapland is one of Sweden’s top developing destinations, with a 12% increase in tourism turnover in 2012, compared with 4.8% overall in Sweden. The total turnover value was 4.5 billion SEK for Swedish Lapland (275.5 billion SEK total in Sweden). Overall, international arrivals in Sweden have between 2000-2012 increased with 115% (85% Europe and 110% Globally (Tillväxtverket 2013). In Swedish Lapland 23% of guest nights were international with the largest international markets being Norway followed by Germany, Denmark, UK, the Netherlands, Finland and USA (Tillväxtverket 2013).

Despite the increased revenue from tourism, Sweden has from 2009-2011 lost market shares to neighboring Scandinavian countries and the rest of Europe. The major challenge for Swedish tourism is to increase its international competitive share, and get more local destinations on the international market (Tillväxtverket 2013). Other challenges are national legislation and regulations, such as restricted commercial tourism access to national parks, and the clash of interests concerning property rights, tourism and the right public access to nature in Sweden (Sandel & Fredman 2010, Sténs & Sandström 2013), as well as conflicts between tourism development and forestry, mining and reindeer herding, as well as accessibility such as direct incoming international flights (Müller 2011). Lately climate change has become a challenge for ski resorts and other winter oriented tourism activities (Brouder & Lundmark 2011).

Besides the natural and cultural tourism resources, Sweden’s natural hospitality and service quality, general high education level and innovation capacity, as well as a well-developed infrastructure and social services in the subarctic environment give good potential for tourism. The recent governmental strategy to double tourism revenue by 2020 has initiated several promising tourism development initiatives (Svensk Turism 2011). These include professional international market

analysis and product development as well as stronger local and regional networking among tourism stakeholders.

The general opinion among tourism stakeholders is very positive about the future development of tourism in Northern Sweden. New innovative areas such as space tourism at Spaceport Sweden, technical visits to traditional industry and city relocations (Kiruna), Arctic car and military testing, and of course, increasing traditional nature-based tourism seem promising (Swedish Lapland Tourism 2014).

### ***Finland***

In Finnish Lapland nature tourism has been a key development area since the beginning of the 1980s. The growth within the tourism industry has been most rapid in the programmed tourism services in the winter season. Typical commercial tourism services in Finnish Lapland consist of programmed services, such as snowmobile excursions to reindeer or sledge dog farms. Despite the relative remoteness and wilderness-like attributes of the tourism destinations in Lapland, the typical programmed services, especially the ones offered in the winter season, are not generally considered as adventurous (Rantala & Valkonen 2011).

There were approximately 2.4 million tourists visiting Lapland in 2013 of which 1.3 million were Finnish and 1 million were foreign tourists (Regional Council of Lapland, no date). This means that the number of registered overnights has almost doubled from 1.25 million in 1990. In addition, the actual number of tourists in 2013 was estimated to be three times the registered number since a considerable part of overnights are non-registered ones. In 2013 foreign tourists came to Lapland mainly from Great Britain, Russia, Germany and Japan. The main tourist season takes place from February to April. The summer and autumn seasons attract primarily Finnish hiking tourists. The Christmas season with British and Russian tourists starts in November and lasts until January.

There were 1586 tourism enterprises in Lapland in 2011. The number of tourism companies grew 6.4 % during the years 2006–2011. The turnover of tourism companies in 2011 was 471 million euros. Most of the tourism enterprises employ less than ten people. Hospitality and tourism businesses employed 4497 people in total in the year 2011. The employment in tourism grew 3.5 % during the years 2006–2011, which was approximately 1.5 times more than the growth in forestry and almost 4.5 times more than the growth in mining. Especially young people find employment in tourism sector. The importance of tourism as employer is highlighted in the municipalities of Western Lapland, where the share of tourism industry in employment varies from 39% to 46%. (Kyyrä ed. 2013; Satokangas 2013.)

Tourism growth in Finnish Lapland has been substantial and the development has been based on dividing the tourism destinations on different categories from burgeoning to strong destinations and formulating tourism zones around the destinations in order to enhance development between destinations and villages surrounding the destinations (Lapland Strategy for Tourism 2011-2014). This model has turned out as a successful way to develop tourism in peripheral Arctic areas. However, the quality of the growth and its limits has not yet been comprehensively discussed (Hakkarainen & Tuulentie 2008; Tyrväinen et al. 2014).

Current challenges for developing tourism in Finnish Lapland relate to accessibility and seasonality. The biggest challenge is formed by weak flight connections, low numbers of airlines operating in Lapland and the threat of closing airports in Lapland (Kyyrä ed. 2013; Strategy for Lapland 2011-2014). In addition, railway traffic needs development as well. Coping with seasonality is one of the most public issues – beside accessibility – in the tourism industry and the development of a summer season has been stressed in Lapland. Lapland can provide a special tempo and a special way of being in the world that is difficult to reach in hectic urban life – it is development of this aspect that could benefit developing summer tourism in Finnish Lapland (Rantala & Valtonen 2014).

International tourists form the main target group for future tourism in Finnish Lapland. Responsible tourism development is based on clean nature and safety and organized through four main thematic areas: well-being (e.g. services related to sauna and clean water), culture (e.g. relationship with nature, local narratives), summer (e.g. non-motorized nature activities) and winter (e.g. ice and snow technologies, northern lights, Christmas tourism) (Ministry of Employment and the Economy 2014).

### *Russia*

The official number of tourist arrivals to the northern regions of Russia are unavailable, but according to Tzekina (2014) they can be estimated at roughly 500,000 visitors annually. The Murmansk Oblast and Chukotka autonomous Okrug act as entry points from the West and East respectively, into the vast territory of the Russian Arctic and thus may enjoy somewhat higher number of tourists.

Common for the tourist entrepreneurs of these regions is an informal network of contacts with local society and authorities providing support in terms of permits, development grants, start-up capital, private accommodation, guiding, etc. Recently, many advances have been made in terms of the variety of tourism experiences offered to the customers, and improvements in the hospitality sector, primary infrastructure such as hotels and restaurants. As a result of the increased attention on the Arctic, the number of bed nights in the region has grown.

Tourism offerings do not vary considerably across the territory and are primarily confined to hunting and fishing trips, ethnographic tours based on the traditions and culture of the indigenous people of the area, adventure tourism (including snowmobile safaris, white-water rafting, hiking and trekking). More recently, event tourism began to develop based on shorter (one or two days) celebrations of various kinds or sporting competitions. The vitality of most of the events is questionable, but some of them have started to become larger and are able to attract considerable local attention even during the summer months, on the territory of Nenets Autonomous Okrug or Komi Republic. Cruise ship tourism is still rather limited and only includes areas of the Murmansk and Arkhangelsk Oblasts in the west and Chukotka autonomous Okrug in the east. With this in mind it is Russian ports that are the only access points currently available for cruises to the North Pole.

Regional administrations of several regions have started to turn their attention towards tourism and are now supporting various programs concerning the overall destination development; however, the results vary considerably across the region. Leaders in this process are the governments of the

Murmansk Oblast and Yamalo-Nenets autonomous Okrug. Several new extreme types of small-scale tourism opportunities are beginning to emerge that allow even greater accessibility to the untouched nature. These include yacht excursions, helicopter and airplane flightseeing tours.

Current challenges include on one side the inspiring activities of local entrepreneurs with the experience and knowledge of the natural surroundings and on the other, border control, the prevailing nature resource extraction monopolies and overall geopolitical instability in Russia (Pashkevich 2013; Pashkevich & Stjernstrom 2014). The greatest challenge includes the increasing pressures on the fragile environment and local infrastructures (water supply and sewage systems), which are unable to cope with the increasing visitor numbers. It is not a question of mass tourism in the area, but rather how far and close to the wild nature or indigenous society an individual tourist wants to come. This close encounter holds the greatest risk for both humans and the environment. In the complete absence of the system monitoring tourism development impacts, these problems are not identified and thus not addressed properly. The same applies towards the monetary contribution to the local economy. The economic value obtained from the visitors stays in private pockets as it disappears through the informal support networks, which are established to sustain small-scale tourist operations in remote villages. Another, alarming problem is the absence of “rules of conduct” for tourist operations in the Russian Arctic for both nature guides and their visitors. You are allowed to do as you please and only your own intuition can give you the guidelines on how to behave. The system of emergency rescue is yet to be developed and along with the rather specific Russian safety standards (drinking while driving, skepticism towards use of the safety equipment) adds to the uncertainty surrounding tourists’ safety in the Arctic.

In the future, tourism development will likely become concentrated in fewer enclaves across the territory of the Russian Arctic and have a dual character of development. One character is the top-down, officially ordered, development with the obvious Post-Soviet touch and driven by the interests of the extraction companies. The other character is that development will become informal, and that has the greatest potential to become a driver of economic and social change, as actors involved in it are adaptable and eager to learn new approaches and techniques.

## **Conclusions**

As showcased across the Arctic there is consistent growth in terms of the numbers of tourists and the value of tourism. Yet there are divergent challenges depending on the current state of affairs. For example, tourism in Alaska is well developed, and thus has a different level of challenge as compared to Russia. Even within a single country, such as Canada, there can be drastic differences – in this case East to West, whereby the ease of accessibility in the Yukon (and even the proximity to a major destination such as Alaska) makes it different to areas that are fly-in only, such as Nunavik or Nunavut. Both Iceland and the Faroe Islands appear to be at an important point in development: the quantity of tourists is strong, but quality may suffer if the tensions between investment, protection and community values are not addressed.

The Arctic is currently in the “lime light”. Media covers the issues; the issues are constantly growing in the public eye, and as a result the public feels a need to visit. For Russia, the future is realizing

appropriate development in the first instance, for Finland and Sweden the concern is product and destination diversification, Canada needs to better understand and support what they already “have” as a product because there are significant issues around permitting and regulatory processes. Meanwhile Alaska appears to be at a highpoint, but even with its status as a premiere destination, stakeholders are conscious of global changes that may impact them. There is a general sense of optimism about the future of Arctic tourism, but all of that could change because in no jurisdiction is the industry completely sustainable.

This comparative study has revealed directions for future research that could move Arctic tourism in a more sustainable direction, thus addressing the academic critiques mentioned at the beginning of the paper. For example, we have exposed a consistent straining between the perceived need for economic development through tourism (and the resultant demand for more infrastructure) and the fear that more tourism will degrade natural environments and negatively impact small communities. Future studies that compare the governance of tourism in multiple Arctic countries would likely reveal useful insights about how public, private, and civic stakeholders negotiate the rules of tourism development. A better comparative understanding of tourism governance through either a single research study or adjoined studies, in turn, should reveal strategies that allow decision making processes to be fair and effective, which is direly needed in light of the rapid Arctic changes taking place.

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## References

- AKDOG (Alaska Division of Oil and Gas). (2014). *Distribution of Funds Received from Oil and Gas Leases (2002-present)*. Retrieved from <http://dog.dnr.alaska.gov/>. Accessed on June 5, 2014.
- Arion banki. (2013). *Ferðaðjónustan: Atvinnugrein á unglingsaldri* [Tourism: sector in its youth]. Reykjavík: Arion banki.
- Belik, V. (2013, May). Our annual tourism report card. *Up Here Business*. 118. Retrieved from [www.upherebusiness.ca](http://www.upherebusiness.ca). Accessed on May 17, 2014.

- Brouder, P. & Lundmark, L. (2011). Climate change in Northern Sweden: Intra-regional perceptions of vulnerability among winter-oriented tourism businesses. *Journal of Sustainable Tourism*. 19(8): 919-933.
- Butler, R. & Hinch, T. (eds.) (2007). *Tourism and Indigenous peoples: Issues and implications*. Oxford, UK: Butterworth-Heinemann/Elsevier.
- Cervený, L. (2004). *Preliminary research findings from a study of the social-cultural effects of tourism in Haines, Alaska: General Technical Report*. US Department of Agriculture, Forest Service. Pacific Northwest Research Station: General Technical Report PNW-GTR-612 .
- City of Thompson, Manitoba (2012). *Sustainable community development plan*. Thompson Manitoba. City of Thompson, Manitoba.
- CTC. (2013). *Helping tourism businesses prosper. Annual Report 2013*. Vancouver: Canadian Tourism Commission.
- Dawson, J., Maher, P., & Slocombe, S. (2007) Climate change, marine tourism and sustainability in the Canadian Arctic. *Tourism in Marine Environments*. 4(2-3): 69-83.
- Dawson, J., Stewart, E., Lemelin, H., & Scott, D. (2010). The carbon cost of polar bear viewing in Churchill, Canada. *Journal of Sustainable Tourism*. 18(3): 319-336.
- Ferðamálastofa. (2014). Ferðapjónusta á Íslandi í tölum: Apríl 2014 Retrieved from [http://www.ferdamalastofa.is/static/files/ferdamalastofa/Frettamyndir/2014/april/ferdatjonusa\\_itolum\\_april14.pdf](http://www.ferdamalastofa.is/static/files/ferdamalastofa/Frettamyndir/2014/april/ferdatjonusa_itolum_april14.pdf). Accessed December 5, 2014.
- GMA Research Corporation. 2011. *Images of Alaska 2011*. PowerPoint presentation. Prepared for Alaska Tourism Industry Association, Anchorage AK.
- Government of Canada. (2009). *Northern Strategy*. Ottawa.
- Government of Newfoundland and Labrador. (2011). *Profile of non-residents visiting the Labrador Region*. St. John's: Government of Newfoundland and Labrador.
- Grenier A.A. & Müller, D.K. (eds.) (2011). *Polar Tourism: A Tool for Regional Development*. Montréal: Presses de l'Université du Québec.
- Hakkarainen, M. & Tuulentie, S. (2008). Tourism's role in rural development of Finnish Lapland: interpreting national and regional strategy documents. *Fennia*. 186: 3-13.
- Hall, C.M., & Saarinen, J. (2010). Tourism and change in the polar regions: Introduction—definitions, locations, places and dimensions. In C.M. Hall & J. Saarinen (eds.). *Tourism and Change in Polar Regions: Climate, Environments and Experiences* (pp. 1-41). London: Routledge.
- Hovgaard, G. (2014). *Tourism and the Faroes as a successful cold water island destination*. Unpublished paper. University of the Faroe Islands.
- IPCC (2007). *Climate change 2007, the Fourth Assessment Report*. Cambridge, UK: Cambridge University Press.

- Jóhannesson, G. T., Huijbens, E., & Sharpley, R. (2010). Icelandic Tourism: Past Directions – Future Challenges. *Tourism Geographies*. 12(2): 278-301.
- Jóhannesson, G. T., & Huijbens, E. H. (2013). Tourism Resolving Crisis? Exploring Tourism Development in Iceland in the Wake of Economic Recession. In D. Müller, L. Lundmark & R. H. Lemelin (eds.). *New Issues in Polar Tourism: Communities, Environments, Politics* (pp. 133-147). New York: Springer.
- Johnston, M. (2006) Impacts of global environmental change on tourism in Polar Regions. In Gossling, S. & Hall, C.M. (eds.) *Tourism and global environmental change: ecological, social, economic and political interrelationships*. (pp. 37-53). New York: Routledge.
- Kajan, E. (2014). Arctic tourism and sustainable adaptation: community perspectives to vulnerability and climate change. *Scandinavian Journal of Hospitality and Tourism* . 14(1): 60-79.
- Klein, R.A. (2010). The cruise sector and its environmental impact. In Schott, C. (ed.). *Tourism and the implications of climate change: issues and actions (Bridging Tourism Theory and Practice, Volume 3;* pp. 113-30). Emerald Group Publishing Limited.
- KPMG. (2014). Hótelgeirinn á Íslandi: úttekt um arðsemi í hótellekstri á Íslandi. Reykjavík: KPMG.
- Kyyrä, S. (ed.). (2013). Ennakoinnista kilpailukykyä Lapin matkailulle. Toimintaa ja tulevaisuuskuvia. Multidimensional Tourism Institute, University of Lapland.
- Lapland Strategy for Tourism 2011-2014. Regional Council of Lapland, Finland.
- Laursen, S. Færøsk Turisme: Mellem Bæredygtigt Potentiale og Vanetænkning. Master thesis. Department of Environmental, Social and Spatial Change. Roskilde University. Retrieved from <http://rudar.ruc.dk/bitstream/1800/15612/1/Speciale.pdf>. Accessed September 15, 2014.
- Lemelin, R.H., Dawson, J., Stewart, E.J., Maher, P.T., & Lück, M. (2010). Last-Chance Tourism: The Boom, Doom, and Gloom of Visiting Vanishing Destinations. *Current Issues in Tourism*. 13(5): 477-493.
- Lemelin, H. & Johnston, M. (2008). Northern protected areas and parks. In Dearden, P. & Rollins, R. (eds.) *Parks and protected areas in Canada: planning and management* (3<sup>rd</sup> ed. pp. 294-313). New York: Oxford University Press.
- Lemelin, R.H., Maher, P.T., & Liggett, D. (eds.). (2013). *From talk to action: How tourism is changing the Polar Regions*. Thunder Bay: Lakehead University Centre for Northern Studies Press - Northern and Regional Studies Series #23.
- Lück, M. (2009). *Environmentalism and tourists' experiences on swim with dolphin tours: a case study of New Zealand*. Saarbrücken: VDM Verlag Dr. Muller.
- Lück, M., Maher, P.T., & Stewart, E.J. (eds.). (2010). *Cruise Tourism in Polar Regions: Promoting Environmental and Social Sustainability?* London: Earthscan.

- Müller, D.K. (2011). Tourism development in Europe's "last wilderness": an assessment of nature-based tourism in Swedish Lapland. In Grenier, A.A. & Müller, D.K. (eds.). *Polar Tourism: A Tool for Regional Development* (pp. 129-153). Montréal, QC: Presses de l'Université du Québec.
- Müller D.K., Lundmark, L. & Lemelin, R.H. (eds.) (2013). *New Issues in Polar Tourism: Communities, Environments, Politics*. Dordrecht: Springer.
- Müller, D. K. & Jansson, B. (eds). (2007). *Tourism in Peripheries: Perspectives from the Far North and South*. Wallingford. CABI.
- Maher, P. (2012). Expedition cruise visits to protected areas in the Canadian Arctic: issues of sustainability and change for an emerging market. *Tourism*. 60(1): 55-70.
- Maher, P.T., Stewart, E.J. & Lück, M. (eds.). (2011). *Polar Tourism: Human, Environmental and Governance Dimensions*. Elmsford, NY: Cognizant Communications Corp.
- McDowell Group. (2014). *Economic Impact of Alaska's Visitor Industry: 2012-13 Update*. Prepared for State of Alaska Department of Commerce, Community, and Economic Development, Division of Economic Development. Available at: <http://commerce.alaska.gov/dnn/ded/DEV/TourismDevelopment/TourismResearch.aspx>
- Ministry of Employment and the Economy (2014). Suomen matkailun tulevaisuuden näkymät. Katse vuoteen 2030. Reports of the Ministry of Employment and the Economy 4/2014.
- Northern Development Ministers Forum. (2008). *Tourism's potential in Canada's North: report on survey results. July 2008*. Ottawa: Northern Development Ministers Forum. pp.48.
- Ólafsdóttir, R., & Runnström, M. C. (2013). Assessing hiking trails condition in two popular tourist destinations in the Icelandic highlands. *Journal of Outdoor Recreation and Tourism*. 3(4): 57-67. doi: <http://dx.doi.org/10.1016/j.jort.2013.09.004>
- Pashkevich, A. (2013). Tourism development planning and product development in the context of Russian Arctic territories. In Lemelin, R.H., Maher, P.T. & Liggett, D. (eds.). *From Talk to Action: How Tourism is Changing the Polar Regions*. Lakehead University, Thunder Bay, Ontario: Centre for Northern Studies Press.
- Pashkevich, A. & Stjernström, O. (2014). Making Russian Arctic accessible for tourists: Analysis of the institutional barriers. *Polar Geography*. DOI:10.1080/1088937X.2014.919040
- Rantala, O. & Valkonen, J. (2011). The complexity of safety in wilderness guiding in Finnish Lapland. *Current Issues in Tourism*. 14: 581-593.
- Rantala, O. & Valtonen, A. (2014). A Rhythmanalysis of Touristic Sleep in Nature. *Annals of Tourism Research*. 47: 18-30.
- Regional Council of Lapland (no date). Tourism Statistics. Available at: [www.lappi.fi/lapinliitto/fi/julkaisut\\_ja\\_tilastot](http://www.lappi.fi/lapinliitto/fi/julkaisut_ja_tilastot)

- Ringer, G. (2010). Beyond the Cruise: Navigating Sustainable Policy and Practice in Alaska's Inland Passage. In Luck, M., Maher, P.T., & Stewart, E.J. (eds.). *Cruise Tourism In Polar Regions: Promoting Environmental and Social Sustainability?* (pp. 205-224). Washington, D.C.: Earthscan.
- Sandell, K. & Fredman, P. (2010). The right of Public Access – Opportunity or obstacle for Nature Tourism in Sweden? *Scandinavian Journal of Hospitality and Tourism*. 10(3): 291-309.
- Sæþórsdóttir, A. D. (2010). Planning Nature Tourism in Iceland based on Tourist Attitudes. *Tourism Geographies*. 12(1): 25-52. doi: 10.1080/14616680903493639
- Satokangas, P. (2013). Matkailulla maakunta menestyy – Matkailun tulo ja työllisyysvaikutukset 12 lappilaisessa kunnassa vuonna 2011. *Multidimensional Tourism Institute*, University of Lapland.
- Stefansson Arctic Institute. (2004). *Arctic Human Development Report*. Akureyri, Iceland: Stefansson Arctic Institute.
- Stephenson, S. R., Smith, L.C., & Agnew, J.A. (2011) Divergent long-term trajectories of human access to the Arctic. *Nature: Climate Change*. 1:156-160.
- Sténs, A. & Sandström, C. (2013) Divergent interests and ideas around property rights: The case of berry harvesting in Sweden. *Forest Policy and Economics*. 33: 56-62.
- Stewart, E., Dawson, J. & Draper, D. (2011). Cruise tourism and residents in Arctic Canada: development of a resident attitude typology. *Journal of Hospitality and Tourism Management*. 18: 95-106.
- Sundbo, J. (2014). Turisme og oplevelsesøkonomi – en udkantsstrategi. In Hovgaard, G., Gestur, B. í Jákupsstovu and Andrias Sølvará, H. (eds). *Vestnorden – nye roller i det internationale samfund*. Tórshavn: Fróðskapur.
- Swedish Lapland Tourism (2014). Personal communication and Retrieved from <http://www.swedishlaplandtourism.com/>. Accessed October 6, 2014.
- Svensk Turism. (2011). National Strategy for Swedish Tourism. Available at: [www.strategi2020.se](http://www.strategi2020.se)
- TIAC. (2012, Fall). *The Canadian Tourism Industry: a Special Report*. Toronto and Ottawa, Ontario: HLT Advisory, TIAC, Visa Canada.
- Tillväxtverket. (2013). Facts about Swedish Tourism 2012. Swedish Agency for Economic and Regional Growth.
- Tourism Quebec (2010). Regional statistics – Nunavik. Quebec City: Government of Quebec. Retrieved from <http://www.gouv.qc.ca/portail/quebec/pgs/commun/portrait/tourisme/?lang=en>. Accessed May 17, 2014.
- Tyrväinen, L., Uusitalo, M., Silvennoinen, H. & Hasu, E. (2014). Towards sustainable growth in nature-based tourism destinations: Clients' views of land use options in Finnish Lapland. *Landscape and Urban Planning*. 122: 1-15.

- Tzekina, M. (2014). *Estimation of tourism potential of Russian Far North. PhD, Economic, social, political and recreational geography*. Moscow State University: Moscow, Russia.
- UNWTO. (2013). *Tourism highlights 2012*. Madrid: UNWTO.
- UNWTO-UNEP-WMO. (2008) *Climate change and tourism: responding to global challenges*. Madrid: UNWTO.
- Viken, A., & Granås, B. (eds.). (2014). *Tourism Destination Development: Turns and Tactics*. Farnham: Ashgate.
- VisitFaroeIslands. (2012). Visit Faroe Islands. *Overordnet strategi for turismen på Færøerne*.

# SOCIO-NATURAL CAPITAL FOR SUSTAINABLE LAND USE IN THE FENNOSCANDIA

Simo Sarkki, Kirsi Latola, Mikko Jokinen & Adam Stepien

*This paper introduces concept of socio-natural capital, which is here seen as a property of social systems including institutions, human groups and individual people to use natural capital in a sustainable way. The objectives of this article are to map gaps regarding socio-natural capital via examining case of reindeer herding and its relations to other land uses in northern Fennoscandia, mainly in Finland, and to explore ways how socio-natural capital can be promoted in order to enhance sustainable land use in the northern sparsely populated Fennoscandia. These issues are examined based on previous research and especially on reindeer herders' perspectives, as well as on an online questionnaire (n=13) and a workshop (n=11) with stakeholders on land use in Fennoscandia. Gaps in socio-natural capital include lack of trust between different land users, discrepancy between governance ideals and real world practices, divergent perceptions on sustainable land use, and use of resources for external benefits. Following proposals can help to close these gaps: 1) to enhance public participation, 2) to stronger institutionalize indigenous land rights, 3) to enhance multi-directional knowledge exchange, and 4) to include social impact assessment more strongly into planning processes. Further studies and conceptualisations of socio-natural capital are needed to find ways how people could interact to build capital to solve land use contradictions for sustainability.*

## Introduction

The notion of capital has gained footing in recent decades in scientific discussions. Various types of capital have been identified with the purpose of emphasising that issues other than monetary ones are important for human development. Among the most prominent concepts in this 'capital family' are natural capital and social capital. The concept of natural capital was used to calculate the monetary value of the world's biodiversity, evoking a lot of discussions on the role of the environment in human well-being (Costanza et al. 1997; MA 2005). Social capital has been argued to facilitate collaboration and problem solving, grounding democracy and promoting successful

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economic growth (Putnam 1993; Fukuyama 2002). Thus, both natural and social capital are tightly linked to economic and human dimensions of development and have been developed to evoke attention and advance discussions on the role of alternative forms of capital to sustainable development. This paper introduces the concept of socio-natural capital to identify hindering and facilitating factors for sustainable land use in the Fennoscandia. Sustainable land use can be defined as practices that maintain and provide opportunities for land use for current and future economic and social benefits, while not deteriorating the ecological state of the used areas. There may be also contradictions between the ecological, economic and social dimensions of sustainability. Here the discussions on socio-natural capital are placed within the context of social-ecological systems (SES). SES literature highlights that the sustainability of resource use needs to take into account coupled social-ecological systems and their interrelations (e.g. Folke et al. 2005). SES examinations have been previously connected to natural capital (e.g. Biggs et al. 2012) and to social capital (e.g. Olsson et al. 2004).

Natural capital is seen as a stock of properties of ecosystem structures and processes, which provide so called 'ecosystem services' to people (e.g. Daily 1997). Following the Common International Classification of Ecosystem Services (CICES 2013), there are three types of services: 1) provisioning (products obtained from ecosystems e.g. food, wood, water), 2) regulating and maintenance (moderate or control of environmental conditions e.g. flood control; water purification by aquifers, carbon sequestration by forests, etc.), 3) cultural (non-material benefits obtained from ecosystems e.g. recreation, education, aesthetics). Today, supporting services (MA 2005) or natural capital (Costanza et al. 1997) are mostly assigned to ecosystem functions as parameters of the ecological functioning grounding the other types of ecosystem services. Ecosystem services can be understood as a flow from natural capital to ecosystem services, which further provide benefits and values for people (Haines-Young & Potschin 2010). However, the accounts on provisioning of ecosystem services need to take into consideration the inseparable social and ecological dimensions affecting ecosystem services, and further on human benefits and well-being (Heikkinen et al. 2012; Spangenberg et al. 2014). The ecosystem services, values and benefits provided by natural capital are socially negotiated, and also contested due to divergent social conceptualisations of what constitutes for example environmentally and socially sustainable land use. In this article we apply this idea, and do not focus on natural capital as such, but on contested social definitions on the sustainable use of that capital. Therefore, the notion of socio-natural capital seems to hold promise for integrating more clearly the social dimension inevitably linked to the concept of natural capital, and expanding it though the notions of trust, networks, communication, power, norms and governance practices.

The concept of human capital refers to the stock of competencies, knowledge and social attributes that increase an ability to produce economic value (Simkovic 2013). Bourdieu (1986) has introduced sub-dimensions for human capital, those being social, cultural and symbolic capital. Here we apply the concept of social capital to build up our notion of socio-natural capital. In recent discussions on development, the concept of social capital has been described as the glue that holds societies together (Serageldin & Grootaert 1999). The most important aspects of social capital are trust, norms, reciprocity, leadership and networks (Putnam 1993). Furthermore, communication has been

included as a dimension to social capital necessary for exchanging information, identifying problems and solutions, and managing conflicts (Hazleton & Kennan 2000).

Socio-natural capital is here seen as a property and capacity of social systems to use and govern natural capital in a sustainable way. It requires knowledge about how natural capital transforms into human benefits. Socio-natural capital encompasses the ability of people or groups of people to use ecosystem services in ecologically, economically and socially sustainable ways, not deteriorating the future possibilities to utilise them. Furthermore, the notion of socio-natural capital allows one to emphasize that sustainable land use is negotiated between various users. Socio-natural capital helps to ease trade-offs and manage conflicts by building relationships based on trust and reciprocity and may use positive leadership to develop socially just solutions to the use of social-ecological systems (SES). Resilience theory has examined how the sustainability of the use of SES can be enhanced in an in-depth manner (e.g. Folke et al. 2005; Walker et al. 2004). However, the SES and resilience literature often neglects the dimension of power embedded in the negotiations over defining the sustainable use of SES (Cote & Nightindale 2012). Our concept of socio-natural capital aims to capture some of the issues related to power regarding debates on the sustainable use of SES. As the socio-natural capital is a property of social systems (including institutions, actor groups, individuals) the concept is actually much closer to social than natural capital. However, here the insights from the natural capital literature encouraged us to establish firm linkages between social capital and social perceptions related not only to social interactions, but also to ecosystem processes, natural capital, framing of environmental and social sustainability, and the constitution of human values and benefits regarding the use of SES. The notion of socio-natural capital complements the resilience literature on sustainable use of SES by being explicit about power relations: inclusion and exclusion, trust, political character of perceptions of the natural resources and their use, trade-offs between various interests, and distribution of benefits and burdens deriving from use and governance of SES.

Two important characteristics of northern people justify the application of the notion of socio-natural capital in the analysis of land use for example in Fennoscandia. Firstly, northern people have had for centuries close relationships with nature, and nature is a key factor in the understanding of well-being in the region. Secondly, northern resource use is characterised by a history of colonisation and use of resources for the benefit of external actors, and thus social issues and power relations are connected to the position of the northern regions as a resource base for both local and external actors. Furthermore, resource developments and land use in the north are intensifying and affected by an increasing number of actors. Previous community norms and practices are not anymore enough to ensure sustainable resource use: competencies and skills are needed to interact with external land users and to manage internal trade-offs to ensure sustainability of land use. Thus, the concept of socio-natural capital seems suitable for analysing Arctic land use and related conflicts and trade-offs.

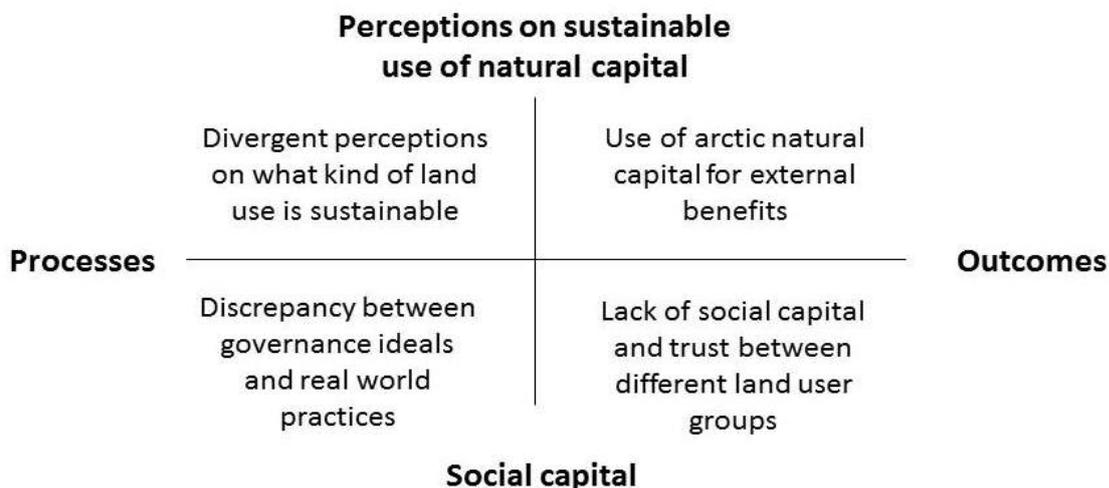
The objective of this article is to utilise the concept of socio-natural capital to examine and explain sustainability of land use in the Fennoscandia. This is done by mapping gaps regarding socio-natural capital through the case study of reindeer herding in northern Fennoscandia, mainly in Finland; and by proposing ways how socio-natural capital can be promoted in order to enhance sustainable land

use in the north. It should be noted that we aim not to provide representative and comprehensive explanations, but rather to explore the relevance of socio-natural capital via specific case studies.

## Material and Methods

This study consists of three type of research material: 1) previous research, 2) interviews and 3) stakeholder consultations on land use contradictions in Arctic areas in the European Union.

The previous research literature consists of published examinations on reindeer herding and related land use contradictions, mainly in Finland (e.g. Raitio 2008; Sarkki 2011; Heikkinen et al. 2014). Furthermore, we conducted three telephone interviews on a topical case concerning a conflict between Sámi reindeer herding and mining in Gállok (Kallak), Sweden. Interviewees included an academic studying the conflict, and two members of the Sámi reindeer herding community. These materials were examined in order to identify gaps in socio-natural capital regarding Fennoscandian land use especially from reindeer herding's perspective (section 3). In order to analyse the material systematically, we examined it from the point of view of social capital and perceptions on sustainable use of natural capital as well as on procedural and distributional justice. We then used qualitative directive content analysis (Hsieh & Shannon 2005) to classify the material belonging to four clusters regarding their relationships to social capital and perceptions on sustainable use of natural capital as well as processes and outcomes. The clusters were given informative titles and represent problems regarding sustainability of land use from reindeer herders' perspective, and can be conceptualised as gaps in socio-natural capital (Figure 1).



**Figure 1.** Four gaps in socio-natural capital regarding reindeer herding and other land uses in northern Finland.

The identified gaps provide increased understanding on the problems that could be eased by further developing socio-natural capital. In the context of the Strategic Environmental Assessment of

Development of the Arctic project, we organized a workshop with 11 stakeholders representing governmental organisations (City of Rovaniemi, Metsähallitus – Finnish Forest and Park Service, Centre for Economic Development, Transport and Environment ELY), entrepreneurs, the Finnish reindeer herders association and Sámi and research organisations (Finnish Forest Research Institute, University of Lapland). The goal of the workshop was to promote discussions and to propose recommendations that governance and policy leaders in northern land use should take into account, especially at EU and national levels. The identified recommendations are, in this paper, framed in terms of how they contribute to building socio-natural capital in northern land use. The workshop participants identified four key recommendations on how sustainability of northern land use could be enhanced: (1) enhancing public participation; (2) institutionalizing indigenous rights; (3) increasing two-way knowledge sharing; and (4) increasing the role of social impact assessments in land use planning. These recommendations correspond rather well to the identified gaps in socio-natural capital based on previous research. This increases the reliability of the identified challenges and related proposals, as examinations of both the previous research literature and stakeholder consultations led to similar results. Furthermore, the project mapped stakeholder views through an online questionnaire assessing the sustainability of northern land use. The respondents (n=13) were stakeholders from research institutes, NGOs, state agencies, EU officials and representatives of industry. The questionnaire results were clustered in relation to the four recommendations, and insights from the questionnaires were used to inform and enrich the discussions on the four recommendations. The recommendations and critical issues identified by stakeholders were also incorporated in the final report “Strategic Assessment of Development of the Arctic, Assessment Conducted for the European Union”, which was launched in September 2014.

The collected empirical material for this article is not extensive enough to draw representative conclusions on the sustainability of land use in the north – an area composed of diverse sub-regions. We cope with this shortcoming in two ways: by also reviewing existing literature particularly focusing on reindeer herding, land use and sustainability in northern Finland; and by utilising the innovative framework of socio-natural capital to explain and explore the issues underpinning sustainable land use. Thus, despite the rather small amount of empirical material, we feel able to make relevant observations and conclusions contributing to the literature and outlining important issues that can be applied in practice to enhance sustainable land use in the north, especially from reindeer herders’ perspectives.

## **Reindeer Herding, Other Land Uses and Gaps Regarding Socio-Natural Capital**

The European northern landscape is often multifunctional, including land uses such as reindeer herding, tourism, energy development, mining, nature conservation, forestry and hunting. Here we focus on reindeer herding and its relations to other land uses. Reindeer herding is a rather extensive land user that requires vast areas. It is a traditional way to use the land, having economic, symbolic and cultural values, and is also used in tourism marketing. Reindeer herding is often believed to be able to co-exist with other land use activities. However, this has also meant that reindeer herders in

several cases have had to move to other grazing sites and alter their herding practises. Loss of pasturelands for other land use activities such as mining, oil and gas extraction, and large-scale forestry is a problem for reindeer husbandry. In Fennoscandia reindeer herding is connected to Sámi culture and in Norway and Sweden practiced exclusively (with minor exceptions) by the Sámi.

### *Lack of Trust*

There have been continuing conflicts in the 1990s and first decade of the millennium between reindeer herding and the state forestry enterprise Metsähallitus in northern Finland. Metsähallitus is a governmental organization responsible for earning profits from renewable natural resources like forests but also nature protection and nature heritage. Metsähallitus is also obliged by law to respect social and cultural aspects like maintaining job opportunities and Sámi people's rights when using and managing state land and waters. Part of the natural resource management is participatory planning processes, which are not legally obligatory, but voluntarily organized by Metsähallitus to enhance multiple uses of state commercial forests and waters. Reindeer herders have been trying to get their voices heard in these participatory planning processes, but have often been disappointed by the outcomes of these processes. As a result, reindeer herders have sometimes established coalitions with environmental NGOs and local tourism entrepreneurs to halt loggings in important reindeer pastures, and arranged on-site protests, initiated media campaigns against loggings, and informed forest companies from unjust logging practices. The case even reached the UN Human Rights Committee to defend herders' rights to practice their culture (i.e. reindeer herding). This has resulted in a mutual lack of trust as well as created a situation where each side pushes their agenda and middle ground options, and compromises are not seen as satisfactory. This undermines the potential of collaborative efforts to negotiate legitimate solutions to the use of forest resources (Raitio 2008; Sarkki & Heikkinen 2010; Sarkki 2011; Sarkki & Karjalainen 2012.)

Lack of trust is also an issue regarding the relationship between mining companies and reindeer herders in Sweden and Finland. Since the summer of 2013 an ongoing a dispute has been taking place in Gállok, Sweden (also known as "Kallak" in Swedish) where local Sámi reindeer herders are in conflict with a mining company. According to the interviewees, the main concern of the herders is that migration routes and utilization of winter pastures will be endangered, affecting three Sámi reindeer co-operatives (Sameby) and hundreds of families and households. Swedish mineral law puts a limited tax burden on companies or does not require companies to pay royalties apart from a small mineral fee (compared to direct taxation specifically on mining activities in other jurisdictions). In 2014, Sweden mining companies throughout the world ranked Sweden number one and Finland number two to be the most attractive countries for mining and exploration investments due to their public policies on things such as taxation and regulation (Wilson et al. 2014). Interviewed Sámi have also reported that from their viewpoint the Swedish government has a lack of interest in reindeer herding issues and Sámi rights. Reindeer herders have also argued that true dialogue between Sámi herders, mining companies and municipalities has not taken place and their needs and culture have not been taken seriously enough.

There might also be an institutional problem for defining who should be heard or be a legal party. According to one informant, being both Sámi engaged in the controversy and a researcher examining the case of Kallak: “*Sámi who are not members of the Sameby are not consulted at all in particular, unless they are land owners. I filed a complaint – to the environmental court (Mark och Miljödömsstolen, and Mark och Miljööverdomstolen) – rejecting the ‘test mining’*”. The informant is also a land owner down-stream of the little Lule River. Her complaint was rejected in both courts, and she pointed out that “*I was not granted the right to be heard*” neither as Sámi with traditional historical heritage in the Little Lule river valley, nor as a land owner. This happened despite the Sámi having rights recognized by national law on reindeer herding, and down-stream land owners having rights granted by the EU directive on water.

The key challenge in the relations between reindeer herding and mining seems to be that both ore deposits and winter pastures are scarce and not transferable. Kallak might be a case where socially and culturally sustainable co-existence of mining and reindeer herding is not possible. The situation is characterised by lack of trust among the local Sámi towards the Swedish government and mining companies, making collaboration particularly challenging. Furthermore, looking also at mining cases in Kaunisvaara in Sweden and Hannukainen in Finland, there are numerous challenges regarding relationships between mining and reindeer herding. It has been found that reindeer herders would expect more two-way interactions during the planning of mines, and mining companies have not always been transparent regarding their plans and actions, leading to lack of trust. This lack of trust is a long-term problem and affects not only relationships with one company or regarding one project, but the industry as a whole and in the long term, undermines trust even outside of the communities that were originally affected by a company’s mismanagement of public relations (Heikkinen et al. 2014).

### *Divergent Perceptions on Sustainable Use of Natural Capital*

Divergent perceptions on sustainable land use can create contradictions and undermine collaborative efforts. In Finland, the forestry industry is promoted by arguments according to which forests grow faster than they are logged, and thus the annually logged amount of cubic meters could be increased in a sustainable way. For example, Metsähallitus has used Maximum Sustainable Yield (MSY) logic when defining sustainability of the use of forest ecosystem services. Furthermore, to highlight the sustainability of forestry activities, Metsähallitus calculates how many million euros the state forestry loses annually due to taking societal obligations into account, including Sámi culture and reindeer herding. Opponents of forest industry loggings in old-growth forests argue that loggings may in fact be sustainable from the point of view of wood production, but the issue needs to be taken into account more holistically and in relation to other land uses, such as reindeer herding and nature-based tourism. Furthermore, alternative calculations are emerging to examine how much other land uses lose due to loggings. These calculations are, however, not the standard practice of Metsähallitus. This shows that the value of natural capital in forests is being calculated for political purposes, and that these calculations have different implications for sustainability depending on who has conducted them and from what perspective.

In addition, actors advocating nature conservation and nature-based tourism may consider sustainability differently than reindeer herders. For example Finnish Oulanka National Park has acquired a PAN Parks certification ensuring sustainable tourism within the park. A lot of attention is paid to the sustainability of tourism, with local reindeer herding seen as a threat to the natural integrity of the park. PAN Parks utilises the idea of the importance of non-human wilderness for intrinsic reasons and also considers that it works as a tourist attraction providing further economic benefits to the region. At the same time, the park functions as an important reindeer pasture, and herders want to continue using it as they have previously (Puhakka et al. 2009; Sarkki et al. 2013a). This highlights the fact that perceptions of sustainability between proponents of nature conservation and sustainable ecotourism can diverge from reindeer herders' views and produce contradictions.

### *Use of Northern Natural Capital for External Benefits*

The question of who benefits from northern land use is at the core of social justice and also a key question for socio-natural capital. There are increasing pressures to conserve northern resources and to consider northern natural capital as a global public good. On the other hand, external companies and actors are exploiting northern resources for the benefit of far-away stakeholders.

Firstly, predator management has evoked a lot of debate in Nordic countries. For reindeer herding, predator conservation is a difficult problem as an increasing number of reindeer are killed by wolves, wolverines, lynxes, golden eagles and brown bears. In Finland the number of reindeer, which were proven to be killed by predators by collecting the carcasses (which are often not found), has grown from 1500 in 1995 to 4090 in 2007 – meaning that in some reindeer herding co-operatives 60-70% of calves are killed by predators (Vuojala-Magga 2012). This is mainly due to the fact that the number of predators has grown due to conservation policies. For example the wolverine population was at its lowest in 1978, but had grown in 1990 to approximately 80 animals, and in 2013 to approximately 250. Similarly the numbers of wolves and brown bears have increased as well as the problems these predators cause for reindeer herders (Heikkinen et al. 2011). In Finland, state compensations do not cover the time, efforts and fuel costs due to searching the reindeer carcasses (Heikkinen et al. 2011). Even the European Commission started proceedings against Finland on that the state should enhance wolf conservation efforts, but later considered that Finland had not in fact violated EU directives with its wolf management (Hiedanpää & Bromley 2011). Predator conservation is done in the name of the public good, to protect endangered species, to safeguard predators' role in ecosystems, and for the intrinsic value of predators, but this is problematic for local social justice, especially from reindeer herders' perspectives.

Secondly, socio-natural capital may be hampered also from the point of view of protected area governance. In Finland, the strict Malla nature reserve restricts reindeer herding within its area. However, local reindeer herders are constantly arguing that they should have a right to herd reindeer within the reserve due to ancestral rights to the area (Heikkinen et al., 2010). Thus, again divergent opinions on using or conserving natural capital create contradictions and challenges for social justice.

Thirdly, not only is nature conservation problematic from the point of view of social justice, but also resource exploitation for the benefit of actors external to the region has evoked discussions. Recent debates include mining and its costs and benefits for local actors in Gällöck, Sweden and in various sites in northern Finland. On the other hand, similar contradictions exist regarding forestry. For example, in Muonio in northern Finland, local reindeer herders as well as tourism entrepreneurs argued that loggings in old-growth forests should be stopped because the value of the natural capital of the forests for the local people had a higher standing than the revenues obtained from loggings (Sarkki 2011). A new settlement in the dispute was agreed upon in 2014. Originally the Muonio deal was set to expire in 2017, but in April 2014 Metsähallitus, Muonio municipality, and local stakeholders including the reindeer herding co-operative and tourism businesses in the area reached an agreement about the land use of 13,300 ha. This new agreement is in force until 2040. It expanded the protected area by 2000 hectares (of this 53% is forest). Forestry use will continue on 4600 hectares (35% of total area), but according to the agreement, only moderate thinning, selective loggings or small-scale openings are allowed on forest land. The needs of tourism and reindeer herding as well as landscape and ecological values should be taken into consideration in logging operations (Ylimuonion valtionmaiden 2014). In the near future it will be demonstrated how solid the agreement based on new methods and moderate loggings will be (Jokinen 2014).

### *Discrepancy Between Governance Ideals and Practice*

The notion of good governance would entail that decisions be legitimized by exploring various views and values in a fair and balanced manner (Stirling 2008). However, there seems to be discrepancy between ideal goals of participation and actual practices, especially if seen from multiple actors' points of view. The following points are also relevant for the growing body of literature on co-management in the Arctic (Armitage et al. 2011).

Firstly, regarding forestry planning in Finland, Metsähallitus has many times initiated controversial loggings after planning processes have been finalised. From Metsähallitus' position, the decision-making process has been balanced and fair, while reindeer herders and ENGOs argue that they have not had genuine opportunities to participate, and that decision-making processes aim not to produce legitimate decisions, but justify loggings (Raitio 2008; Sarkki 2011). Thus, there is a gap in how different actors understand the legitimacy of forestry governance in state forests of northern Finland.

Secondly, the goal of participation is also to accept alternative views as legitimate. However, during a transdisciplinary RENMAN project (Forbes et al. 2006) social scientific research included reindeer herders in the process of knowledge production as equal experts and as a result developed recommendations for management to enhance the sustainability of reindeer herding. Yet when these recommendations were presented to management officials they wondered why reindeer herders were let into a field where they do not belong, and could not make neutral recommendations due to pushing their interests. This highlights the fact that inclusion of reindeer herders in management discussions as equal experts may be an ideal, while in reality many actors consider such an effort as strange and unwanted (Sarkki et al. 2013b).

## Proposals For Enhancing Socio-Natural Capital

### *Enhancing Public Participation*

The multiple stressors present in the European north and the complexity of the situation requires open, inclusive and democratic problem-solving mechanisms and partnerships. According to a questionnaire respondent *“land use planning that has an open process is the way to avoid conflicts”*. In the workshop it was emphasised that there is a need for an equal dialogue where all parties are respected with a confidence that their views are taken into account. This could close the gaps in socio-natural capital regarding lack of trust and discrepancies between participatory ideals and actual practice. According to a questionnaire respondent *“Respect for the existing international legal regime, as well as the establishment of mechanisms that enhance the full and effective participation of indigenous peoples in decision making is needed”*. However, as noted in the workshop, increasing participation encounters some problems. Firstly, lack of trust results in negotiations that are not often based on mutual respect, reciprocal compromise-making and trust, but rather strategic behaviour to promote own interests. Secondly, the capacity of local actors in terms of time and capacity to take part in often rather technical discussions is limited. Thirdly, the actual effect of participatory processes on decisions is often blurred, and this further creates mistrust and feeling that local opinions are heard but not acknowledged. Fourthly, participation overload is possibly emerging when there are too many complex processes for an organization to follow and effectively contribute to – as is sometimes the case with the Sámi parliaments in Fennoscandia (Stepien et al. 2014). Finally, a questionnaire respondent, diverging from the other responses, stated that participatory structures are already in place and there is no need to develop new ones.

Taking into account the above challenges for fair and balanced participation, the following proposals can be made to enhance socio-natural capital: (1) Use trust-building techniques to try to break existing interest positions and search synergies; (2) Explain a realistic scope of participation and how it effects, or not, actual decision making; (3) Improve capacity building to explain technical details and types of inputs the decision process requires. However, participation overload should be avoided, and thus it would seem feasible to invite people only when it is important for actual decisions and their legitimacy; (4) Try to build reciprocal relationships between conflicting parties. In land use this can mean that negotiation over several sites is partly resolved in the favour of one party in one area, and partly for another elsewhere.

### *Stronger Institutionalization of Indigenous Rights*

It was emphasised in the workshop that decision-making processes need to take into account the connection of local cultures to traditional lands, especially in the case of indigenous peoples. According to one questionnaire respondent *“Human rights and indigenous peoples’ rights to both land and culture must come first. Having these core issues respected will without doubt be the best way to avoid and resolve conflicts”*. That line of argument continues to assert that due to the close relation between culture and environment, in the long term land use may adversely affect culture and identity. In the short term it has been argued that land use may threaten Sámi rights to practice their culture, especially reindeer

herding, being emblematic for the Sámi people. This argument has been made for example regarding the recent mining-reindeer herding dispute in Gällöck, Sweden and regarding forestry-reindeer herding dispute in Inari, Finland (Sarkki & Rönkä 2012).

The main international documents codifying indigenous rights are the 2007 UN Declaration on the Rights of Indigenous Peoples and the 1989 ILO Convention no. 169. Contrary to Norway, Finland and Sweden have not ratified the ILO Convention, but in both countries there is an on-going discussion about the Sámi rights to lands they traditionally inhabited and used. Even though planned new land use activities often include environmental impact assessments and local stakeholder consultations, the impact of Sámi herders and local people on final decision making is often considered to be fairly minor (e.g. Joonas 2011; Raitio 2008). International law may be helpful here as the states that have ratified the ILO Convention are obliged to effectively implement its provisions, including land rights, participation in decision-making and meaningful consultation.

Many questionnaire respondents noted that the EU should acknowledge indigenous land rights more and monitor the performance of states regarding indigenous rights. Formal recognition of indigenous rights could have positive impacts on northern socio-natural capital in the following ways. Firstly, institutionalization of land use rights would decrease the possibility that the northern environment is used in an ecologically and socially unsustainable way and for external benefits. Secondly, institutionalization would give Sámi political bodies, such as Sámi Parliament, more power, and thus Sámi bodies could better develop leadership on indigenous issues. Thirdly, formal recognition of indigenous rights would create more trust between indigenous people and the state. Fourthly, institutionalization also creates for all land users a clearer and more straightforward situation. Even mining companies say that it is easier to operate in areas where the land rights and land ownership are clear and resolved. On the other hand, stronger institutionalization of indigenous rights may put other northern local people into an inferior position, and it is questionable that indigenous people would in fact use the lands in a more sustainable way.

### *Increasing Knowledge Generation and Sharing*

In the workshop and questionnaire results it was stressed that facilitating knowledge exchange between regions, providing tools for collaborative research, developing a formal consulting mechanism and stakeholder engagement tools would increase the knowledge sharing and the quality of decision-making. Furthermore, collaboration between Scandinavian countries and Russia is very relevant for the European Arctic, where the EU is also a major policy actor. Territorial cohesion and exchange of experience between regions was seen by questionnaire respondents and workshop participants as increasing the sustainability of northern land use. Various Arctic actors need knowledge on land use developments and their interrelations. Without knowing how people use the land, including reindeer herding, subsistence use of forests, hunting and all aspects in everyday life, it is impossible to assess the impacts of the new initiatives and plan for sustainability. One questionnaire respondent commented that *“without knowledge it’s hard to expect a proper management of these important [land use] issues”*. A key challenge for decision-makers is to create governance structures where European and national policy and governance forums would be connected to regional and

local decision structures so that knowledge can also flow bottom-up. Furthermore, according to a questionnaire respondent, EU and rural development policies should encourage and facilitate multi-directional knowledge exchange in order to *“promote new innovations, which are based on exceptional arctic environment and cultures”*.

Increased knowledge sharing would have positive impacts on Arctic socio-natural capital. Firstly, it would enhance the potential for collaboration when different actors from different institutional levels know what other actors are doing. Secondly, according to one questionnaire respondent, holistic and cumulative impacts of land use should be taken better into account by currently separate management and policy processes. This would increase the possibility for adaptive learning from past activities and further develop more informed future practices and thus increase the socio-natural capital. Thirdly, it would be important also for socio-natural capital to establish more close linkages between science, policy and stakeholders, and between knowledge holders (e.g. scientists, traditional knowledge) and knowledge users (e.g. policy makers).

### *Enhancing Social Impact Assessments*

Environmental Impact Assessment (EIA) processes have become widely used as a proactive planning tool also in the Arctic regarding large-scale environmental projects like mining or energy production. In the workshop and questionnaires, the need for more detailed and effective Social Impact Assessment (SIA) was stressed. *“To stay within ecologically defined frames is an imperative for future sustainability. Social and cultural values must define societies’ development, and the economy must be developed and managed in order to achieve social objectives”*. Yet, social impact assessments are not necessarily conducted or their role in EIA is minor (Suopajarvi 2013). The EU is currently working on amending its EIA directive, and there is a possibility to raise the importance of social impact assessment, and ultimately the inclusion of social aspects in all environmental impact assessment processes. That is important especially in the areas which are sparsely populated and should take account of activities which require extensive land use (like reindeer herding) and are affected by new developments expected in rapidly changing European north.

In the context of mining, social licensing mechanisms have become an important instrument for better acknowledgement of local socio-cultural needs. Social license is acquired if there is an undeniable right and acceptance from the local population for the mine to operate. Mining companies have had a growing motivation to gain social license as investors are emphasising responsible production and would rather invest their money in companies with a good reputation (Heikkinen et al. 2014). Moreover, a major advantage of the notion of social license is that it is dynamic, i.e. constitutes a “process”, where the social acceptance of activities is being revisited throughout the cycle of the mining project – thus, once obtained, social license may be lost. However, the weakness of social license is its abstract and imprecise meaning. It is largely a matter of perception of the company, community, groups of stakeholders as well as external actors. It is also difficult to define a threshold above which there is enough social consensus among stakeholders and the public that social license indeed has been obtained. Thus, to no surprise different actors may have varying views whether the social license is acquired, especially considering its dynamic nature.

It is closely connected with the quality of social capital, the level of trust and communication channels within particular social contexts or the existence of networks. In sparsely populated areas characterised by long distances but also long-range environmental and social impacts, this is a particularly crucial impediment.

Taking social aspects better into account in impact assessments and land use planning could have positive effects on socio-natural capital by increasing knowledge about impacts and relationships between diverse actors. Firstly, environmental and social impact assessments should be done in transparent ways, because poor transparency will limit trust and create prejudices toward the company. Secondly, taking the social dimension into account early in the planning phase via interacting with local people creates space where networks and positive relationships can be built. Thirdly, impact assessments can be considered to nurture reciprocity, because they outline both negative and positive impacts.

## **Conclusion**

The notion of socio-natural capital is well suited to examine and explore the sustainability of land use. When socio-natural capital increases among land use actors, the possibilities to achieve sustainability improve and come closer to achieving social consensus on what sustainability constitutes in the specific context. When talking about socio-natural capital, it is not enough to consider only capital within local populations, but also between local people and external land use actors. This is particularly important for reducing colonial practices of extracting northern resources for external benefits. On the other hand, external actors can possibly nurture socio-natural capital. For example, the EU can enhance policy and governance instruments (both its own and those applied in the member states) that necessitate participation of Arctic people to decision-making, with a confidence that their views are taken into account, or by increasing demands for social impact assessments of land use in the planning phases. Nation states can encourage collaboration, but also institutionalize and formally recognize rights of Arctic indigenous people. The institutional ability to enhance socio-natural capital is also particularly strong in the case of institutionally requested interaction processes between various groups. For example, formal requirements for participatory planning and interaction or semiformal social licensing mechanisms are fruitful places where relationships among groups can be built.

On the other hand, socio-cultural capital can be built by individual people and various groups. For scientists, studies on how natural capital turns into human benefits are essential. Scientists' socio-natural capital can also be enhanced in transdisciplinary and participatory efforts where various disciplines and stakeholders interact to produce holistic knowledge on social-ecological interactions and land use (Sarkki et al. 2013b). Policy makers' understanding of various perspectives on sustainability of land use can be enhanced by increasing participatory processes, enabling multi-directional knowledge flows between stakeholders and policy makers, interaction between policy and governance structures from various institutional levels, and by enhancing science-policy interface. Local stakeholders' socio-natural capital can be enhanced by supporting local institutions promoting sustainable use of natural resources, by promoting self-organization capacity with external support

for local action and leadership, by network building, and by increasing communication among local groups and between locals and policy makers in order to build trust between various actors.

Furthermore, institutions can arrange interactions that function as locations where socio-natural capital can be built among individuals and groups. However, people decide how they interact and how open they are in the given interaction processes. Thus, individuals can significantly hamper or contribute to the building processes of socio-natural capital. As such, institutions, individuals and social groups have a key role in building socio-natural capital. Socio-natural capital is thus often borne in interactions between various people, groups and institutions, but as a result it can be integrated into the values, practices and motivations of various actors, becoming then a property of the given social system enhancing, for example, sustainable land use in the north.

When socio-natural capital enhancing sustainable land use is better understood, sustainable land use can be better promoted. Thus, further research is needed especially on the factors that contribute to understanding properties of institutions and people that enhance sustainable social-ecological interactions. There is a growing body of literature, which aims to better comprehend linkages between institutions and sustainable use and governance of SES (Young et al. 2008; Folke et al. 2007). This article highlights that this SES focused literature could also take account the idea of socio-natural capital to better understand power relations in the form of institutional inclusion and exclusion, perceptions of sustainable use of natural capital, trade-offs between various stakeholders, environmental justice, and two-way relationships including trust or lack of it. When the features of socio-natural capital and their dynamics are better understood, it is possible to design policies, governance instruments, interactions and land uses in a way that promotes development of positive capital that contributes to sustainable land use in the north and elsewhere.

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## References

- Armitage, D., Berkes, F., Dale, A., Kocho-Schellenberg, E., & Patton, E. (2011). Co-management and the co-production of knowledge: Learning to adapt in Canada's Arctic. *Global Environmental Change*. 21(3): 995–1004.
- Biggs, R., Schlüter, M., Biggs, D., Bohensky, E.L., BurnSilver, S., Cundill, G., Dakos, V., Daw, T.M., Evans, L.S., et al. (2012). Toward Principles for Enhancing the Resilience of Ecosystem Services. *Annual Review of Environment and Resources*. 37: 421–448.
- Bourdieu, P. (1986). The Forms of Capital. In J.G. Richardson (ed.). *Handbook for Theory and Research for the Sociology of Education* (pp. 241–258). New York: Greenwood.
- CICES. (2013). Towards a Common International Classification of Ecosystem Services. Available at: <http://cices.eu>. Accessed 25 April 2014.
- Costanza, R., d'Arge, R., deGroot, R., Farber, S., Grasso, M., Hannon, B., Limburg, K., Naeem, S., O'Neill, R., Paruelo, J. et al. (1997). The value of the world's ecosystem services and natural capital. *Nature* 387: 253–260.
- Cote, M. & Nightingale, A. J. (2012). Resilience thinking meets social theory: Situating social change in social-ecological SES research. *Progress in Human Geography*. 36(4): 475–489.
- Daily, G. (1997). *Nature's services: societal dependence on natural ecosystems*. Washington: Island Press.
- Folke, C., Hahn, T., Olsson, P., & Norberg, J. (2005). Adaptive Governance of Social-Ecological Systems. *Annual Review of Environment and Resources*. 30(1): 441–473.
- Folke, C., Pritchard, L., Berkes, F., Colding, J., & Svedin, U. (2007). The problem of fit between ecosystems and institutions: ten years later. *Ecology and Society*. 12(1): art. 30.
- Forbes, B.C. et al. (eds.) (2006). *Reindeer management in northernmost Europe: linking practical and scientific knowledge in social-ecological systems*. Ecological Studies 184. Springer-Verlag, Berlin.
- Fukuyama, F. (2002). Social Capital and Development: The Coming Agenda. *SAIS Review*. 22(1): 23–37.
- Haines-Young, R. H., & Potschin, M. (2010). The links between biodiversity, ecosystem service and human well-being. In: Raffaelli, D., Frid, C. (eds.), *Ecosystem Ecology: A New Synthesis*. *BES Ecological Reviews Series*. (pp. 110–139): Cambridge: Cambridge University Press.
- Hazleton, V., & Kennan, W. (2000). Social capital: Reconceptualizing the Bottom Line. *Corporate Communications: An International Journal*. 5(2): 81–86.
- Heikkinen, H. I., Lepy, E., Sarkki, S., & Komu, T. (2014). Challenges in Acquiring a Social License to Mine in the Globalizing Arctic. *Polar Record*. (In press).
- Heikkinen, H. I., Moilanen, O., Nuttall, M., & Sarkki, S. (2011). Managing Predators, Managing Reindeer: Contested Conceptions of Predator Policies in the Southeast Reindeer Herding Area of Finland. *Polar Record*. 47(242): 218–230.
- Heikkinen H. I., Sarkki, S., Jokinen, M., & Fornander, D. E. (2010). Global Area Conservation Ideals versus the Local Realities of Reindeer Herding in Northernmost Finland. *International Journal of Business and Globalization*. 4(2): 110–130.

- Heikkinen, H. I., Sarkki, S., & Nuttall, M. (2012). Users or Producers of Ecosystem Services? A Scenario Exercise for Integrating Conservation and Reindeer Herding in Northeast Finland. *Pastoralism: Research, Policy and Practice*. 2: 11.
- Hiedanpää, J., & Bromley, D. W. (2011). The Harmonization Game: Reason and Rules in European Biodiversity Policy. *Environment Policy and Governance*. 21(2): 99–111.
- Hsieh, H-F., & Shannon, S. E. (2005). Three Approaches to Qualitative Content Analysis. *Qualitative Health Research*. 15(9): 1277–1288.
- Jokinen, M. (2014). Heated and frozen forest conflicts: Cultural sustainability and forest management in arctic Finland. In: Katila, P., Galloway, G., de Jong, W., Pacheco, P. & Mary. G. (eds.). 2014: Forests under pressure – Local responses to global issues. *IUFRO World Series*. 32: 318-398.
- Joona, T. (2011). The Historical basis of Saami Land Rights in Finland and the application of the ILO Convention No. 169. *Yearbook of Polar Law*. 3.
- MA. (2005). *Millennium Ecosystem Assessment. Ecosystems and human well-being: synthesis*. Washington: Island Press.
- Olsson, P., Folke, C., & Berkes, F. (2004). Adaptive Comanagement for Building Resilience in Social-Ecological Systems. *Environmental Management*. 34(1): 75–90.
- Puhakka, R., Sarkki, S., Cottrell, S. P., & Siikamäki, P. (2009). Local discourses and international initiatives: sociocultural sustainability of tourism in Oulanka National Park, Finland. *Journal of Sustainable Tourism*. 17(5): 529–549.
- Putnam, R. (1993). *Making Democracy Work. Civic Traditions in Modern Italy*. Princeton, New Jersey: Princeton University Press.
- Raitio, K. (2008). ‘You can’t please everyone’ – Conflict management practices, frames and institutions in Finnish state forests. PhD dissertation, University of Joensuu, Finland.
- Sarkki, S. (2011). ‘The site strikes back’: Multi-level forest governance and participation in northern Finland. PhD thesis, Universitatis Ouluensis, B 102.
- Sarkki, S., & Heikkinen, H. I. (2010). Social Movements’ Pressure Strategies during Forest Disputes in Finland. *Journal of Natural Resources Policy Research*. 2(3): 281–296
- Sarkki, S., Heikkinen, H. I., & Karjalainen, T. P. (2013b). Sensitivity in transdisciplinary projects: Case of reindeer management in northern Finland. *Land Use Policy*. 34: 183–192.
- Sarkki, S., Heikkinen, H. I., & Puhakka, R. (2013a). Boundary Organisations Between Conservation and Development: Insights from Oulanka National Park, Finland. *World Review of Entrepreneurship, Management and Sustainable Development*. 9(1): 37–63.
- Sarkki, S., & Karjalainen, T. P. (2012). Science and Issue Advocacy in a Forest Debate in Finland. *The Polar Journal*. 2(1): 125–138.
- Sarkki, S., & Rönkä, A. R. (2012). Neoliberalisations in Finnish Forestry. *Forest Policy and Economics*. 15: 152–159.
- Serageldin, I., & Grootaert, C. (1999). Defining Social Capital. An Integrated View. In Dasgupta, P., & Serageldin, I. (eds.), *Social Capital. A Multifaceted Perspective* (pp. 40–58). Washington DC: The World Bank.

- Simkovic, M. (2013). Risk-Based Student Loans. *Washington and Lee Law Review*. 70(1): 8.
- Spangenberg, J. H., Görg, C., Truong, D. T., Tekken, V., Bustamante, J. V., & Settele, J. (2014). Provision of Ecosystem Services is Determined by Human Agency, Not Ecosystem Functions. Four Case Studies. *International Journal of Biodiversity science, ecosystem services & Management*. 10(1): 40–53.
- Stepien et al. (2014). Arctic Indigenous Peoples and the Challenge of Climate Change. In Tedsen, E., Cavalieri, S., Kraemer, A. R. (eds.), *Arctic Marine Governance. Opportunities for Transatlantic Cooperation*. Springer: Berlin.
- Stirling, A. (2008). “Opening Up” and “Closing Down”: Power, Participation and Pluralism in the Social Appraisal of Technology. *Science, Technology and Human Values*. 33(2): 262–294.
- Suopajärvi, L. (2013). Social impact assessment in mining projects in Northern Finland: Comparing practice to theory. *Environmental Impact Assessment Review*. 42: 25–30.
- Vuojala-Magga, T. (2012). Adaptation of Sámi Reindeer Herding: EU Regulation and Climate Change. In Tennberg, M (ed.). *Governing the Uncertain: Adaptation and Climate Change in Russia and Finland* (pp. 101 – 122). Springer: London & New York.
- Ylimuonion valtionmaiden käyttösuunnitelma (2014). Muonion kunta & Metsähallitus. 45 p. In print.
- Walker, B. H., Holling, C. S., Carpenter, S. R., & Kinzig, A. (2004). Resilience, Adaptability and Transformability in Social-Ecological Systems. *Ecology and Society*. 9(2): Art. 5.
- Wilson, A. & Cervantes, M. (2014). Survey of Mining Companies 2013. *Fraser Institute Annual*. Available at: <http://www.fraserinstitute.org/publicationdisplay.aspx?id=20902&terms=sweden+mining>. Accessed 29, August 2014.
- Young, O. R., King, L. A., & Schroeder, H. (eds.) (2008). *Institutions and Environmental Change. Principal Findings, Applications, and Research Frontiers*. Cambridge MA: MIT Press.

# THE CHALLENGES & OPPORTUNITIES FOR ARCTIC MICROSTATES IN DEVELOPING AN ENERGY SECTOR: THE ROLE OF HUMAN CAPITAL AND KNOWLEDGE INSTITUTES

C.C.A. Smits, R.G. Bertelsen, & J.C.S. Justinussen

*Like many Arctic states, Iceland and the Faroe Islands used to be the resource-based economies which Greenland is today. Remotely located in relation to the World economy, Iceland and the Faroe Islands have succeeded in developing a knowledge-based economy, also related to their energy sector. To create a knowledge-based economy a sufficient mass of human capital is of crucial importance. In forming this critical mass, higher education and knowledge institutes play a central role. The cases of the Faroe Islands and Iceland show that it is possible to create a critical mass of human capital by developing strong knowledge institutes and stimulating the exchange of knowledge. Iceland has successfully developed a knowledge-based energy sector based on hydropower over the last century. Icelanders bringing home knowledge gained via graduate education at top institutes abroad, appeared of major importance. More recently the Faroe Islands have developed human capital based on oil and gas exploration activities, while no economically viable resources have been found yet. Greenland on the other side has made some important steps in creating and strengthening strong knowledge institutes, but is still far from a full-fledged knowledge-based economy such as the one in Iceland. Are there lessons to be learned from Iceland and the Faroe Islands, and how much do historic path-dependencies matter in this context? These are questions that this article will explore.*

## Introduction

Just like in many other Arctic states, natural resources form the basis of the Icelandic, Faroese and Greenlandic economies (Glomsrød & Aslaksen 2009). Within this context energy plays and has played an important role in the development of these states. To benefit from the exploitation of

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natural resources, including energy resources, the authors believe that a knowledge-based economy and a strong educational sector are essential. However, the small size of these societies brings about specific challenges and opportunities. All three countries can be regarded as very small or microstates, due to the small size of their societies: populations of 315,281, 49,709 and 57,714 for Iceland, the Faroe Islands and Greenland respectively ([www.cia.gov](http://www.cia.gov)).

This article will analyse the challenges and opportunities in the creation of a knowledge-based economy around natural resources, with the development of an energy sector as an example. The focus of this analysis will be on the creation of human capital and the role of knowledge institutes, since education increases social capital which helps building human capital (World Bank 2009; World Bank 2003). The question is whether historical path dependencies matter in developing a strong educational sector that is critical in the creation of human capital and a knowledge-based economy? To answer this question, the history and circumstances under which especially Iceland and the Faroe Islands have already developed their knowledge-based economy will be explored. Greenland finds itself much more at the beginning of developing a knowledge-based economy, and could benefit from the lessons learned of the other two countries.

The case of Iceland will be explored first, since it has successfully developed a knowledge-based energy sector based on hydropower (and geothermal power outside the scope of this article). Long established knowledge institutes like the University of Iceland (1911) have played a central role in the development of human capital and a knowledge-based economy in Iceland. Furthermore, “brain circulation” (see, for instance, Solimano 2008), defined as Icelanders going abroad to leading international universities and returning home with the gained knowledge, has been an important factor as well. Second, the much more recent case of the Faroe Islands will be discussed. Over the past 15 years the Faroe Islands have built up a knowledge-based economy on the back of oil and gas exploration activities, even though no economically viable reserves have yet been found. The Maritime College (1893) and the University of the Faroe Islands (1963), have played an important role in the transition from a resource-based economy to a knowledge-based economy.

Compared to Iceland and the Faroe Islands, Greenland stands at the early stages of developing a knowledge-based economy. As part of its strategy to diversify its economy, Greenland is currently looking to develop an energy sector. In order to maximise local benefits of these offshore activities, Greenland has implemented a number of tools in its regulation. Education is seen as a central element and much effort is made to prepare and qualify society for participation in these industrial activities.

## **Iceland**

One of the teachers of Rasmus Gjedssø Bertelsen (co-author of this article) at the Austurbæjarskóli primary school in Reykjavik was the prominent Icelandic poet and translator Vilborg Dagbjartsdóttir. Vilborg was born in 1930 in the east coast settlement of Vestdalsheiði, near Seyðisfjörður, which is now abandoned. Vilborg told stories from her childhood of massive losses of life to tuberculosis and other infectious diseases and to the sea, and the self-sufficiency of households living off the land and the sea. When Vilborg was born in 1930, Iceland had just become

a sovereign and independent state as the Kingdom of Iceland, having a common king with the Kingdom of Denmark since 1918. It would last another 14 years before Iceland would declare the republic it is today.

At the moment, we all know Iceland as an exceptionally highly developed independent very small state, with one of the highest levels of human development in the world (number 13; notwithstanding the 2008 financial crisis) (UNDP 2013). This development raises the question: what explains Iceland's remarkable political and socio-economic achievements over the 1900s? In this article it is argued that an important explanation of those achievements is the combination of a strong educational sector, strong human capital and abundant natural resources (Bertelsen & Hansen 2014; Bertelsen, Justinussen & Smits 2014).

Iceland is a natural resources-based economy as are all Arctic economies. In particular marine resources (which are outside the scope of this article) and renewable energy resources (the topic of this article) have played and continue to play a key role in the Icelandic economy and society. Icelandic exports have overwhelmingly been based on marine resources since the mechanization of Icelandic fisheries (the industrialization of Iceland) in the early 1900s. Iceland, as a micro or very small island economy and peripheral to the world economy, has throughout its independent history struggled to develop and diversify its economy. This struggle to diversify and develop the Icelandic economy was closely connected with Iceland's other great natural resource: renewable hydro- and geothermal energy (Ármansson 2005; Ísleifsson 2007; Jónsson 2005; Karlsdóttir 2010; Kristinsson 2005; Kristjánsson 1997; Pálsdóttir 2005; Ragnarsson 1975, 1976, 1977; Sigurðsson 2002; Þórðarson 2004).

The authors argue that Iceland has managed to create a domestically controlled, globally connected, knowledge-based energy sector (Bertelsen & Hansen 2014; Bertelsen, Justinussen & Smits 2014). This development has created work and intellectual opportunities for Icelanders at home and increasingly abroad. This development was driven by a fortuitous combination of a strong domestic tradition of primary, secondary, increasingly tertiary, and vocational education combined with a strong and successful tradition of "brain circulation": by going abroad for study or work experience and returning to Iceland with new knowledge and networks. This section of the article will discuss how this combination has laid the foundation of this domestically controlled, globally connected, knowledge-based energy sector. The article acknowledges the environmental tradeoffs in hydro- and geothermal energy projects, which has been the topic of intense debate in Icelandic society since the early 1900s. This topic is treated extensively in literature (see e.g. Hálfðanarson & Karlsdóttir 2005; Karlsdóttir 2010 for historical overview), but is outside the scope of this article.

### *The History of Icelandic Development*

Iceland suggests a strong path dependency for the development of human capital, where building knowledge-based societies and economies has very deep historical roots in excellent domestic education in the native language combined with "brain circulation" with the outside world. This path dependency raises difficult questions for Greenland, while the Faroe Islands offer answers. Icelanders have travelled to Europe for knowledge since the settlement of Iceland in the Viking Age

(~800 to ~1100), which is recorded in the Sagas. As a logical consequence of this close intellectual connection with Europe since its earliest settlement, the two late Viking age bishoprics of Iceland, first Skálholt in Southwest Iceland in the second half of the 1000s and subsequently Hólar in North Iceland in 1106, founded Latin Schools or grammar schools. The Skálholt school still exists today as the Reykjavik Grammar School (Menntaskólinn í Reykjavík, MR), which produced the first Kingdom of Denmark Nobel laureate, Niels Ryberg Finsen (Medicine, 1903), and the literature Nobel laureate Halldór Laxness in 1955 (although he had left the school early). Since the Protestant reformation the school and church language of Iceland has been Icelandic.

The Skálholt and Hólar schools supplied lower ranking clergy and equipped Icelanders to travel (especially) to Denmark for higher education throughout the centuries. This shows that Iceland has had a long history of strong domestic primary and secondary educational tradition in the national language, equipping Icelanders for going abroad to enjoy higher education. This “brain circulation” supplied a steady stream of Icelandic pastors for church leadership and education, jurists for administration and physicians for the nascent health service. It also maintained a vibrant Icelandic intellectual life in Copenhagen among Icelandic students and scholars, which would have profound impact on Icelandic political, social and intellectual development. In 1828 and 1832 these Icelandic intellectual circles would voice the first calls for building tertiary educational capacity in Iceland, in order to supply for the necessary highly skilled and locally relevant human capital in theology, philosophy, medicine, natural history, economics and commerce for local socio-economic development. These early voices called for adding higher education offerings to the secondary school offerings of the old Skálholt school (Jónsson 1961; Háskóli Islands 2014). It was a debate predicting much later debates throughout the Arctic about building higher education capacity in northern communities.

The development of Icelandic higher education capacity is closely intertwined with state-building and independence politics. The Icelandic Althingi [Parliament] was reconstituted as a consultative assembly of the Danish King in 1845, and the School of Theology was created in Reykjavik in 1847 as a public administration capacity building initiative. In 1874, the Althingi gained legislative power over Icelandic affairs, and in 1876 the School of Medicine was created in Reykjavik to address recruitment problems and create locally relevant knowledge. In 1904, Iceland gained executive home rule, and in 1908 the School of Law was established in Reykjavik in light of the key role of building domestic law on the road to statehood. In 1911, the University of Iceland was founded, combining these schools and adding humanities with a clear purpose of supporting Icelandic state-building and independence aspirations. In 1918, Iceland gained sovereignty in a personal union with Denmark. In 1940, the University of Iceland inaugurated the main building of its future campus, which together with the neighboring National Museum from 1950 (the National Museum was founded in 1863 as a nation-building institution) are key architectural manifestations of statehood and the republic declared in 1944. The University of Iceland has since grown by leaps and bounds to an about 14,000 students-strong research university, which is supplemented by the University of Akureyri (1987) with the satellite campus University Centre of the West Fjords in Ísafjörður (2005), the private Reykjavik University (1998), Bifröst University (1988), Hólar University College (2003) and the Agricultural University of Iceland (1889/1947). These institutions have deep roots in older schools. What should

be noted about these universities, is that they are all founded and overwhelmingly staffed by Icelanders with graduate credentials from leading universities of North America, Europe and various other parts of the World (Jónsson 1961; Háskóli Islands 2014).

### *The Role of Brain Circulation in the Development of Icelandic Hydro- and Geothermal Power*

The renewable energy sector is the clearest example of how strong human capital has allowed Iceland to benefit from natural resources. Strong local human capital and the interaction with knowledge abroad, are leading throughout the history of Icelandic hydro and geothermal power. In the late 1800s, the world was gripped by the prospects of hydropower as an important resource fueling the energy-intensive high-tech industry of the day, namely nitrogen-based fertilizer. Iceland was keenly aware of these developments and a heated debate raged on the possibility of modernizing and diversifying the Icelandic economy, based on combining Icelandic hydropower resources, foreign capital and technology. Three key Icelanders serve to illustrate the importance of human capital and “brain circulation”: Frímánn B. Arngrímsson (1855-1936) was an Icelandic emigrant to North America, who had studied science at the University of Manitoba. He saw the potential of combining Icelandic energy resources and the technology of the day, and was its first advocate in Iceland, although in vain. Einar Benediktsson (1864-1940) was a prominent politician, poet and lawyer, trained at the University of Copenhagen. It should be noticed that he was a very active entrepreneur who founded hydropower investment companies with foreign capital. However, in 1904 it was master carpenter Jóhannes Reykdal (1874-1946) from Hafnarfjörður, who made the first small hydro electrical power plant in Iceland, after having spent time with his sister in Norway, a pioneering country in hydro electrical technology at that time (Ísleifsson 2007; Jónsson 2005; Karlsdóttir 2010; Kristjánsson 1997; Sigurðsson 2002; Þórðarson 2004).

The early dreams of industrializing Iceland through hydropower, foreign capital and technology did not materialize for domestic, international political and financial reasons. Instead Iceland was electrified from the bottom-up with local installations. However, throughout this time, Icelandic engineering authorities did surveying work of the hydropower resources and from the late 1940s the National Director of Electricity guided large-scale geological and glaciological studies for hydropower development. Here it must be emphasized that this work was done by Icelanders, often as graduate students at or postgraduates from foreign universities working with foreign supervisors and colleagues, in collaboration with Harza Engineering International of the USA (Ísleifsson 2007; Jónsson 2005; Karlsdóttir 2010; Kristjánsson 1997; Sigurðsson 2002; Þórðarson 2004).

The Conservative-Social Democratic “Restoration” government of 1959-1971 (Viðreisnarstjórn) sought to internationalize and modernize the Icelandic economy. A key element was attracting the international energy-intensive industry, which was now the aluminum industry. In the 1960s, the Icelandic government secured funding from the World Bank and a power sales agreement with Alusuisse to build the Búrfell power station (the first large-scale hydro power station), powering the aluminum smelter at Straumsvík, which opened in 1969. What should be noticed here is that Harza Engineering International designed this first large-scale power plan, while Icelandic workers built it. Icelanders carried out much of the science, planning, law and financial negotiations. In the

successive decades (1970s, 1980s and 1990s) a number of large-scale hydro power plants were built in Iceland. These power plants were to an ever increasing and eventually full extent designed by Icelandic engineering companies, and built by Icelandic contractors. Finally, in the 2000s the enormous Fljótsdal/Kárahnjúkar power plant was designed again by Icelandic-international engineering companies, while the workers were now Portuguese and Chinese. So Iceland had come full circle from Icelandic workers building for American engineers to Chinese workers building for Icelandic engineers (Jónsson 2005; Karlsdóttir 2010; Pálsdóttir 2005; Sigurðsson 2002). This development could only be realized based on the strong Icelandic human capital basis, which seems to be built on a thousand-year-long tradition of a strong domestic primary, secondary and vocational (and recent tertiary) educational tradition coupled with successful “brain circulation”.

Knowledge-based energy work has also become an important part of Iceland’s international and transnational relations with the outside world. Exploring and surveying these resources has linked Icelandic and foreign universities and scientists since far back in the 1900s. Later, the Icelandic (engineering) companies, which have developed around hydro- and geothermal energy, have turned to market their knowledge and know-how internationally. This international work is often linked to Iceland’s use of its hydro- and especially geothermal energy knowledge in its development work with developing countries that hold geothermal potential. Here the United Nations University Geothermal Training Programme must be emphasized. The UNU GTP is hosted by the National Energy Authority of Iceland. Since 1979 it has run a geothermal training program, which had trained 525 professionals from 53 countries in geothermal energy by 2012 (Friðleifsson, Svanbjörnsson & Thorsteinsson 1984; personal communication).

### ***Challenges in Present-Day Iceland***

Today, Iceland is in a way threatened by its own human capital success. Especially graduate study opportunities have expanded exponentially at the University of Iceland during the past 15 years. Earlier, young Icelanders could receive an excellent undergraduate degree in a wide range of topics from the University of Iceland, but were usually forced to go abroad for graduate studies. Faced with this choice, young Icelanders often chose international top-universities for their graduate study. This fed the highly fortuitous “brain circulation”: supplying Icelandic academia, government and business with human capital with an excellent international background. However, going abroad for years of graduate studies comes with a steep economic and personal price. Today, young Icelanders often have the opportunity to stay at home for their graduate studies. If this leads to a slowdown of the “brain circulation” and internal recruiting practices related to especially academia, it will have very negative effects on Icelandic human capital. Iceland must ensure that domestic graduate studies are for those without the option of going abroad and foreign students, while the flow of Icelandic talent to and from the world’s top-universities does not slow down.

### **Evolution of Human Capital and Knowledge Institutions in the Faroe Islands**

The modernisation of the Faroese society has largely depended on the expansion of commercial fishing in the North Atlantic region, helping it to transform from an agricultural peasant society to a

market based economy successfully integrated into the world economy, creating an extreme dependency on domestic resources. The exploitation of marine resources has therefore played a dominant role in the social, political and economic life on the islands for over a century and still does (Joensen 1992b; Justinussen 1999; Mørkøre 1991; OECD 2011). However, for almost 15 years, oil and gas exploration has taken place in the Faroese waters. So far, no economically viable reserves have been found, yet the Faroe Islands have still benefitted from these activities by creating a thriving knowledge-based economy related to the offshore energy sector. This offshore sector is now operating not just in the Faroes, but also worldwide. The important point is that this new energy sector is not competitive because of domestic natural resources, because none have been found yet. It is competitive because of the knowledge and expertise that has been developed since exploration began, thus breaking with the previous development path. In this section we shall look at the role of knowledge institutions in this development.

The Faroe Islands has a centuries-old tradition of regionally important knowledge-building institutions that contributed to the level of human capital apparent today. Faroese formal academic education dates back at least as far as to the priest college in Kirkjubø that educated King Sverri of Norway in the 1200s (Debes 2000; Young 1982). After the Reformation, this centre of learning was closed down, and a Latin school was established in Tórshavn. It was a tiny school, steeped in poverty, and almost eradicated by small pox in 1709, but a school with far reaching consequences for the development of the entire Faroese society, and beyond (Debes 2000). It is possible to divide the evolution of modern Faroese academic institutions into four distinct phases, beginning with the Latin school.

### *The Historical Evolution of Faroese Academic Institutions*

The *first phase* emerges with the creation of the Latin school in the 1500s. The main purpose of this school was to recruit and train candidates for the clergy. Young boys were educated and prepared for later university studies in Copenhagen (Denmark) or Bergen (Norway), where they could become educated as priests. However, the school produced an excess of ‘graduates’, and only a small fraction of them left the country for further studies. The majority went back home to their villages, where they taught others to read and write. Many of these candidates became Sheriffs (*Síðslumaður*), Law Men (*Løgmaður*), Law-officers (*Løgrettarmenn*), administrators, and others engaged in trade. Thus the unintended consequence of the Latin school was a society-wide education of the people and the creation of a Faroese elite (Debes 2000; Hentze 2000) with direct ties, through classmates, abroad, creating a domestic and international “brain circulation”.

The *second phase* occurred during the social transformation from an agricultural to a fishery society in the second half of the 1800s (Joensen 1992a). The Latin school had closed down and new educational demands had emerged as commercial fishery continued to develop. By the end of the 19<sup>th</sup> century, compulsory public education was introduced, and a teacher college was established (Holm 1970). Even the remotest villages were guaranteed education through a travelling teacher system (Petersen, 1994). This was a huge step forward and created the basis for further education in the professional schools that followed.

The *third phase* begins with the establishment of a Faroese scientific society (*Societas Scientarium Faroensis*) in 1952. The society started a scientific journal in Faroese and organised a regular public lecture series (Gaini 2002). In 1965, the University of the Faroe Islands was established. A modern Faroese University was now a reality. A driving motivation behind this initiative was the idea that the university should contribute to cultural nation-building (Marnersdóttir 2003), especially in light of concerns that national identity was being eroded. A key element in this process was language. The main emphasis was therefore to develop a Faroese dictionary, and to collect and document Faroese language usage and traditions (Joensen 1988). The first academic employed was a professor in linguistics (Joensen 1990). In this period the university offered BA programmes in Faroese and history.

The *fourth phase* begins around the turn of the 21<sup>st</sup> century. The language battle was over and Faroese was established as a national language taught in all schools from primary to university level education. Today, the Faroese scientific journal, *Fróðskaparrit*, is over 50 years old, and Wikipedia has over 10,000 articles in Faroese (Jacobsen 2014). In this phase, the purpose of the University is not primarily cultural nation-building anymore, but also to be a major driver in the economic development of the society (Fróðskaparsetur Føroya 2014). Having good quality higher education available at a national level has been a major advantage for building up human capital and supports the development of a knowledge-based economy, which the Faroe Islands experiences today.

### *The University in the Knowledge Economy*

Today it is recognized that research and development play a major role in the emerging Faroese knowledge economy (MTI 2005; Vinnumálaráðið 2013). Two major institutional and technological changes took place in this phase, which have made this transition possible.

First, the rapid innovation and spread of information technology and the Internet, which has revolutionised the world and given rise to completely new kinds of industries, and new ways to organise and conduct business. This technology has been particularly important for the Faroe Islands, since it has minimized the impact of distance and remoteness and not least, has provided access to information and research databases anywhere in the world. This technological innovation has made a new kind of “brain circulation” possible that is less tied to geography, and opens up completely new development paths for a remote microstate such as the Faroe Islands.

Second, since oil and gas exploration commenced in Faroese waters, licence holders have been obliged to pay a ‘tax’ to the Competence Development Fund. The purpose of the Fund is to promote education and research programmes that can increase the human capital in the country. The Fund has financed several large-scale research programmes conducted at the University of the Faroe Islands as well as several PhD projects.

Together these developments have fundamentally changed the playing field for knowledge institutions, giving rise to many new and exciting educational and research projects within the energy and other sectors. Over the last 15 years substantial expertise has built up in several fields, making it possible for the University to offer Bachelor degrees in the sciences, humanities, and social sciences, as well as Masters in Faroese Language and Law. Doctoral programmes are also offered on an

individual basis. The most recent addition to the professorships at the University occurred in 2014, when Statoil, one of the major players in oil exploration in Faroese waters, funded a full professorship in energy engineering.

### *The University and the Public Sector*

An important feature of the University lies in its close network and informal ties to researchers in other public institutions that conduct research related to their respective fields. For example, the Faroese Petroleum Administration (*Jarðfeingi*) has geologists, physicists, and PhD students engaged in research. These researchers frequently appear as guest lecturers at the University, helping to supplement the faculty's knowledge base. Similarly, the following public sector institutions all conduct research as a part of their duties and supply the University with guest lecturers on an informal basis:

- *Føroya Landsbókasavn* (Faroese National Library)
- *Føroya Fornminnisavn* (Faroese Archaeological Museum)
- *Nátúrgrúpasavnið* (Natural History Museum)
- Biofar (Kaldbak Marine Bio Lab)
- *Heilsufrøðiliga Starvsstovan* (Environmental Agency)
- *Havstovan* (Faroese Marine Research Institute)
- *Landskjalasavnið* (National Archives)
- *Jarðfeingi* (Faroese Oil Administration)
- *Fiskaaling* (Aquaculture)
- *Landsjúkrahúsið* (National Hospital of the Faroe Islands)
- iNova (Research Park)

Since the inception of the University it has been recognized that, should the University have a chance to survive and flourish, it would need to draw on all available resources. On its own, the University does not have enough manpower and resources to cover all areas necessary for offering relevant research-based educational programmes. However, these partnerships have never been formalised in form of a contract between the University and the public sector, except for a recent agreement of understanding between the University and the *Landsjúkrahúsið* (National Hospital of the Faroe Islands), and the recently created iNova (Research Park). Nevertheless, it has been a *de facto* practice over the years that employees in public institutions who are engaged in research are allowed to give lectures at the University during their usual working hours (Joensen 1988).

Though these kinds of networks are by no means exceptional, they are nevertheless exceptionally important for the University, since they provide vital input into the teaching and make it possible to offer a research-based education that extends far beyond the research conducted by the 73 academics currently employed at the University. The effect of this informal organisation is twofold. On the one hand these informal networks thus compensate for the limited scope for specialisation in a microstate, and make it possible to offer research-based teaching in a much wider range of areas

than otherwise would have been possible. On the other hand they also integrate a much wider network of people in the process of research and teaching at university level and thus populate the critical mass necessary for an emerging knowledge economy.

### *Current Challenges*

One of the challenges in the development of human capital, which is so essential for knowledge based economy, is the integration of education and knowledge institutions in local society. Without a general society-wide integration of knowledge institutions, it is difficult to build up a critical mass for a knowledge-based economy. Education for a select few will not build a knowledge economy for the masses. In the Faroese case there has been a gradual long-term evolution of academic institutions and learning, which have embedded knowledge institutions into the wider society. However, the growth of education has outstripped the physical infrastructure and now knowledge institutes are widely dispersed. The University itself is scattered around the city in several different buildings. This sprawling decentralised development path is currently being counterbalanced by an attempt to centralise and integrate the many differentiated parts into larger units. The trend to formalise the 50-year-old tradition of informal cooperation between the University and other public institutions (Weihe et al. 2005), can be seen as a part of this process.

For years there have been talks about a new modern university campus in Tórshavn. However, these plans are still on the drawing board. The major challenge in the process will be to integrate the many different institutions into a cohesive unit, while at the same time living up to the nation's proud, historical educational roots, and ensuring society-wide backing for a national centre of learning.

A more pressing challenge is the exodus of young people travelling abroad for education and not coming back. Here the new campus might curb this emigration, however, the small population sets an inescapable limit on the range of educational opportunities – even in the best circumstances.

### **Greenland**

Like many other Arctic economies, Greenland's economy is mainly dependent on fisheries and the public sector. At the same time that Greenland is the largest island in the world, it has only ~56,000 inhabitants, which live scattered along the coast. As part of the strategy to diversify its economy, Greenland is looking to develop an energy sector based on oil and gas exploitation (Naalakkersuisut 2014). Until now, 14 exploration wells have been drilled (BMP n.d.), of which five have been drilled in the 1970s, one in 2000 and another eight in 2010 and 2011. In order to maximise the local benefits of these offshore activities, Greenland has implemented a number of tools in its regulatory framework. Education is seen as a central element and much effort is made to prepare and qualify society for participation in these industrial activities. Unlike the cases of Iceland and the Faroe Islands, Greenland has a much shorter history of higher education, building up human capital and a knowledge-based economy. Important steps towards a knowledge-based economy have been made over the past century, however education and building up human capital remains a focal point for the future.

The vast distances, the limited infrastructure and the small size of the population create challenges as well. Transforming the economy from one that is primarily focused on fisheries and the public sector, into a globally competitive knowledge-based economy with relevance for the private sector is not easy. In a country where costs are high and education levels are currently low (Naalakkersuisut 2014), a lot needs to happen before a competitive knowledge-based economy will become reality. The School of Minerals and Petroleum (Råstofskolen) plays a central role in this context and is expanding its network (Christensen 2012; Troelsen 2012). The challenge for Greenland will be to establish a critical mass of skilled labour and to deal with the challenge of foreign labour influx if oil and gas activities really take off.

### *The Development of Greenlandic Knowledge Institutes and Education*

Greenland is part of the Kingdom of Denmark, but has gained Home Rule since 1979 (Goldback & Winther-Jensen 1988) and it was granted Self-Rule in 2009 (Hansen 2014). Up until 1979 Denmark was initiating the policies and reformations of the educational system, but since 1979 this became a major responsibility of the Greenlandic government. Changing the primary language from Danish into Greenlandic was one of the most important decisions taken just after gaining Home Rule in 1979. Since then the teaching system has been more and more tailored towards the Greenlandic situation (Goldback & Winther-Jensen 1988).

In 1983 the Inuit Institute was founded in Nuuk as a study centre for Greenlandic literature, history and grammar (Olsen 2013). Later, in 1987, the Inuit Institute became the University of Greenland, Ilisimatusarfik ([www.ilisimatusarfik.gl](http://www.ilisimatusarfik.gl)). The University was established to provide higher education in Greenland itself, instead of in Denmark. Like its predecessor, the University of Greenland has remained focused on social sciences, culture and history until to date. It has contributed to nation-building and Greenland's cultural identity (European Commission 2013). Over time, the university has maintained and established cooperation with various foreign universities and is also part of the University of the Arctic ([www.uni.gl](http://www.uni.gl)).

Since 2004 the Greenlandic government has determined that education is a top priority (Naalakkersuisut 2012). This is reflected in the increased government budget and attention to education and training as of that year (European Commission 2007). In 2006 it became an aim of the Greenlandic government to increase the share of higher educated people in its workforce (European Commission 2007), supported by an overall education strategy up until 2020 in the "Greenland Education Program". The first phase (until 2013) of the Greenland Education Program aims at vocational training and making sure people acquire the right skills and qualifications for jobs above an unskilled level. The second phase (until 2020) focuses on the provision and increase of higher education to build up a critical mass of human capital locally. The European Union has identified education as a main domain for cooperation with Greenland.

### *Creating Human Capital and a Knowledge-Based Economy*

In a world economy that becomes increasingly globalised it is important to create sufficiently large human capital that is qualified, flexible and competitive in order for Greenland to make economic

progress and establish a knowledge-based economy. Only by making economic progress can Greenland pursue its long term goal of becoming financially independent from Denmark. In order to become financially independent it does not only need to diversify its economy, but also localise the benefits of the (new) economic activities by participation of Greenlanders (Naalakkersuisut 2014). Participation can only take place if people have the right skills and qualifications.

Creating a critical mass of human capital for a knowledge-based economy is challenging. In 2006 only one third of the potential workforce (15-62) had acquired an educational level that would qualify them for jobs above unskilled level (European Commission 2007). However, the total number of graduates from post-primary education in Greenland has increased by 64% during the first phase of the “Greenland Education Program” ([www.nanoq.gl](http://www.nanoq.gl)) and is promising. As drop-out rates have remained roughly the same, it can be concluded that more people have obtained post-primary education. This forms a positive basis for phase two, to increase the amount of people that have received higher education and thereby can contribute to the development of a knowledge-based economy.

Most of the higher education institutes are located in Nuuk, of which the University of Greenland is currently the largest institute of higher education in Greenland. The enrolment of students to this university has risen steadily over time (European Commission 2013), however the curriculum of the university remains limited. It includes, amongst other, cultural & social sciences, theology and language, but is missing (natural) science as a subject. The lack of (natural) science in the University’s curriculum should not necessarily have to do with the country’s small population size, since also the University of the Faroese Islands has a small population and has got science in its curriculum (European Commission 2013). Science is crucial in relation to economic progress and industrial activities, since it will educate highly-skilled (natural) scientist, that could well be needed by the currently developing natural resource activities. Developing this type of knowledge locally remains a challenge for Greenland, but partnerships like the ones existing in the Faroe Islands could be a solution.

Next to the University there are also a number of other institutes for higher education in Greenland, such as the Building School, Sanaartornermik Ilinniarfik, in Sisimiut. This institute includes a School of Minerals and Petroleum (Råstofskolen) and a Centre for Arctic Technology (ARTEK), which all have strong links with the Technical University of Denmark (DTU). It is the ambition of these institutes to become the technical powerhouse of Greenland. The School of Minerals and Petroleum in Sisimiut has been established in 2010 ([www.sanilin.gl](http://www.sanilin.gl)) and illustrates the need to build practical capacity and knowledge in the field of mineral resources by the Greenland society. The School provides training on a practical level and aims at providing Greenlanders with the right set of skills and qualifications to be able to apply for jobs in these industries. The School of Minerals and Petroleum cooperates closely with the Colorado School of Mines (United States), Ole Vig Upper Secondary School (Norway) and the Northern Centre for Advanced Technology in Sudbury (Canada) (Bell 2011). In this way “brain circulation” is being initiated and developed, supporting human capital building in Greenland.

### ***Future Challenges and Opportunities***

It is likely that the level of industrial activities related to natural resource and energy development is going to increase in the future (Naalakkersuisut 2014). In recent years these activities have increased steadily, which are likely to continue now that a construction permit has been granted to the London Mining project on iron ore and the ban on uranium mining has been lifted, freeing the way for other large mining projects (RT 2013). In the meantime, the oil and gas industry is continuing its exploration activities and is likely to continue doing so in the future (Naalakkersuisut 2014). However, when these activities will take place exactly is not certain, and currently the industry tends to take longer before large investments in the Arctic region are decided upon. Therefore one of the challenges for Greenland will be to educate its workforce at the right time with the right skills.

In general one can state that the expected increased industrial activities form an opportunity for Greenland to diversify its economy and maximise the local benefits. However, both the mining and the oil and gas industries require skilled labour with the right qualifications to work on their projects. In order for Greenland to maximise its local benefits of these industries, the main challenge will be to increase the level of (highly) skilled workforce that has acquired the right set of skills for these industries. A recent study however has indicated that the shortage of a highly educated workforce will continue to grow in the near future and last until at least 2025 (European Commission 2013). Various initiatives, mainly revolving around the Building School, School of Minerals and Petroleum and Centre for Arctic Technology in Sisimiut, have been taken to increase the level of skilled workers for these industries so that the Greenlandic society will be ready to take the employment opportunities when they arrive. Without having a critical mass of human capital in place, Greenland will not be able to maximise the local benefits and successfully create a knowledge-based economy. It will run the risk of foreign labour coming into the country to perform the jobs. The University of Greenland, which is currently focussed on social, historical and cultural sciences, can facilitate the creation of a highly skilled work force by including Science in its curriculum. It is expected that graduates from this subject will face no difficulties in finding a job (European Commission 2013). Lagging behind in capacity-building compared to the pace of industrial development could also prevent expertise and knowledge from becoming an export product in the future. This can become a serious strain on the process of becoming a self-sustaining economy.

### **Conclusion**

The three cases that were studied more closely in this article illustrate the importance of local knowledge institutions and human capital building. The development of an internationally renowned knowledge-based energy sector based on hydro- and geothermal power in Iceland shows how local knowledge institutes, developed over centuries, were of crucial importance in creating human capital, which in turn enabled Iceland to maximise the local benefits. Century long “brain circulation”, powered by Icelanders studying at top institutes abroad and returning home with the knowledge they gained, appears to be crucial. The development of this knowledge-based energy sector has been a lengthy process in which foreign (engineering) companies took the lead. Gradually Icelandic companies started to take over the design works, until in the 2000s the point was reached

where the design was made by Icelandic companies and the actual building was performed by Chinese labour. This case suggests a strong historic path-dependency, by centuries of human capital creation leading to a full-fledged knowledge-based economy based on natural resources in the 21<sup>st</sup> century. One of the main future challenges for Iceland will be to maintain a diversified portfolio of domestic educational and research programs, while at the same time maintaining a strong tradition of “brain circulation” with international top-universities.

The Faroe Islands illustrate that a knowledge-based energy sector can be created even though no economically viable oil and gas resources are found and with a less extensive history of human capital building and “brain circulation”. Over the past 100 years the main steps have been taken to create the human capital base it has today. In recent years revenues from exploration activities have been used to support knowledge institutes and increase their capacity. In turn, these institutes supply the economic sectors with human capital that remains closely linked to these institutes via guest lectures and research opportunities. Technological innovations and the Internet have reduced the impact of remoteness and distance, particularly important for the Faroe Islands, and have thereby increased the opportunities for “brain circulation” with the rest of the world. The main challenge for the Faroe Islands in the future will therefore be to develop a new University campus in Tórshavn with the necessary facilities to attract more students and researchers to the country.

Greenland stands at the beginning of creating a knowledge-based economy. Human capital is an important factor, and the Icelandic and Faroese examples show that even a small state can create sufficient human capital to support a knowledge-based economy. This is particularly important if it wants to localise the benefits from a future energy sector as much as possible. The example of the Faroe Islands is most promising to Greenland, since it illustrates that it is not mandatory to have a century-long history in large scale human capital building and “brain circulation”. Breaking with an economy based on primarily natural resources can be achieved, provided that emphasis is placed on building strong knowledge institutes and creating a critical mass of human capital locally. Education and the creation of human capital are defined as one of the top priorities and receive a lot of attention in Greenland. Institutes such as the School of Minerals and Petroleum have been created to support knowledge development related to the oil and gas sector. “Brain circulation” and exchange of experience takes mainly place with Denmark, Norway and North America (USA and Canada). The main challenge for Greenland will be to establish a critical mass of skilled labour and to deal with the risk of foreign labour influx if oil and gas activities really take off.

## References

- Ármansson, P.H. (2005). Orkuver og arkitektúr [Power plants and architecture]. In S. Pálsdóttir (eds), *Fyrirtækið og umhverfi þess [Landsvirkjun 1965-2005: The company and its environment]* (pp. 201-242). Reykjavík: Hið íslenska bókmenntafélag.

- Bell, J. (4 April 2011). Greenland's mine school: quality learning, in English. New state high school stresses math, science, technology. *Nunatsiaq News*. Retrieved 30 November 2013, from <http://www.nunatsiaqonline.ca>.
- Bertelsen, R.G. & Hansen, K.G. (2014). From Energy to Knowledge? Building Domestic Knowledge-Based Sectors around Hydro Energy in Iceland and Greenland. In S. Ali & R. Pincus (eds.), *Diplomacy on Ice*. Yale: University Press.
- Bertelsen, R.G., Justinussen, J.C.S. & Smits, C.C. (2014). Energy as a Developmental Strategy for North Atlantic Microstates in the Search of Independence: Creating Knowledge-Based Energy Sectors in Iceland, Faroe Islands and Greenland. In G. Hønneland & L. Christian Jensen (eds.), *Handbook of the Politics of the Arctic*. United Kingdom: Edward Elgar Publishing.
- Christensen, H.H. (September 10, 2012). Vil udvikle minedrift. Kalaallit Nunaata Radioa (KNR). Retrieved May 14, 2014, from <http://www.knr.gl>.
- Debes, H. J. (2000). *Hin lærði skúlin í Havn*, Sprotin.
- European Commission (2013). Study to evaluate the performance of Higher Education in Greenland. Retrieved 30 November 2011, from: <http://www.EuropeanCommission.gl>.
- European Commission (2007). The Programming Document for the Sustainable Development of Greenland – Annex. Retrieved 30 November 2013, from: <http://ec.europa.eu>.
- Friðleifsson, I.B., Svanbjörnsson, A. & Thorsteinsson, L. (1984). Icelandic experience in transfer of energy technology, *Tímarit Verkefrahðingafélags Íslands*. 69: 6-10.
- Fróðskaparsetur Føroya (2014). *Fróðskaparsetur Føroya - mál og mið*. Tórshavn: Fróðskaparsetur Føroya.
- Gaini, F. (2002). *Føroya Fróðskaparfelag 1952-2002*. Tórshavn: Fróðskaparfelag Føroya - Societas Scientarium Færoensis.
- Glomsrød, S., & Aslaksen, I. (2009). The economy of the North 2008. Retrieved 21 September 2014, from <http://www.ssb.no>.
- Goldback, I. & Winther-Jensen, T. (1988). Greenland: Society and Education. *Comparative Education*. 24(2): 257 – 266.
- Hálfðanarson, G. & Karlsdóttir, U.B. (2005). Náttúrusýn og nýting fallvatna [View of nature and utilization of water falls]. In S. Pálsdóttir (Eds.), *Landsvirkjun 1965-2005: Fyrirtakið og umbverfi þess [Landsvirkjun 1965-2005: The company and its environment]* (pp. 165 – 199). Reykjavík: Hið íslenska bókmenntafélag.
- Hansen, A.M. (2014). Community Impacts: Public participation, culture and democracy. Background paper for the Committee for Greenlandic Mineral Resources to the Benefit of Society. Retrieved May 5, 2014, from [http://nyheder.ku.dk/groenlands-naturressourcer/rapportogbaggrundspapir/Community\\_Impacts.pdf](http://nyheder.ku.dk/groenlands-naturressourcer/rapportogbaggrundspapir/Community_Impacts.pdf).

- Háskóli Íslands (2014). Aldarafmæli skólans [The Centenary of the School]. Retrieved 10 June 2014 <http://aldarafmaeli.hi.is/afmaeli>
- Hentze, J. M. (2000). *Tórshavar skúlasøga*. Tórshavn: Tórshavnar Býráð.
- Holm, M. (1970). *Føroya Læraraskúli 1870-1970*. Tórshavn: Føroya Læraraskúli.
- Ísleifsson, S.R. (2007). *Saga Rafmagnsveitu Reykjavíkur 1921-1998 [The history of Reykjavik Electricity 1921-1998]*. Reykjavík: Orkuveita Reykjavíkur.
- Jacobsen, R. (2014). 10.000 greinar á føroysku Wikipedia, (updated 02.06.2014). Retrieved 6 June 2014 <http://kvf.fo/netvarp/uv/2014/06/02/10000-greinar-froysku-wikipedia>.
- Joensen, J. P. (1988). Higher Education in the Faroe Islands. *Nordic Journal of International Law*. 57(3): 305-311.
- Jónsson, B. 2005, Þróun tækniþekkingar og fagvinnu við virkjunarframkvæmdir Landsvirkjunar [Technological development by the constructions of Landsvirkjun]. In S. Pálsdóttir (eds.), *Landsvirkjun 1965-2005: Fyrirtækið og umhverfi þess [Landsvirkjun 1965-2005: The company and its environment]* (pp. 243-266). Reykjavík: Hið íslenska bókmenntafélag.
- Jónsson, G. (1961). *Saga Háskóla Íslands: Yfirlit um hálfrið aldar starf [History of the University of Iceland: Overview of Half a Century's Work]*. Reykjavík: Háskóli Íslands.
- Justinussen, J. C. S. (1999). *Fanget i Fisken. Rapportserien*. Roskilde: Roskilde University Center.
- Karlsdóttir, U.B. (2010). *Þar sem fossarnir falla: Náttúrusýn og nýting fallvatna á Íslandi 1900-2008 [Where the water falls: Views of nature and use of waterfalls in Iceland 1900-2008]*. Reykjavík: Hið íslenska bókmenntafélag.
- Kristinsson, G.H. (2005). Raforka, efnishyggja og stjórnmálaátök [Electricity, materialism and political strife]. In S. Pálsdóttir (Eds.), *Landsvirkjun 1965-2005: Fyrirtækið og umhverfi þess [Landsvirkjun 1965-2005: The company and its environment]* (pp. 137-163). Reykjavík: Hið íslenska bókmenntafélag.
- Kristjánsson, H. (1997). *Birta, afl og ylur: Saga Rafmagnsveita Ríkisins í 50 ár 1947-1997 [Light, power and heat: The history of the Iceland State Electricity for 50 years 1947-1997]*. Reykjavík: Rafmagnsveitur Ríkisins.
- Marnersdóttir, M. (2003). Fróðskaparsetur Føroya. In M. Marnersdóttir (eds.), *Universitet í úttróði* Tórshavn: Fróðskaparsetur Føroya.
- Mørkøre, J. (1991). Class interests and nationalism in Faroese politics. In S. Dybbroe and P.B. Møller (eds.), *Local organisation, cultural identity and national integration in the North Atlantic* (pp. 3). Faroe Islands: SNAI-North Atlantic Publications.
- MTI (2005). *Vision 2015 - Enterprise Policy. Submitted to the Faroese Parliament for Open Debate*. Tórshavn: Ministry of Trade and Industry.
- Naalakkersuisut (2014). Greenland's oil and mineral strategy 2014-2018. Retrieved May 14, 2014, from <http://www.govmin.gl>.

- Naalakkersuisut (2012). Redegørelse om Naalakkersuisuts Uddannelsesstrategi. Retrieved May 14, 2014, from <http://nanoq.gl>.
- OECD (2011). OECD Territorial Reviews: The Faroe Islands, Greenland, Iceland, and Coastal Norway. *NORA region 2011*. France: OECD Publishing.
- Olsen, K.K. (n.d.) Education in Greenland. Retrieved 25 November 2013, from: <http://www.ankn.uaf.edu>.
- Pálsdóttir, S. (2005). Landsvirkjun: fyrirtækið, framkvæmdir þess og hlutverk [Landsvirkjun: the company, its constructions and its role]. In S. Pálsdóttir (eds.), *Landsvirkjun 1965-2005: Fyrirtækið og umbverfi þess [Landsvirkjun 1965-2005: The company and its environment]* (pp.13-110). Reykjavík: Hið íslenska bókmenntafélag.
- Petersen, L. (1994). *Skole på Færøerne i 1000 ár - En skolehistorisk håndbog*. Tórshavn.
- Ragnarsson, S. (1975). Innlokun eða opingátt: Þættir úr sögu fossamálsins [Closure or openness: Elements of the history of the waterfall question]. *Saga*. 13: 5-105.
- Ragnarsson, S. (1976). Fossakaup og framkvæmdaáform: þættir úr sögu fossamálsins. Fyrri hluti [Waterfall investments and planning: Elements of the history of the 'waterfall question'. First part], *Saga*. 14: 125-182.
- Ragnarsson, S. (1977). Fossakaup og framkvæmdaáform: þættir úr sögu fossamálsins. Síðari hluti [Waterfall investments and planning: Elements of the history of the 'waterfall question'. Second part], *Saga*. 15: 125-222.
- RT (2014). Greenland lifts 'zero tolerance' uranium mining ban. Retrieved May 14, 2014, from <http://www.rt.com>.
- Sigurðsson, H.M. (2002). *Vatnsaflsvirkjanir á Íslandi [Hydro power stations in Iceland]*. Reykjavík: Verkfræðistofa Sigurðar Thoroddsen.
- Solimano, A. (ed.) (2008). *The International Mobility of Talent: Types, Causes and Development Impact*. Oxford: Oxford University Press.
- Troelsen, P. (2012). Nye uddannelser på Råstofskolen. Kalaallit Nunaata Radioa (KNR). Retrieved May 14, 2014, from <http://www.knr.gl>.
- UNDP (2013). Human Development Report 2013: The Rise of the South. Human Progress in a Diverse World. United Nations Development Programme. [http://hdr.undp.org/sites/default/files/reports/14/hdr2013\\_en\\_complete.pdf](http://hdr.undp.org/sites/default/files/reports/14/hdr2013_en_complete.pdf).
- Vinnumálaráðið (2013). *Heildarættlan - Fólkaflýting og fólkaþróun*. Tórshavn: Føroya Landsstýrið.
- Weaver, R. (2013). From onshore unemployment to offshore jobs. Retrieved 29 November 2013, from: <http://arcticjournal.com>.
- Weihe, P., Rasmussen, M., Jacobsen, E., Hentze, J.P., Harlou, B., Højgaard, E., & Róin, M. (2005). *Frágreiðing og tilmæli í samband við stovnstetun av granskarapark*. Tórshavn: Vinnumálaráðið.

- World Bank (2009). Education for the knowledge economy. Retrieved 21 September 2014, from: <http://web.worldbank.org>.
- World Bank (2003). Lifelong learning in the global knowledge economy: Challenges for developing countries. Retrieved 21 September 2014, from: <http://www.worldbank.org>.
- Young, G.V.C. (1982). *Færøerne - Fra vikingetiden til reformationen*. København: Rosenkilde og Bagger.
- Þórðarson, S. (2004). *Afl í segulæðum: Saga rafmagns á Íslandi í 100 ár [Power in magnetic veins: The story of electricity in Iceland in 100 years]*. Reykjavík: Verkfræðingafélag Íslands.
- (1990). *Fróðskaparsetur Føroya 1965-1990*. Tórshavn: Fróðskaparsetur Føroya.
- (1992). 'From Peasants to Fisherfolk', *Paper delivered on a "special seminar" in IESR -Institute of Social and Economic Research Memorial University of New Foundland 24. september 1992*. Tórshavn.

# THE NEW INSECURITIES OF CANADIAN INTEGRATED OCEAN MANAGEMENT

Brit Sojka

*In the Canadian Arctic, new federal policies are challenging the ideals of integrated ocean management. Consolidated environmental regulatory authority and efforts to subdue and silence environmental research are also placing the Arctic's ocean resource-dependent and subsistence-based indigenous communities at risk. Through the lens of Canadian ocean and coastal governance, this paper is an attempt to identify and address some of the emerging insecurities and tensions that exist between current federal resource management policies and their ultimate impact on both the people and environment of the Canadian Arctic.*

The reduction of year-round ice cover in the Canadian Arctic has been seen as a momentous business opportunity by many companies eager to tap the region's previously inaccessible resources. In anticipation of this unprecedented investment and development pressure, the policies and management frameworks that govern these resources warrant attentive consideration – both with respect to Canada's response to external globally-driven pressures as well as to the nation's ability to sustainably leverage this wealth for long-term human benefit. Although potentially one of the wealthiest nations on earth – particularly if estimated values of untapped oil, natural gas and minerals are correct – achieving and sustaining high levels of human well-being has remained incredibly challenging for Canada in the face of rapid environmental change and the nation's many competing socioeconomic demands.

With the passage of Canada's *Oceans Act* in 1997 and the adoption of Canada's Oceans Strategy in 2002, a new ocean management paradigm emerged in Canada that attempted to unify and regulate the divergent and competing uses of the nation's marine resources. Over the past decade, increased global attention on socio-ecological system resilience has also prompted shifts in U.S. ocean policy toward ecosystem-based management (EBM) and the use of integrated ecosystem assessments (IEA) by the National Oceanic and Atmospheric Agency (NOAA) (Fluharty 2012; Murawski & Matlock 2006). As the Canadian Science Advisory Secretariat (CSAS) emphasized, the marine resource "manager's reality is evolving – it is moving from single stock to multispecies fish management, from mostly fisheries users to multiple users (fishing, transportation, oil and aquaculture, ecotourism, recreational boating, dumping, mining, etc.), and lastly moving from management by activity to Integrated Management" (2001: 35). Described in Canada's Oceans Strategy (2002) as "a continuous process through which decisions are made for the sustainable use, development and protection of areas and resources", integrated ocean management has been heralded as a means to overcome fragmented and sector-specific decision-making (36). It marks an acknowledgement on the part of Fisheries and Oceans Canada (DFO) that the conventional top-down model of resource governance is no longer supported by the broader scientific community as the preferred means to achieving and maximizing human well-being and ecological function.

Instead, public participation and the principle of subsidiarity (i.e. life-impacting decisions should be made at the lowest level of governance possible) are the new elements of best practice in an era of increasing complexity and uncertainty (Berkes et al. 2005; McCay & Jentoft 1996; Wiber et al. 2004; Ludwig 2001). As described by the Royal Society of Canada's 1995 case study, the era of aquatic science that gave rise to the *Oceans Act* in 1997 emphasized the collaboration between members of civil society, indigenous groups, the private sector and policymakers to help promote the generation and use of local knowledge in their research (Berkes et al. 2005). The creation and institutionalization of co-management agreements through First Nation land claims agreements – many finalized in the early 1990s – also strengthened these collaborative management norms (Fast et al. 2001; Penikett 2006).

Beginning in 2006, however, with the ascendancy of Stephen Harper's conservative federal administration, the ability of DFO and Environment Canada to promote the ideals of integrated ocean management have been systematically cut short. A decimation of agency budgets, massive reductions in federally-funded research, and wide-spread and targeted lay-offs of resource management staff have incapacitated Canada's ability to execute the vision of the *Oceans Act* or to widely promote informed and integrated resource governance in meaningful and substantive ways (Leahy 2011; Harnett 2013). In 2013-14 alone, DFO lost \$89 million from its budget and an additional \$100 million cut has been promised – along with the stated intention of "consolidating decision-making authority" – over three years starting in 2015-2016 (McLeod 2013). These cuts have been further aggravated by reductions in climate science and policy positions – such as Canada's withdrawal from the Kyoto protocol in 2011 – that exemplify the lack of federal priority now being given to understanding and addressing the impacts of climate-related environmental change.

Granted, budget cuts to natural resource management agencies have not been restricted to Canada in recent years. The United State's federal budget sequestration in March 2013 has also had a chilling impact on NOAA's hiring of new staff and has further drained the agency's grant and contract funding for the year (Berger 2013). However, the budget woes of the United States have not been accompanied by such a targeted and systematic dissolution of federal industry oversight as has been observed in Canada. At the same time there has also been an increasing alarm among many in the Canadian scientific community over the administration's "muzzling" of scientists with research or evidence that does not support and advance the administration's current pro-industry and pro-oil/gas development agendas (Fitzpatrick 2012; Linnet 2012). The ability of resource managers and government scientists to engage with communities in meaningful ways has become highly politicized according to a recent report from the University of Victoria's Environmental Law Clinic. This is due, in part, to the administration's new policies requiring all government scientists to receive consent from public relations officers before answering questions from the media (Greenwood 2013).

Both the dismissal and silencing of Canadian scientists are not just issues of concern for researchers monitoring the downstream impacts of industry, however. For many years, Canadian researchers have also played an important role in international efforts to describe and model climate change. Charles Emmerson (2010) has recently addressed the ongoing significance of these efforts. As he succinctly states, "get it right, and we will save money and lives; get it wrong, and we will waste money and lose lives. The case for supporting Arctic scientific research, therefore, is unanswerable. And the case for supporting its internationalization – to allow for the best global talent to emerge and to allow for a common scientific understanding of climate change to be forged – is compelling" (141). As collaborative international science and research has also been a dominant means of establishing Canada's presence in the power dynamics of the emerging Arctic world region, reverberations from the felling of environmental science and research may portend surprising upsets to Canada's geopolitical clout in the years to come – and these surprises will, no doubt, have implications for Canadian lives and livelihoods.

Already, for many people in the Canadian Arctic, the ongoing international debate over whether or not we have exceeded the prescriptive environmental boundaries needed to provide "a safe operating space for humanity" is no longer moot (Rockström et al. 2009). The reality of the Canadian North is concretely one of a climate-altered environment. Yet, while this international debate persists, much of the environmental management theory and literature remains co-opted by ongoing calls for scientists and policy-makers to work on building greater ecosystem resilience as a way to deal with the extent of climate change uncertainty. However, as Berkes et al. (2005) have emphasized, "discussing vulnerability only in the positive terms of resilience and capacity places the onus on Aboriginal people to absorb and counteract negative environmental impacts caused by the industrial economy, rather than targeting the problems to demand change" (65). In lieu of ecosystem resilience theory, calls are now being made by some environmental ethicists for traditional management norms to be replaced by governance models described as "adaptation planning" (Dryzek et al. 2013). Adaptation planning recognizes that the "traditional knowledge" that scientists and policy-makers have previously used to govern our planet may no longer serve as a useful guide

to our climate-changed future. Instead, versatile new tools will be needed to address the unexpected, urgent and immediate problems once guarded against through risk assessments and incremental policy course corrections.

Yet, like resilience, the idea of adaptation is fraught with the potential for misuse amid the power imbalances of many environmental management contexts. Faced with the need to adapt to a rapidly changing environment, Canada's indigenous communities are experiencing considerable pressure and incentive to reformulate the way they perceive, value and act toward their environment and the resources it contains. Much as they have for the past 200 years, southern society, science and technology are continuing to reshape indigenous epistemologies and self-perceptions as an implicit exercise of colonial conquest (Douglas 2007; Latour 1993).

Douglas (2007) has addressed the many forces that have promoted the separation of nature from subsistence-based communities – a process he describes as “enormously beneficial, as it allows modern societies to treat nature as an objective, manipulatable sphere that is separate and distinct from humanity” (215). Latour (1993) has shown how early nineteenth century programs of European scientific inquiry used the ‘rhetoric of inclusion’ to exploit Inuit knowledge and abilities in scientific expeditions and resource exploitation while fundamentally disregarding and marginalizing indigenous interests and concerns. Through the lens of history, these examples provide greater insight into the ongoing concern over the postcolonial inequities of Arctic environmental change. These concerns are commonplace in many resource management debates and can be seen in everything from Haalboom & Natcher's (2012) unease over the potential consequences of labeling climate-impacted indigenous communities “vulnerable” to calls by Veland et al. (2013) for researchers and policy-makers to do a better job of epistemologically ground-proofing risk assessments.

It is within this evolving and polarized worldview that Canada's coastal communities now contend with the everyday use of their environment's ocean resources. Agrawal (2006) has discussed how limiting governance tools to the representation of a small set of desirable features within an environment – for example, funding just enough science to estimate the quantity of oil and gas in the ocean seabed – can result in the devaluation of the day-to-day use of resources by local residents in management calculations (61). Agrawal's work, which focuses on the evolution of forestry practices under a colonial regime, speaks to the social conflicts that emerge from management classification systems developed out of and in support of colonial rule. The Canadian settlement history of indigenous landscapes as well as the current reformulation of natural resource policies to better serve the needs of the current conservative agenda share many characteristics with this colonial narrative – not least, the underlying reality that people's lives fundamentally depend on the quality of their environment and their ongoing access to and safe use of the renewable resources those environments produce.

How then are these fractures in the ideals of integrated ocean management, the move to shrink science and the consolidation of decision-making playing out in regard to the ability of Canadians to safely depend on ocean resources at provincial and local scales? One way to answer this question may be found in Canada's capacity to address the problem of persistent organic pollutants (POPs).

Due to the atmospheric deposition of far-ranging air pollutants, many of these toxins now infuse the remote Arctic environment. Further contamination risks have also been placed on human health and wildlife by the unmonitored industrial wastes which have accumulated around harbors, oil rigs, mines and the Arctic's two thousand military sites (Fisk et al. 2003). As a result of these pollutants, contaminated food has become a widespread concern among Arctic indigenous communities which rely heavily on the hunting and gathering of local foods. The Inuit eat four times the amount of fish per capita than other Canadians and further increase their exposure risks by eating the fats and organs of marine mammals where lipophilic contaminants accumulate (Fisk et al. 2003). The significance of these activities to the well-being of an entire community is further amplified by kinship systems that promote widespread food distribution and sharing (Birkes et al. 2003).

DFO has never had the capacity nor the mandate to fix the complex international issue of atmospheric POPs. Indeed, it is a problem which has long engaged Canada and its indigenous peoples in ongoing United Nations negotiations and treaty-making (Downie & Fenge 2003). However, DFO and federal policies do intersect around the human use of these contaminated resources in a number of ways. These policies have the potential to either undermine or support the well-being of local communities through their ability to provide reliable information, restrict access to marine resources or valuable habitats, give value to local interests and knowledge, and, ultimately, determine the future of a community's overall human and natural resource wealth. With Canada's long-standing recognition of the significant health – and economic – impacts of POPs regulation on subsistence-based communities, Canada's decision to shut down the DFO's entire ocean contaminants program earlier this year is disturbing. It is disturbing from a human rights standpoint, an environmental stewardship standpoint and from a national security standpoint as well.

In 1970, Prime Minister Trudeau used "legislation setting out measures necessary to prevent pollution in the Arctic Seas" to assert Canadian sovereignty over the Northwest Passage (Canada, Speech from the Throne, 23 October 1969). Trudeau's geopolitical tactic was taken in response to Humble Oil's decision to send its oil tanker *SS Manhattan* on a trial run from the Baffin Sea in the east to Viscount Melville Sound in the west. Today, it is hard to imagine Canada's current administration taking a similar strategic approach or Canadian officials being "haunted by visions that someday the passage might be choked with oil tankers" as were those of in Trudeau's era (Grant 2010: 350). As Peter Ross, one of DFO's former environmental toxicologist emphasizes, starting in April 2013 "the entire pollution file for the government of Canada, and marine environment in Canada's three oceans, will be over-seen by five junior biologists scattered across the country, (Vancouver Sun 2012). Apparently, preventing pollution in Canada's Arctic Seas is no longer a necessary concern.

Despite the belief held by many researchers that democracies are more likely to promote higher levels of environmental quality at the federal level (Fredriksson et al. 2005; Lake & Baum 2001; McGuire & Olson 1996; Payne 1995), the onus of marine pollution protection and other forms of environmental quality conservation has increasingly been left to Canada's provinces, local communities and third sector NGOs in recent years. The rise of neo-liberal political agendas in both Canada and the United States has brought with it the rhetoric that state-centered problem-solving of

society's ills is undesirable because the state lacks sufficient economic incentive to efficiently allocate resources (Gideon, 1996). Consequently, the policies advocated by neo-liberal politicians frequently result in cutbacks in public sector funding and support for many public good programs with the expectation that these voids in governance will be filled by other sectors of society.

In 2012, however, Canada severely tested the underlying neo-liberal rhetoric and justification for these environmental budget cuts by also attacking the funders of environmental NGOs. Recognizing that the front-line NGO activism opposing the Enbridge pipeline had received financial support, in part, through grants made by U.S.-based foundations, the Harper government attempted to reframe support for environmental conservation as an issue of national allegiance and foreign interference. As a changing climate grants greater access to the Northwest Passage and to Canada's Arctic marine resources, the precedent this has set must be one of extreme insecurity for Canada's sparsely populated northern territories with no inherent jurisdiction with which to oppose federal power. International access to the Northwest Passage has long been viewed as an encroachment on Canadian national sovereignty. Thus, any challenge to federal actions or plans for this region has great potential to become part of this larger geo-political discourse. Given this context, leveraging international support to mitigate the local impacts of federal policies may be exceedingly difficult for some Canadian Arctic communities.

In Nunavut, less than 35,000 people – the vast majority of whom are Inuit – occupy more than 725,000 square miles. Nunavut is also home to some of the most biologically productive Arctic marine regions in the world. Lancaster Sound, for example, sits just east of both the Northwest Passage and the 3,400 square kilometers of offshore oil and gas leases now held by Shell Oil (AANDC 2013). Once proposed as a UNESCO World Heritage Site due to the area's dense feeding aggregations of bowhead whales, narwhals, polar bears, seals and seabirds, Lancaster Sound now serves as an uncertain regulatory hot spot in the Canadian Arctic's ongoing contest between natural resource conservation and non-renewable resource extraction (Byers 2013).

Since 1987, much effort has gone into the attempt to designate Lancaster Sound a National Marine Conservation Area. In 2010, Ottawa outraged advocates of this effort by contracting with a German ship to complete seismic testing in the area as part of the conservation area feasibility study. An injunction, sought by the Qikiqtani Inuit Association (QIA), halted the seismic surveys and the QIA's conservation area planning projects continued – a number of which were funded by remarkably un-Canadian sources (Nunatsiaq News 2012). Surprisingly, Prince Albert of Monaco has not yet been condemned by the Canadian federal government for funding efforts to incorporate Inuit traditional knowledge and co-management models into Lancaster Sound's conservation efforts or for helping to fulfill the aspirations of Canada's integrated ocean management strategy.

Lancaster Sound is one of twelve sites that has been systematically advanced over the past two decades to fulfill the many domestic and international commitments Canada has made to establish a system of marine protected areas (MPAs). The UN Convention on Biological Diversity (1992), Canada's *Oceans Act* (1996), Canada's *Oceans Strategy* (2002), Canada's *Oceans Action Plan* (2005), Canada's *Health of the Oceans* funding (2007), and the 2010 CBD Conference of the Parties have all upheld Canada's promise to move forward with the protection of marine natural regions

(Government of Canada 2011). Efforts did accelerate in 2011 to complete the reviews and MPA designations of these 12 priority areas. However, as Sabine Jessen (2013) warns “with cutbacks now to budgets at Fisheries and Oceans Canada, Environment Canada and Parks Canada, we are seriously concerned about the government’s capacity to move ahead in creating and managing effective [MPAs]” (Jessen 2013). Indeed, both this lack of capacity and the evisceration of the Canada’s Environmental Assessment Act in 2012 mark a radical departure from the cross-sector cooperative approach to marine resource governance that previously supported both MPA establishment and integrated ocean planning.

In the late 1990s, for example, Canada committed itself to the integrated management planning processes outlined in the *Oceans Act* through work undertaken as part of the Beaufort Sea Integrated Management Planning Initiative (BSIMPI). This period in time was marked by yet another industry ramp up of hydrocarbon exploration and development in the Mackenzie Delta-Beaufort Sea – an area which falls within the Inuvialuit Settlement Region of the Canadian western Arctic. The concerns that surrounded these escalating development activities are very similar to those surrounding Lancaster Sound and many other areas of the circumpolar Arctic today. The Inuvialuit of the area struggled over the potential impact new development would have on their environment, food sources and way of life while at the same time welcoming the economic support that these activities might bring to their communities. At the same time, entrepreneurial hydrocarbon industries found themselves lost in what they felt to be the Arctic’s ongoing blizzard of regulatory uncertainty and legal complexity.

In 2001, Inuvialuit management, industry and DFO put Canada’s integrated management framework to the test. The BSIMPI Management Committee was organized to evaluate a proposal to establish a Marine Protected Area for an important Beluga whale aggregation area in the Beaufort Sea. The goal of this effort was the minimization of potential conflict between ocean-related activities and diverse resource users. In 2009, these early integrated management efforts culminated in the release of the Integrated Ocean Management Plan for the Beaufort Sea and the official announcement of the Tarium Niryutait Marine Protected Area in 2010.

Berkes et al. (2005) describe the level, depth and extent of the consultative process involved in the BSIMPI as “exceeding that of other consultative processes which had to date been conducted in the communities” (104). Indeed, the BSIMPI efforts - and those it would stimulate in the years to come - involved an intensive program of outreach and community building exercises within and across industry, members of the local community and the natural environment. Persistent cross-sector engagement was believed to have promoted trust, aided in the identification of alternative solutions acceptable to all parties, encouraged better definition of the issues and problems involved and increased the sense of ownership all parties maintained in the proposed plans and solutions (Berkes et al. 2005).

Today, the management context of the Beaufort Sea and the industry players pursuing development projects in and around the Tarium Niryutait MPA are both changing rapidly. A recent devolution agreement between Ottawa and the Northwest Territories is minimizing federal oversight of projects and NWT leaders have begun courting new South Korean and Chinese investors to fund resource

extraction and export projects (Hussain 2013). In 2011, Korea Gas Corporation (Kogas) became a large new shareholder in the Umiak natural gas reserves on the northern edge of the Mackenzie River delta and have begun scoping Tuktoyaktuk – less than 12 miles from the Tarium Niryutait MPA – as a potential site for a new natural gas export terminal (Byers 2011). Voutier et al. (2008) have discussed how public participatory processes were again used in 2006 to address ongoing concerns within the Inuvialuit Settlement Region over the cumulative environmental and social impact of new development projects that have traditionally only been reviewed by government on a project by project basis. These efforts – resulting in the development of the Beaufort Sea Strategic Regional Plan of Action in 2007 – are believed to have laid the groundwork necessary for the balancing of regional socio-ecological values while also creating greater regulatory security for investment (Voutier et al. 2008).

With so many new and powerful interests taking the field and the high stake risks and expenditures involved in the Arctic's dynamic regulatory context, it is unclear whether the Inuvialuit Settlement Region's tradition of cross-sector collective action can persist. What is absolutely clear, however, is that, with the passage of the new Canadian Environmental Assessment Act (CEEA) in 2012, the Beaufort Sea's regional planning efforts have come just in the nick of time. In Gibson's (2012) words, the new CEEA "eliminates most federal government involvement in environmental assessments and sharply curtails the scope and potential effectiveness of what remains" (179). The new CEEA legislation is anticipated to reduce the number of environmental assessments the federal government pursues each year from several thousand to a few hundred. The assessments that remain on the table will be undertaken – or not – at ministerial discretion and will offer little opportunity for the alteration of project plans. Almost all of the federal government's own projects will be exempted and no concern will be given to the cumulative impacts of individually exempted small projects grouped within the same geographic location (Gibson 2012).

Alternative environmental assessments may still be undertaken through provincial and territorial processes. However, it is unclear whether the capacity exists in many regions – particularly within First Nations communities – to take on this responsibility. Kirchoff et al. (2013), for example, have described how the impacts of CEEA changes are being further compounded by recent federal government funding cuts to Aboriginal Representative Organizations, "the primary mechanisms through which the federal government has been able to collaborate on issues affecting Aboriginal peoples" (9). Indeed, repealing provisions of Bill C-45 – the legislative vehicle responsible for authorizing the new CEEA as well as for weakening a number of other marine resource protection regulations – is at the top of the list of the indigenous movement's Idle No More campaign's calls for change (Idle No More, 2013). Changes to the CEEA are part of the complex of perceived attacks this entire bill has made on the sovereignty of Canada's indigenous peoples.

However, strict federal legislation mandating environmental assessment will not alone be sufficient to achieve cooperative co-management arrangements that allow for effective cross-sector use of the marine environment. In the United States, over forty years of legislative mandates – such as the National Environmental Policy Act (NEPA) and the Magnuson Fishery Conservation and Management Act – continue to systematize and formalize processes of Social and Environmental

Impact Assessment in an effort to better inform planners and decision-makers of the potential outcomes of proposed projects, programs and policies. These requirements – including the acquisition of baseline data and trends, scoping of probable outcomes to proposed actions, and projections of estimated effects – fundamentally shape the architecture of resource management frameworks. However, these management technologies of hard science – particularly under conditions of risk and uncertainty – also run the risk of becoming what Foucault has called a “regime of truth”, used by decision-makers in attempts to shield themselves from the fundamental political discourse each of those technologies abstractly represents (Foucault, as quoted in Scott 2012).

In the United States, current ‘regimes of truth’ still go to great lengths and expense to prioritize particular forms of inquiry and management practice. Scientists charged with ecosystem based management test and tinker with systematic and rational conceptual management frameworks while the complex issues facing these agencies have yet to become systematic and rational problems. Millions of dollars are spent on a handful of all-too-brief marine research cruises in the U.S. Arctic to capture data on physical and biological oceanographic conditions that, in the end, often fail to describe the seasonal pulse and pattern of an ecological system that is known intimately by local or indigenous residents. The rich empirical data captured by these cruises are undeniably valuable. They are necessary and appropriate for integration into risk computations and political discourses surrounding important governance decisions at certain governance scales. However, both the data and the scales of governance to which they are directed often remain inherently unresponsive to the day-to-day survival needs of subsistence hunters and fishers or to the management of human well-being in small coastal communities where qualitative calculations of environmental change manifest themselves in descriptive place names, oral histories, and the cultural norms and practices rarely recognized or given value by the “usual” indicators of sustainable development or economic welfare.

As Karen Scott has discussed (2012), “in a policy world dominated by discourses of ‘hard’ evidence, policy actors have to back up their decisions with statistical evidence that represents the interests of all concerned as fully as possible” (8). Yet, ironically, the increasing wealth of hard evidence available to today’s decision-makers has not been shown to have an empirical linkage to substantive changes in policy or societal outcomes (Flyvbjerg 1998; Boulanger 2007; Rydin 2007; Rydin et al. 2003; Levett 1998; Cobb 2000; Innes 1990; Scott 2012). Indeed, given the high levels of uncertainty that hangs over predictive science and the vague probabilistic nature of risk assessments, it should not be surprising that socio-political factors drive most decisions and that science is instead used to shield decision-makers against the inherent challenges and difficulties of social debate, negotiation and collective action.

Resource managers in both the U.S. and Canada responsible for updating or developing plans to govern the proposed multi-sector use of marine environments are increasingly looking to environmental consulting firms to fill knowledge gaps and temporarily augment the institutional capacity of management agencies charged with fulfilling unique planning mandates. Many environmental consultant firms have, in the process, been tasked by their public sector clients with the independent development of indicators to describe environmental and coastal community well-

being. Often, these consultant-derived indicator reports follow similar formats comprised of: (1) a literature review to identify widely used indicators, (2) a review of available community data and (3) a final suite of suggested indicators based on focus group contact with community members and/or other key informants. However, the treatment of these processes as technical exercises rather than substantive theoretical or social debates may not be sufficient to establish the necessary relevancy or significance within a community – or the specialized disciplines of resource management – to ensure meaningful long-term governance.

While expedient for the short 2-6 year time frames that set the rhythm of business for many political mandates, the data produced by these products is inherently limited and limiting. The sustainability, equity and human well-being issues involved in marine resource governance are no less complicated than those involved, for example, in the 20 year negotiation process which was required to produce the Yukon First Nation land claim agreement in Canada (Penikett 2006). This point is raised, not to promote lengthy and exhaustive deliberative processes, but to emphasize how oversized a task integrated socio-ecological system governance actually remains and how ill-equipped prescriptive formulas of inquiry based on small core data sets – or no data at all as now may be the case in Canada – may actually be in supporting current governance efforts.

Since the emergence of the Arctic Environmental Protection Strategy (AEPS) in 1989, the international community has undertaken considerable effort to conceptualize and design a new governance space for the Arctic. Arctic indigenous leaders have been engaged by nation states in novel forms of diplomacy and power-sharing arrangements. At the same time, however, unprecedented international attention has been given to identifying and gaining access to the Arctic's natural resources and further delineating the global suite of economic opportunities that will accompany ice-free regional access. Canada's complex political realities as well as a rapidly changing physical environment are – with increasing urgency – demanding that the members and managers of Arctic subsistence-based communities interact in new ways with western science, new strategic partners and new environmental management technologies to ensure the well-being of their people. However, as Greer and Harvey (2004) remind us, the “needs of the poor do not always conform with the goals of the powerful” (7). Aligning these needs and goals remains the true test of Canadian integrated ocean management.

## References

- Aboriginal Affairs and Northern Development Canada [AANDC]. (2013). Northern Oil and Gas Branch Oil and Gas Dispositions: Eastern Arctic Offshore. Ottawa: Aboriginal Affairs and Northern Development Canada. Retrieved from [http://www.aadncaandc.gc.ca/DAM/DAM-INTER-HQ-NOG/STAGING/textetext/le\\_mp\\_arct\\_pg\\_1371579553792\\_eng.pdf](http://www.aadncaandc.gc.ca/DAM/DAM-INTER-HQ-NOG/STAGING/textetext/le_mp_arct_pg_1371579553792_eng.pdf).
- Agrawal, A. (2005). *Environmentality: Technologies of Government and the Making of Subjects*. Durham, NC: Duke University Press.
- Berger, B. (2013, June 1). NOAA Cuts Deal with Congress to Avoid Furloughs. *Space News*.

- Retrieved from: <http://www.spacenews.com/article/civil-space/35579noaa-cuts-deal-with-congress-to-avoid-furloughs>
- Berkes, F., Huebert, R., Fast, H., Manseau, M. & Diduck, A. (eds.). (2005). *Breaking Ice: Renewable Resource and Ocean Management in the Canadian North*. Calgary: University of Calgary Press.
- Boulanger, P-M. (2007). Political uses of social indicators: overview and application to sustainable development indicators. *International Journal of Sustainable Development*, 10(1-2): 14-32.
- Byers, M. (2011, June 27). Koreans Eye Mackenzie Valley Gas. *The Tyee*. Retrieved from <http://thetyee.ca/Opinion/2011/06/27/MackenzieGas/>.
- Byers, M. (2013). *International Law and the Arctic*. Cambridge: Cambridge University Press.
- Canada. (1997). *Oceans Act*. S.C. 1996, c. 31. In force 31 January 1997. Retrieved from <http://laws-lois.justice.gc.ca/PDF/O-2.4.pdf>.
- Canada. (1969). Speech from the throne to open the second session of the twenty-eighth Parliament of Canada. Ottawa: Government of Canada.
- Canada's Oceans Strategy. (2002). Our oceans, our future. Policy and operational framework for integrated management of estuarine, coastal and marine environments of Canada. Ottawa: Fisheries and Oceans Canada. Retrieved from <http://www.dfo-mpo.gc.ca/oceans/publications/cos-soc/pdf/cos-soc-eng.pdf>.
- CBC News. (2011, December 12). Canada pulls out of Kyoto Protocol. *CBC News*. Retrieved from: <http://www.cbc.ca/news/politics/canada-pulls-out-of-kyoto-protocol-1.999072>.
- Cobb, C. (2000). Measurement Tools and the Quality of Life. *Redefining Progress*. Retrieved From: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.201.9685&rep=rep1&type=pdf>.
- Canadian Science Advisory Secretariat [CSAS]. (2001). Proceedings of the National Workshop on Objectives and Indicators for Ecosystem-based Management. (Proceedings Series 2001/09). Ottawa: Canadian Science Advisory Secretariat. Retrieved from <http://www.pncima.org/media/documents/pdf/csas---proceedings-of-national-workshop-on-objectives-and-indicators-for-ebm.pdf>.
- Douglas, V. (2007). Arctic Development and Historical Analysis: The Use of Historical Methodology In Addressing Current Issues In the Arctic. *International Journal of Circumpolar Health*, 67(2-3): 213-225. doi:10.3402/ijch.v67i2-3.18274
- Downie, D.L. & Fenge, T. (2003). *Northern Lights against POPs: Combatting Toxic Threats in the Arctic*. Montreal: McGill-Queen's University Press.
- Dryzek, J.S., Norgaard, R.B. & Schlosberg, D. (2013). *Climate-Challenged Society*. New York, NY: Oxford University Press.
- Emmerson, C. (2010). *The Future History of the Arctic*. New York, NY: Public Affairs.
- Fast, H., Mathias, J. & Baniyas, O. (2001). Directions toward marine conservation in Canada's Western Arctic. *Ocean & Coastal Management*. 44: 183-205.
- Fisk, A. T., Hobbs, K., & Muir, D.C.G. (Eds.). (2003). *National Contaminants Program. Canadian Arctic Contaminants Assessment Report II: Biological Environment*. Ottawa: INAC.
- Fitzpatrick, M. (2013, July 10). Death of scientific evidence mourned on Parliament Hill. *CBC News*. Retrieved from: <http://www.cbc.ca/news/politics/death-of-scientific-evidence-mourned-on-parliament-hill-1.1218019>.
- Fluharty, D. (2012). Recent Developments at the Federal Level in Ocean Policymaking in the United States. *Coastal Management*. 40: 209-221. doi: 10.1080/08920753.2012.652509.
- Flyvbjerg, B. (1998). *Rationality and Power: Democracy in Practice*. Chicago: University of Chicago Press.
- Fredriksson, P.G., Neumayer, E., Damania, R., & Gates, S. (2005). Environmentalism,

- Democracy, and Pollution Control. *Journal of Environmental Economics and Management*, 49(2): 343–365. doi: 10.1016/j.jeem.2004.04.004
- Gibson, R.B. (2012). In full retreat: the Canadian government's new environmental assessment law undoes decades of progress. *Impact Assessment and Project Appraisal*, 30(3): 179-188. doi: 10.1080/14615517.2012.720417
- Gideon, J. (1996). *The Social Service Provision through NGOs : A study of Latin America* (Unpublished master's thesis). Manchester University, United Kingdom.
- Government of Canada. (2011). *National Framework for Canada's Network of Marine Protected Areas*. Ottawa: Fisheries and Oceans Canada. Retrieved from <http://www.dfompo.gc.ca/oceans/publications/dmpaf-eczpm/docs/framework-cadre2011-eng.pdf>.
- Grant, S. (2010). *Polar Imperative: A History of Arctic Sovereignty in North America*. Vancouver: Douglas & McIntyre.
- Greenwood, C. (2013). Muzzling Civil Servants: A Threat to Democracy? University of Victoria Environmental Law Clinic. Retrieved from: [http://www.elc.uvic.ca/press/documents/2012-03-04-Democracy-Watch\\_OIPLtr\\_Feb20.13-with-attachment.pdf](http://www.elc.uvic.ca/press/documents/2012-03-04-Democracy-Watch_OIPLtr_Feb20.13-with-attachment.pdf).
- Greer, D. & Harvey, B. (2004). *Blue Genes: Sharing and Conserving the World's Aquatic Biodiversity*. London: Earthscan.
- Haalboom, B. & Natcher, D.C. (2012). The Power and Peril of “Vulnerability”: Approaching Community Labels With Caution in Climate Change Research. *ARCTIC*. 65(3): 319-327.
- Harnett, C. (2013, March 21). Another round of cuts planned for Fisheries and Oceans Canada. *Times Colonist*. Retrieved from: <http://www.timescolonist.com/business/another-round-of-cuts-planned-for-fisheries-and-oceans-canada-1.96029>.
- Hussain, Y. (2013, November 4). Beaufort Sea: The Northwest Territories' new energy play? *Financial Post*. Retrieved from: [http://business.financialpost.com/2013/04/11/beaufort-sea-nwts-new-play/?\\_lsa=3e5f-fef2](http://business.financialpost.com/2013/04/11/beaufort-sea-nwts-new-play/?_lsa=3e5f-fef2).
- Idle No More. (2013). *Calls for Change*. IdleNoMore.com. Retrieved from: [http://www.idlenomore.ca/calls\\_for\\_change](http://www.idlenomore.ca/calls_for_change).
- Innes, J.E. (1990). *Knowledge and Public Policy: The Search for Meaningful Indicators*. New Jersey: Transaction Publishers.
- Jessen, S. (2013, January 21). New report by CPAWS assessing Canadian progress in marine protection released. [Web blog post] Retrieved from <http://blog.protectplanet.org/2013/01/new-report-by-cpaws-assessing-canadian.html>.
- Kirchhoff, D., Gardner, H.L., & Tsuji, L. (2013). The Canadian Environmental Assessment Act, 2012 and Associated Policy: Implications for Aboriginal Peoples. *The International Indigenous Policy Journal*, 4 (3). Retrieved from <http://ir.lib.uwo.ca/iipj/vol4/iss3/1>.
- Laird, B.D., Goncharov, A.B., Egeland, G.M. & Chan, H.M. (2013). Dietary Advice on Inuit Traditional Food Use Needs to Balance Benefits and Risks of Mercury, Selenium, and n3 Fatty Acids. *The Journal of Nutrition*. 143(6): 923-930. doi: 10.3945/jn.112.173351
- Lake, D. and Baum, M. (2001). The Invisible Hand of Democracy: Political Control and the Provision of Public Service. *Comparative Political Studies*. 34(6): 587–621. doi:10.1177/0010414001034006001
- Latour, B. (1993). *We have never been modern*. Cambridge, MA: Harvard University Press.
- Leahy, S. (2011, November 9). Canada cuts environmental spending. *The Guardian*. Retrieved from <http://www.theguardian.com/environment/2011/nov/09/canada-cuts-environment-spending>.
- Levett, R. (1998). Sustainability Indicators—Integrating Quality of Life and Environmental Protection. *Journal of the Royal Statistical Society*. 161(3): 291-302. doi: 10.1111/1467-985X.00109.

- Linnett, C. (2012, November 8). "Stephen Harper Hates Science": Federal Scientists Muzzled to Protect Tar Sands Reputation. [Web blog post]. Retrieved from <http://desmogblog.com/2012/11/08/stephen-harper-hates-science-federal-government-muzzles-scientists-protect-tar-sands-reputation>.
- Ludwig, D. (2001). The era of management is over. *Ecosystems*. 4(8):758-64. doi: 10.1007/s10021-001-0044-x
- McCay, B.J., & Jentoft, S. (1996). From the bottom up: Participatory issues in fisheries management. *Society & Natural Resources*. 9(3): 237-50. doi: 10.1080/08941929609380969
- McGuire, M. & Olson, M. (1996). The Economics of Autocracy and Majority Rule: The Invisible Hand and the Use of Force. *Journal of Economic Literature*, 34(1): 72–96.
- McLeod, P. (2013, March 21). Defence, Fisheries under axe. *Ottawa Bureau*. Retrieved from <http://thechronicleherald.ca/novascotia/1083223-defence-fisheries-under-axe>.
- Murawski, S., & Matlock, G. (Eds.). (2006). Ecosystem Science Capabilities Required to Support NOAA's Mission in the Year 2020. (NOAA Tech. Memo: NMFS-F/SPO-74). Silver Spring, MD: U.S. Department of Commerce. Retrieved from <http://www.glerl.noaa.gov/pubs/fulltext/2006/2006tm74.pdf>.
- Nunatsiaq News. (2012, September 21). Inuit org gets money for Lancaster Sounds protection. *Nunatsiaq Online*. Retrieved from: [http://www.nunatsiaqonline.ca/stories/article/65674\\_inuit\\_org\\_gets\\_money\\_for\\_lancaster\\_sound\\_protection/](http://www.nunatsiaqonline.ca/stories/article/65674_inuit_org_gets_money_for_lancaster_sound_protection/).
- Payne, R. A. (1995). Freedom and the Environment. *Journal of Democracy*. 6(3): 41–55. doi: 10.1353/jod.1995.0053
- Penikett, T. (2006). *Reconciliation: First Nations Treaty Making In British Columbia*. Vancouver: Douglas & McIntyre.
- Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin III, F.S., Lambin, E. F. Foley, J.A. (2009). A safe operating space for humanity. *Nature*. 461: 472–475. Doi:10.1038/461472a
- Royal Society of Canada [RSC]. (1995). *Aquatic science in Canada. A case study of research in the Mackenzie Basin*. Ottawa: Royal Society of Canada.
- Rydin, Y. (2003). *Conflict, Consensus, and Rationality in Environmental Planning: An Institutional Discourse Approach*. Oxford: Oxford University Press.
- Rydin, Y., Holman, N. & Wolff, E. (2003). Local Sustainability Indicators. *Local Environment*, 8(6): 581-589. Doi: 10.1080/1354983032000152707
- Scott, K. (2012). *Measuring Wellbeing: Towards Sustainability?* London: Routledge.
- Vancouver Sun. (2012, May 22) Ottawa axes ocean pollution monitoring program. *Vancouver Sun*. Retrieved from <http://www.canada.com/vancouvernews/news/westcoastnews/story.html?id=68c288a0-7594-4259-a040-336dbc69eab0>.
- Veland, S., Howitt, R., Dominey-Howes, D., Thomalla, F. & Houston, D. (2013). Procedural vulnerability: understanding environmental change in a remote indigenous community. *Global Environmental Change*. 23(1): 314-326. doi: 10.1016/j.gloenvcha.2012.10.009
- Voutier, K., Dixit, B., Millman, P., Reid, J. & Sparkes, A. (2008). Energy Development in Canada's Mackenzie Delta-Beaufort Sea Coastal Region. *ARCTIC*. 61(Supplement 1): 103-110. Retrieved from <http://pubs.aina.ucalgary.ca/arctic/Arctic61-S-103.pdf>.
- Wiber, M., Berkes, F., Charles, A. & Kearney, J. (2004). Participatory research supporting community-based fishery management. *Marine Policy*. 28(6): 459-68. doi: 10.1016/j.marpol.2003.10.020

# RESOURCE-BASED DEVELOPMENT & THE CHALLENGE OF ECONOMIC DIVERSIFICATION IN THE MINING COMMUNITIES OF THE MURMANSK REGION

Tuomas Suutarinen

*Natural resources play a key role in the economic development of the Russian North. However, natural resource extraction cannot alone promote the long-term socio-economic sustainability of resource peripheries. My paper analyses the challenges of economic diversification in two single-industry mining towns in the Murmansk region, Kirovsk and Revda, which have taken different historical development paths. Tourism has developed in Kirovsk alongside the mining industry since the 1930s, while mining has been the only significant industry in Revda. However, recently both Kirovsk and Revda have adopted tourism as the main target of their economic diversification. My paper asks how the challenge of diversifying the economic development of these two communities can be explained by path-dependency, the resource curse and paternalism. The empirical data of the study was collected by the author on fieldwork trip in 2012. It consists of semi-structured interviews with town, region and enterprise representatives in Kirovsk, Revda and Murmansk. Moreover, articles from regional and local newspapers concerning the diversification efforts of these two communities were used. Both interviews and articles were analyzed using qualitative methods. The paper reveals how the different development paths of these communities have shaped their ability to promote economic diversification in the present era. This paper shows that the obstacles to economic diversification are not only related to obvious issues, such as the lack of realistic alternatives, but also to deeper structural hindrances to the use of local potential and human capital to create diversified local economies in the Russian Arctic.*

## Introduction

The extraction and export of natural resources forms the basis of the Russian economy. This dependence on natural resources is most visible at the local level in natural resource communities. However, the long-term geo-economic sustainability of natural resource extraction has been questioned by various scholars and the Russian state (Connolly 2011; Anokhin et al. 2014). Whilst economic modernization and the diversification of the Russian economy was first mentioned during

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Vladimir Putin's presidency in 2007 (Connolly 2011: 431), it was the economic crisis of 2008–2009 that accelerated political aspirations to boost economic diversification in Russia from the local right up to the state level, with a drive to economic modernization by the then president Dmitri Medvedev (Foxall 2014: 98–99). These aspirations materialized in a centrally-led programme for Russian single-industry towns by the Ministry of the Regional Development (hereafter Minregion)<sup>1</sup>, which sought to boost economic diversification in such towns. Single-industry towns in the Russian North are the product of the historical industrialization of the region (Blakkisrud 2006: 39). They face the challenge of transforming their economic profile from one based on heavy industry to one based on services as well as modernizing old enterprises and becoming innovation centres for the surrounding areas (Pilyasov 2013: 3). Overcoming their industrial legacy and diversifying the local economy, although especially challenging, is crucial for sustainable local development in the single-industry towns of the Russian North (Pilyasov 2013: 3), where socio-economic sustainability is strongly connected with environmental sustainability (Tynkkynen 2007: 865).

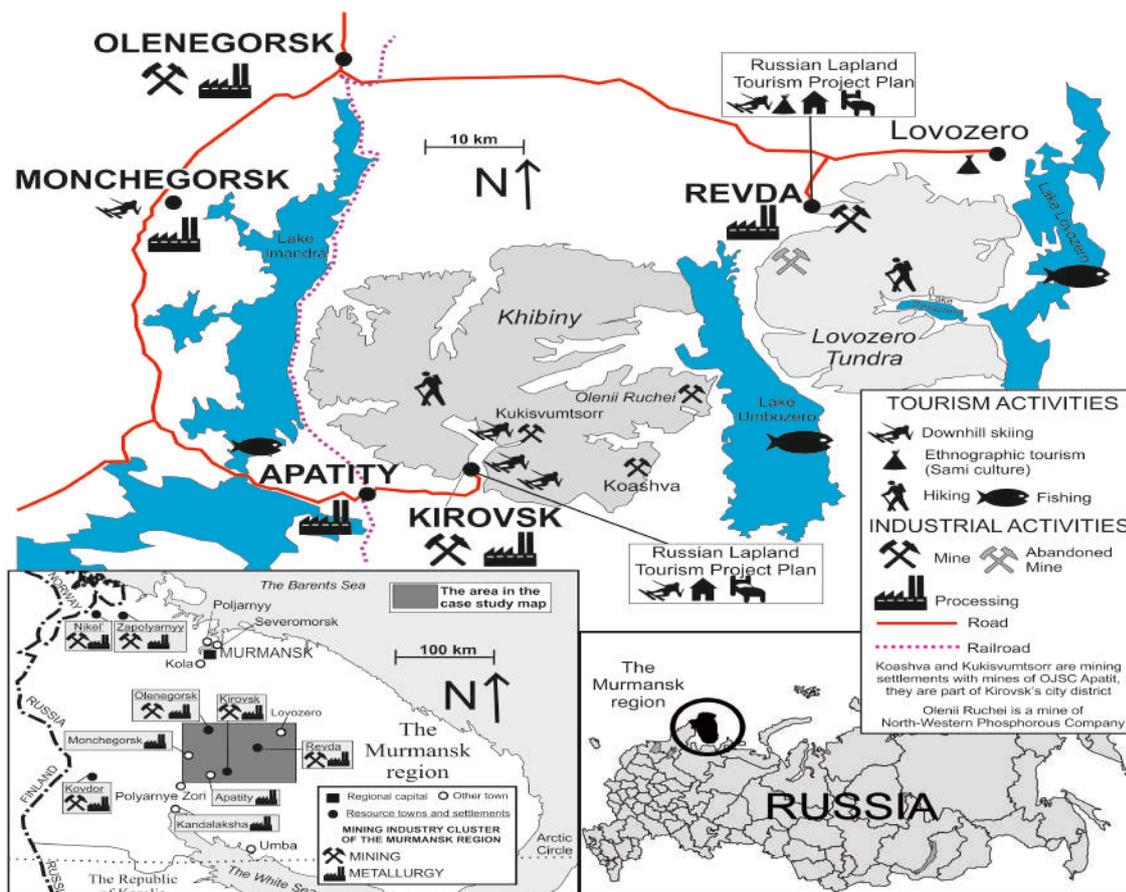
Russia's regional policies are spatially selective (Tykkyläinen 2010: 17). The federal state has awarded privileges to certain places and regions by funding large projects and with regional policy instruments, which resemble the Soviet era policies. In addition the spatial priorities are in continuous change. While the single-industry towns, dispersed across the country, were the main focus after the latest crises, currently the focus of the Russian state is on development of the Far Eastern regions, North Caucasus and the Republic of Crimea, which all have their own ministries ("Rabochaya vstrecha s..." 2014). In these regions the Russian state prioritizes federal investments for development of infrastructure and socio-economic well-being ("Rabochaya vstrecha s..." 2014). In turn, socio-economic development of the Russian Arctic regions, including the Murmansk region, is not currently among the priority targets of the state's subsidies. For example, the Russian state published a state program *Socio-Economic Development of the Arctic Zone of the Russian Federation until 2020* in April 2014 but it failed to receive funding from the federal budget ("Postanovlenie..." 2014). However, the Russian state is funding some single projects with federal importance in the North, such as the Murmansk transport hub (Staalesen 2014c). Nevertheless, they are also vulnerable to volatilities of spatial priorities of Russia. In April 2014 the financial support of the Russian state for the Murmansk transport hub was threatened by urgent need to finance development projects in the Republic of Crimea (Staalesen 2014a). However, in September 2014 the Russian state showed its commitment to financing the development of the Murmansk transport hub, while the involvement of key private companies to the project is still questionable (Staalesen 2014c).

Mining plays a central role in the economy of the Murmansk region. Since the collapse of the Soviet Union economic diversification has been negative in the Murmansk region, which has been caused by economic restructuring problems and the fact that various unsustainable industries of the region, such as forestry and mechanical engineering, which have not been able to adapt to the market economy, have gone bankrupt (Didyk & Riabova 2012: 240). Hence, economic diversification in the Murmansk region faces difficulties as the economic diversification in the present era targets to create self-sufficient industries. In addition to a state-led economic diversification programme, the regional government of the Murmansk region has also targeted the promotion of new industries in a bid to boost the economic diversification of the region (Klepikov 2012; "Marina Kovtun: Odn..." 2013).

Tourism has been chosen as one of the main strategic targets of those new industries in the region (“Marina Kovtun: Odn...” 2013).

This paper analyses the challenges of economic diversification in two single-industry mining communities of the Murmansk region: Kirovsk and Revda<sup>2</sup> (Figure 1). Both of them evaluated their future economic sustainability as part of a programme led by the Minregion. There was an external push by the Russian state and the Murmansk region’s government towards Revda, which was requested to promote economic diversification in the town. Revda was identified as one of the seven most economically depressed single-industry towns in all of Russia, whose economic diversification was regarded as a priority, and therefore supported by investments from the Russian state (Dmitriev 2011). As a result, comprehensive investment plans (hereafter CIPs) with proposals for projects that were to receive investment were created. The diversification plans for Kirovsk and Revda in 2010 placed tourism as the main target for development in their economic restructuring. However, in the years since then, significant challenges to their planned development path, especially to Revda’s, have emerged. These challenges are the product of various factors, such as their different historical development paths, including the particular economic history of these two communities.

Figure 1: Resource communities of the Murmansk region and the location of Kirovsk and Revda



This paper discusses the proposals and prospects for, and the setbacks experienced in, the economic diversification of Kirovsk and Revda. The empirical part of the paper uses a variety of qualitative methods by analyzing expert interviews conducted in these two single-industry towns as well as local and regional press material. The interviews were conducted in the Murmansk region in 2012 by the author. The paper asks how the challenge of economic diversification for these two communities can be explained by the concept of path-dependency where the local resource path has promoted both paternalistic expectations as well as by the concept of the resource curse that explains structural and 'psychological' obstacles for economic diversification as consequences of the resource-based development of the communities. The paper hypothesizes that path-dependency, which has exaggerated both the local resource curse as a consequence of resource-based local development and the paternalistic expectations of the residents of these mining communities, partly explains the different prospects for economic diversification in the Arctic mining towns of Kirovsk and Revda. Albeit the case concerns Arctic single-industry communities, the case in general reflects a typical problem both for post-Soviet Russia and peripheral localities and single-industry resource communities. As Kenneth Coates (1994) emphasizes, universal problems of remoteness characterize peripheral localities also in the Far North.

### **Theoretical Approach**

The theoretical framework of the study approaches the challenge of post-industrial restructuring and the potential for economic diversification of a local economic culture. The case discusses diversification away from mining to tourism, which represents an alternative development path for the local economy in both Kirovsk and Revda. Avoiding uncontrolled shrinkage of population is among the main goals of sustainable development in these communities. Tourism might offer an alternative industry that could play a supportive role to the now dominant mining industry if market factors make the mining industry unprofitable in the future. However, tourism alone cannot replace the mining industry in these communities because the number of jobs that the mining industry currently sustains could not be sustained by the tourist industry. Therefore, tourism alone cannot prevent significant shrinkage of population in these communities. However, by offering alternative forms of employment it has the potential to compensate for a moderate reduction in the number of jobs in the main industry.

There are several examples of failed diversification policies in the world including in Russia (e.g. Ahrend 2005; Ahrend 2008: 6; Chernovski 2012). In the Russian North, after the collapse of the Soviet Union, ad hoc policies of the Russian state have sought to solve immediate crises instead of promoting long-term sustainability (Blakkisrud 2006: 38; Tykkyläinen 2010: 257). However, resource communities need long-term sustainability. Being overly dependent on resource extraction makes such communities vulnerable to problems when their natural resources run out or become economically unsustainable to extract.

In northern resource communities the potential for economic diversification is limited (Suutarinen 2013: 328–329). Usually, economic diversification has been supported by the possibilities offered by the local environment, commonly through forestry, agriculture and tourism (e.g. Jussila &

Järviluoma 1998; Kuyek & Coumans 2003: 18; Johansen & Skryzhevskaya 2013). Tourism is often a desperate 'last resort' (Kauppila et al. 2009: 432) in terms of economic development and diversification in peripheral areas. Hence, it often fails to redeem its promise as a saviour of the economy in peripheries, especially in areas where it too, despite receiving support, proves to be unsustainable (Schmallegger & Carson 2010: 202).

There are examples of successful economic restructuring of mining communities in the Barents region. For example, Kolari in Finnish Lapland (Jussila & Järviluoma 1998) where regional policies were activated to support the growth of tourism after the closure of local mines and Kirkenes near the Norwegian-Russian border (Viken et al. 2008) have diversified and transformed their economic base to adapt to restructuring of local mining industry. Moreover, Atikokan in north-western Ontario shows another example of successful adaptation to the closure of the mining industry. In Atikokan several small enterprises in various economic fields were the main drivers of the transformation of the community's economic base (Keyes 1992: 37–41). However, the relatively big local populations in mining communities of the Russian North make their economic transformation more problematic than in similar cases in natural resource peripheries of Scandinavia and Canada. Development of small enterprises is unable to bring a major impact to local employment, which is usually the target of local economic diversification efforts.

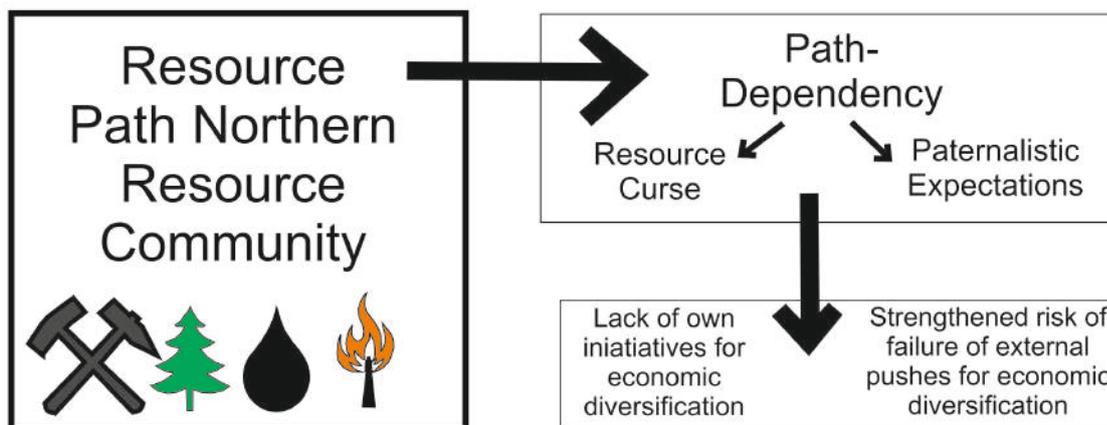
In several single-industry towns and resource regions in Russia there are significant unused recreational resources and seemingly obvious opportunities for economic diversification, which could be well-suited to domestic and international tourism (Tynkkynen 2007; Tul'chinskiy et al. 2011: 178). In several localities of the Russian North ecologically valuable locations are also bases for abundant natural resources (Tynkkynen 2007). These ecologically valuable places could offer opportunities for the development of tourism. However, the extraction of natural resources, such as mineral resources and oil, often damages the ecological sites that tourists could come and see. Therefore, a potential conflict of interests often exists in these natural resource localities. The nature potential for tourism is also evident in the Murmansk region. Nature here offers similar opportunities to develop nature-based tourism as in Finnish Lapland (V. Gorbunov, Deputy Minister in the Ministry of Economic Development of the Government of the Murmansk region, personal communication in Murmansk, June 19, 2012; A. Popova, The head of the Tourism Information Centre of the administration of Kirovsk, personal communication in Kirovsk, June 9, 2012). Local cultures and values in communities without a history of tourism often present obstacles to economic diversification into tourism. Hence, despite the potential, several structural issues, such as a prevailing mono-culture and a local industrial path hinder economic diversification and a post-industrial transition from a resource economy or one with an industrial legacy to the service sector (e.g. Toropova et al. 2007). Moreover, in mining communities, post-industrial problems, such as a spoiled nature or environment, hamper opportunities for economic diversification into tourism. Therefore, the emergence of a new industry, such as tourism, may give rise to conflicts between different industries' interests. Moreover, while mining offers a stable all-year-round income, tourism will struggle to do so because of its seasonality (e.g. Grenier 2007: 70). Hence, diversifying from mining to tourism is especially challenging. Consequently, for various reasons, tourism should only

be considered as a secondary, supportive industry in promoting the sustainable development of these communities.

### *Theoretical Framework of the Resource Path*

The theoretical framework behind seeing the resource path as a challenge for economic diversification in the resource communities of the Russian North is presented in Figure 2. In the Russian North, resource communities are mostly based on mining, forestry or oil and gas industries. The theoretical framework hypothesizes that mono-culture in a resource community leads to formation of a resource path, which is especially represented in the way of thinking of the local authorities (e.g. Tynkkynen 2007: 865; Schmallegger & Carson 2010). This maintains the structural and ‘psychological’ consequences of the resource curse (Tynkkynen 2007) and is a base for paternalistic expectations of public subsidies in the local level (Carson & Carson 2011: 379). Furthermore, this leads to a lack of own initiatives for economic diversification and also strengthens the risk of failure of external pushes, which target economic diversification.

**Figure 2:** Resource path as an obstacle to economic diversification in the resource communities of the Russian North



### *Path-Dependency*

This paper defines path-dependency as the phenomenon whereby a community or locality has been and is constrained and/or defined by its local development path, which in this case is characterized by resource-extraction from the beginning of the settlement history of the resource community (e.g. Carson & Carson 2011). Hence, local practices and a ‘resource culture’ constitute obstacles to alternative forms of development in the community. The local economic culture of the Murmansk region, which was formed in the Soviet era, continues to form the basis of their development path today.

The resource path of these resource communities can impede the evaluation of the obvious potential alternative economic activities in them. In communities with a mono-culture, local institutions were created to serve the interests of the dominant resource industry. Hence, the lack of

institutions which could encourage innovation and diversification hinders a more diversified economic development. Moreover, the dominant industry has defined the skills that are required in local employment markets. Thus, the mono-industrial local economic profile leads to a lack of a diverse set of human skills, which could have been used to serve economic diversification into other industries in the community (Carson & Carson 2011: 375). Furthermore, the traditional existence of certain professions in resource communities also presents obstacles to the diversification of the economy (Carson & Carson 2011: 375). Moreover, a local culture that is based on resources can also support the emergence of 'resource fatalism', where the area's natural resources are viewed as the only viable source of livelihood for such resource communities (Suutarinen 2013: 339). This resembles a psychological difficulty to overcome Soviet legacies, which is typical in post-Soviet industrial communities (Mah 2012: 117).

#### *The Resource Curse*

The resource curse has been mainly studied at the state and regional level (e.g. Bradshaw 2006; Travin & Marganiya 2010). According to the main argument of the resource curse thesis, volatility in the price of natural resources ultimately leads to unsustainable development, a feature characteristic of resource regions and communities (Bradshaw 2006: 725; Schmallegger & Carson 2010: 204). Moreover, at a local level, the resource curse also results in the creation of a local mindset, which sees the resource development path as the only possible way forward in terms of local development (Tynkkynen 2005; Tynkkynen 2007). At the local level, the 'resource curse' can be understood as an obstacle to sustainable local development and as a hindrance to the promotion of alternative paths of development. On the one hand, it is explained by the fact that the development and well-being of the community is dependent on the global volatilities of resource prices. On the other hand, resource-based development has consequences to the overall mindset of the community, where alternative development paths are underrated because the utilization of local resources is seen as constant basis of the local development.

#### *The Path of Paternalistic Expectations*

The local development path has formed expectations of paternalism in resource communities where the town-constituting enterprises have maintained the social sphere and its residents. In the Soviet era, resource enterprises played a central role as providers of several paternalistic social services for their communities (Kortelainen & Nystén-Haarala 2009: 151–152). At present, the incompetence of local administrations and the absence of other providers of such services forces town-constituting enterprises to maintain several communal services in single-industry towns in Russia (Kortelainen & Nystén-Haarala 2009: 151–152). In the Soviet era, the state's paternalism was implemented through state-owned enterprises, which in turn led to these communities to develop expectations of paternalistic provision by the state and the resource firms. Currently, the historical legacy of these paternalistic expectations acts as a hindrance to the residents adopting an active role in local development.

The paternalistic policies of the Russian state and of regional authorities towards the resource firms of the Russian North have continued, in some cases, in the form of subsidies to the main

resource enterprises (e.g. Suutarinen 2013: 334–335). The residents' expectations that the state and regional government would offer subsidies to these new alternative industries in the same way that they have subsidized the main mining industry in the past, might continue related to alternative industries, such as tourism, which is seldom self-sustainable in peripheral communities (Carson & Carson 2011: 375). Path-dependency impacts on the alternative industries of resource communities, which are not able to survive without permanent subsidies from the state. Hence, these expectations of paternalism hinder the appearance of new self-sufficient industries. Therefore, the paternalistic expectations of these resource communities can result in state-led investment projects that fail to take into account market forces and leave them dependent on state subsidies. Tourism or indeed any other industry might simply be seen as a new actor in the subsidized economy of the region, and as a successor in the paternalistic tradition, which fails to give the expected results in terms of the self-sustainable development of the resource community (e.g. Schmallegger & Carson 2010: 217). Moreover, in resource communities, the government usually invests in the existing resource industries (staples<sup>3</sup>) (Schmallegger & Carson 2010: 205). Government investments often result in 'showy' projects, which seek to support the staple industries and attract investors (Schmallegger & Carson 2010: 207).

## **Case Study**

The empirical data for this study was gathered by the author during a field trip in 2012. Semi-structured expert interviews were conducted in Kirovsk, Revda and Murmansk in June 2012. Moreover, the study also draws upon articles from regional and local newspapers that discuss the diversification efforts of these two communities. Both interviews and articles are analyzed with qualitative methods with the aim of finding statements which discuss the challenges of economic diversification and the specific impact of the resource paths of the communities on their economic diversification. Moreover, the study also highlights arguments that reflect existing paternalistic expectations and the economic and 'psychological' consequences of the resource curse for local economic development and the prospects for economic diversification.

Mining plays a central role in the economy of both Kirovsk and Revda (Table 1). However, in both communities, ecologically and recreationally valuable places, which form the potential for nature-based tourism, are located on the same territory with an abundance of mineral resources. Given the different historical economic paths of the communities, the basis for economic diversification naturally also differs. In Kirovsk, tourism developed alongside the mining industry since the 1930s (Kabysh 2010), whereas in Revda mining has been the only significant industry. However, nature offers an obvious recreational potential for tourism even in the surroundings of Revda (KIPMMGP Revda 2010: 55). For example, the Lovozero Tundra and Lake Seidozero are popular places for hiking and the former has potential for winter tourism (Figure 1). However, the tourism potential of the surroundings of Revda has not been supported by construction of tourism infrastructure.

In Kirovsk, the human capital is also more diversified in comparison with Revda because of the university and science town of Apatity located nearby, which generates a broader set of human skills

in the surroundings of Kirovsk and therefore increases the prospects for economic diversification in the town. In turn, in Revda the local mindset is more mining-oriented. Moreover, Revda, as the more remote community, also suffers from a lack of transport connections, such as an airport. Nevertheless, in the Arctic context both the location of Kirovsk and Revda provides them with a relatively good accessibility from the viewpoint of departure areas of potential domestic (Central Russia) and foreign tourists (Europe) as there are various transport connections. Moreover, the tourism in the Murmansk region has potential to benefit from cross-border programs. The tourism information center of Kirovsk was opened as a result of *LapKola II* project, which promoted cross-border tourism business in Lapland and Southern Murmansk Region (Popova 2012, personal communication, June 9, 2012). Nevertheless, the economic diversification of Kirovsk and Revda is dependent on several external factors, such as continuous repositioning of Russia in a global context and its consequences at the local level. On the one hand, the escalation of political tensions in 2014 with worsening relations and sanction policies between Russia and Western countries will have unpredictable consequences on Russian resource communities and their industries. The worsening image of Russia in 2014 and the decreasing interest of foreign investors to invest in Russia have jeopardized the modernization of a Russian economy that requires foreign investments and foreign know-how. Consequently, a lack of investment in modernization strengthens the resource-based path of development in Russia, and postpones economic diversification as extractive industries do not need the same international openness (Humphreys et al. 2007: 4) that a more diversified economy would need. Moreover, negotiations related to a visa-free regime between Russia and the EU have been postponed and the image of Russia as a tourism destination has deteriorated, which at least postpones the possibilities for centres such as Revda and Kirovsk to develop plans to attract foreign tourists. On the other hand, there is still a long-term development tendency towards Russia's integration to world markets, which is represented by Russia's WTO agreement. Nevertheless, the external factors of development will likely have a significant impact on the potential for economic diversification in resource communities in border areas.

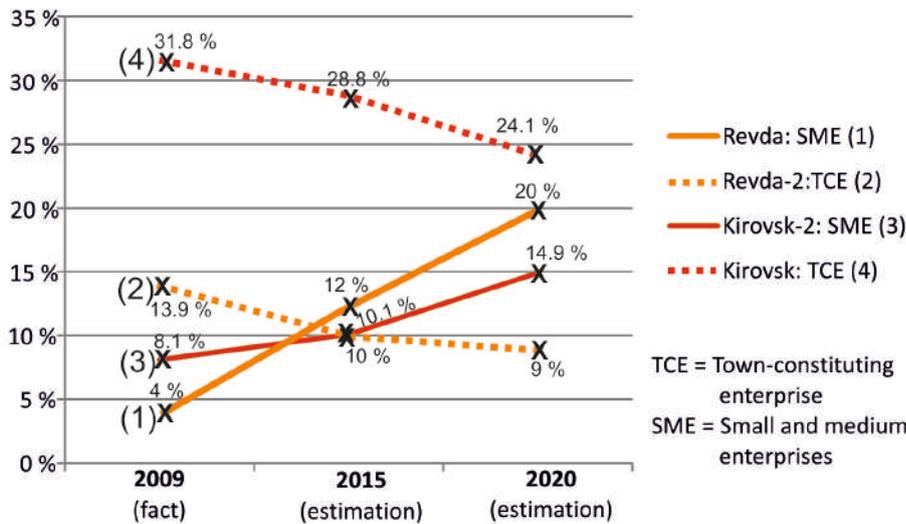
Table 1 shows the general characteristics of Kirovsk and Revda as mining towns, the importance of their mining industries as employers and the general characteristics and strategic goals of their CIPs, which promote investment projects to further economic diversification. The planned projects in CIPs aim to activate different stakeholders. Their target was to develop public-private partnerships for development of investments projects, which would have utilized federal, regional and local sources of public investment funding; moreover, they targeted to activate the town-constituting enterprises to finance co-projects with public funding (Suutarinen 2013: 334–335).

**Table 1:** Information Table of Kirovsk and Revda

	<b>Kirovsk</b>	<b>Revda</b>
<b>Population</b>	28,100 (2013) (Moigorod 2014)	8,100 (2013) (Moigorod 2014)
<b>Main firm and its production</b>	OJSC Apatit: apatite-nepheline ore 2 <sup>nd</sup> biggest enterprise in the	Lovozerskii GOK: rare earth metals (loparite, nibirium) 86 <sup>th</sup> biggest enterprise in the

	Murmansk region in revenue (Top-100 2010: 20)	Murmansk region in revenue (Top-100 2010: 22)
<b>Number of workers in the main firm</b>	11,682 (2009, includes workers from both Kirovsk and Apatity) (KIPMM Kirovsk 2010: 14)	923 (KIPMMGP Revda 2010: 11)
<b>Strategic Reorientation in CIPs</b>	Tourism (Target: 110,000 tourists in 2020, 400 new work places based on tourism) (KIPMM Kirovsk 2010: 52)	Tourism (Target: 40,000 tourists in 2020, 362 workplaces) (KIPMMGP Revda 2010: 51–52; Varenik 2012)
<b>Main Projects and Target Projects for economic diversification in CIPs</b>	Tourism (Russian Lapland: Winter sports, down-hill skiing), Two all-year-round tourism resorts (KIPMM Kirovsk 2010)	Tourism (Russian Lapland) (KIPMMGP Revda 2010)
<b>Main Targets in CIPs</b>	<ol style="list-style-type: none"> <li>1. Diversification of economy in tourism</li> <li>2. Improvements to the social infrastructure</li> <li>3. Improvements to the transport network</li> <li>4. Improvements to the environment</li> </ol> (KIPMM Kirovsk 2010: 3)	<ol style="list-style-type: none"> <li>1. Development of SMEs in tourism and in local industries</li> <li>2. Diversification of the functions of LGOK</li> <li>3. Development of human capital, improving the social amenities of the town</li> </ol> (KIPMMGP Revda 2010: 3)

Moreover, Kirovsk and Revda's CIPs seek to increase the sustainability of these towns and the quality of life of their residents by promoting sustainable social, economic and environmental development (KIPMM Kirovsk 2010: 42; KIPMMGP Revda 2010: 3). The CIPs of Kirovsk and Revda both had similar objectives as they sought to bring about a high level of economic diversification by promoting tourism in particular, improving the financial independence of SMEs (and town-constituting enterprise in Revda), improving the quality of life and reducing unemployment (KIPMM Kirovsk 2010: 3; KIPMMGP Revda 2010: 3).



**Figure 3:** The estimated importance of the town-constituting enterprise and small and medium businesses as employers as a percent of the local working-age population in Kirovsk and Revda in 2009–2020 after realization of the investment projects included in the CIPs (KIPMM Kirovsk 2010: 70; KIPMMGP Revda 2010: 43)

Figure 3 shows targeted estimates for the growth of the number of workers in SMEs which are needed to replace the estimated loss of workplaces in the town-constituting enterprises in the mining industry as part of the planned technological modernization process.

### *Kirovsk as a Resource Community*

OJSC Apatit, the town-constituting enterprise of Kirovsk, operates also in Apatity and is a significant employer in both towns. It is a daughter company of PhosAgro. Kirovsk is dependent on OJSC Apatit as more than 90 % of its budget incomes come from the company (V. Dyadik, The Deputy Head of the Kirovsk administration & The Head of the Financial-Economic Management of Kirovsk, personal communication in Kirovsk, June 8, 2012). The volatility of the price of natural resources was a significant blow to the Russian economy in 2008–2009, but only had small negative impact on OJSC Apatit and Kirovsk. Hence, a strong belief in further stable development of the local mining company prevailed among the town's representatives (O. Denisov, The head of the Kirovsk administration, personal communication in Kirovsk, June 8, 2012; A. Obrezanov, The Head of the Management of Economic Development of the Kirovsk administration, personal communication in Kirovsk, June 8, 2012). However, the volatility of natural resource prices and growing competition in world markets caused Kirovsk and OJSC Apatit significant problems in 2013 (Kabyshev 2013).

### *Kirovsk and Economic Diversification into Tourism*

Kirovsk is a special case among the single-industry towns of the Murmansk region due to its diversified economy. Tourism plays a notable role as a secondary industry in the local economy (Gorbunov, personal communication, June 19, 2012). In Kirovsk the development path has

historically been based on both tourism and the mining industry. In Russia the town is probably as well known for its winter sports activities as it is for mining. ‘Proletarian tourism’ in Kirovsk began in 1932 (Kabysh 2010). According to Denisov (personal communication, June 8, 2012), the former leader of the City Committee of the Communist Party of Kirovsk, Vasilii Ivanovich Kirov had already supported the growth of tourism in the Soviet era because the main industry was wealthy and its stability was guaranteed by state procurement orders. Hence, tourism became part of the local culture and was the second most important branch of the local economy during the Soviet era (Denisov, personal communication, June 8, 2012). Therefore, the historical path partly explains the supportive attitude towards the tourist industry in today’s planned development. In 2012, when the town-constituting enterprise was viewed as stable, the mayor of Kirovsk, Denisov (personal communication, June 8, 2012), noted that the strategic development field for the future of the town was tourism. In 2009, according to official statistics, 24,300 tourists visited Kirovsk, while the estimated number of tourists recorded by the Tourism Information Centre of Kirovsk was 38,900 including “wild tourists” who arrange their travels individually without contribution of travel agencies (KIPMM Kirovsk 2010: 36).

In the CIP for Kirovsk the target was to diversify the local economy with investments in the tourism industry particularly based on sport tourism (KIPMM Kirovsk 2010). In Kirovsk’s CIP, the development of tourism was based on a special economic zone, Russian Lapland (*Russkaya Laplandiya*), which expected 25 million roubles of investment from the regional budget in 2011 (KIPMM Kirovsk 2010: 51–52). The plan estimated that tourism would bring 400 new jobs. In order to promote this plan, the aim was to get private investment for the building of tourism infrastructure in 2013–2019. The plan catered for the arrival of 110,000 tourists in 2020 (KIPMM Kirovsk 2010: 52). The main problems for the development of tourism were the funds required for the building and reconstruction of tourism infrastructure as well as the reconstruction of Kirovsk’s airport (KIPMM Kirovsk 2010: 41–42). A lack of investors was the main challenge for the development of tourism in Kirovsk.

The interviews with Popova (personal communication, June 9, 2012) and Obrezanov (personal communication, June 8, 2012) revealed the positive role played by OJSC Apatit in the economic diversification of Kirovsk, as the town-constituting enterprise is the main investor in the downhill-skiing centre in Kirovsk. The town administration, the town-constituting enterprise, OJSC Apatit, and the regional government of the Murmansk region all collaborated in seeking to promote several activities in the field of tourism. OJSC Apatit had a central role in the implementation of the CIP, including its plans for tourism (Obrezanov, personal communication, June 8, 2012). According to Obrezanov, the administration of Kirovsk was also committed to following the CIP and implementing its investment projects. Kirovsk was not to receive public subsidies from the federal authorities, because of its classification as a stable single-industry town (KIPMM Kirovsk 2010: 43).

In Kirovsk the financial capabilities of the local business community and the main enterprise affect the plans to develop the tourist infrastructure of the town (KIPMM Kirovsk 2010: 43). Therefore, economic diversification into tourism is partly dependent on the well-being of the town-constituting enterprise, which in turn is dependent on the price of natural resources on world markets with all

the uncertainty that this entails. Thus, the volatility of the price of natural resources and its effects on the town represent the resource curse and impact on the opportunities for Kirovsk's economic diversification. Hence, despite the lack of 'psychological' objections to diversification among the town's leadership and the town-constituting enterprise, the economic consequences of the resource curse make the sustainability of Kirovsk's economic diversification somewhat uncertain.

In Kirovsk there were no clear expectations among the town's representatives that the Russian state would paternalistically subsidize the construction of tourism infrastructure in the town. However, according to Popova (personal communication, June 9, 2012) it would be impossible to construct large tourism infrastructure without investments by the regional government and the Russian state. Therefore, Kirovsk's Russian Lapland project also expected investment funded by the regional budget. However, there were expectations that OJSC Apatit would be a significant driver of economic diversification, which demonstrates the dependence of the community on this resource enterprise.

### *Revda as a Resource Community*

Lovozerskii GOK (later LGOK) is the only major enterprise in Revda. LGOK mainly produces loparite concentrate and other rare earth metals, which are needed in various high technology processes and are strategically important for Russian industry and national security (KIPMMGP Revda 2010: 7, 11–12; Popov 2011). Thus, the well-being of Revda and its residents depends on the fate of LGOK's mine (Shirmer 2008; "Zamestitel' predsedatelya..." 2011). LGOK's economic and financial situation and consequently its impact on the well-being of Revda was the object of most concern among the single-industry towns of the Murmansk region (Gorbunov, personal communication, June 19, 2012). The problems of LGOK began with perestroika and escalated with the ending of state procurement orders for the company (Shirmer 2008; A. Mamedov, The Head of the municipal administration of Revda, personal communication in Revda, June 18, 2012). The collapse of the Soviet Union led to the privatization of the enterprise and its decline was accelerated with a ruined vertical production chain as factories, which had utilized further the concentrate from Revda were left to the former Soviet republics and were unable or reluctant to continue their co-operation with LGOK (V. Kolokol'tsev, CEO of Lovozerskii GOK, personal communication in Revda, June 18, 2012; Mamedov, personal communication, June 18, 2012).

The strategic importance of LGOK's production (KIPMMGP Revda 2010: 7) has inspired an image within the company of its own importance. This self-image of its own strategic importance combined with LGOK's long-lasting post-Soviet economic problems has created strong paternalistic expectations amongst the workers of the firm and the local administration that the public authorities, the regional government, and indeed the Russian state will subsidize the firm ("Pyat' mesyatsev gornyaki..." 2006; "Zamestitel' predsedatelya..." 2011). Moreover, the head of the municipal administration of Revda Alovzat Mamedov (personal communication, June 18, 2012) also expected that LGOK would ultimately be protected by the Russian state and rescued from potential bankruptcy due to its strategic role in the country, if a depression threatened the existence of the company.

### *Revda and Economic Diversification into Tourism*

The main target of Revda's CIP was to diversify the local economy away from mining and into tourism (KIPMMGP Revda 2010). The plan sought to reduce the dependence of the settlement on the mining industry and to encourage the settlement to adapt to a post-industrial development path. Hence, it sought to create incentives for post-industrial development in the community (KIPMMGP Revda 2010: 40–41). According to Revda's CIP, the community has two alternative development scenarios: a mono-profiled urban settlement with a resource-based development or sustainable development with economic diversification (KIPMMGP Revda 2010: 37–38). The main obstacle to economic diversification, according to Revda's CIP (KIPMMGP Revda 2010: 8), is the lack of finances for implementing development projects.

The main tourism project in Revda's plan was a Russian Lapland (*Russkaya Laplandiya*) project, which was originally created to promote tourism development in Kirovsk. However, it was extended to Revda in 2010 by the regional government because Revda desperately needed a rescue plan in 2009 as it was chosen by the state officials as one of the single-industry towns whose rescue was a top priority in Russia. Although the Russian Lapland plan was also left in the CIP of Kirovsk, the promotion of Russian Lapland in Revda was prioritized by the regional government as the rescue project of Revda and became among the priorities of the regional government. Hence, a creation of a tourism cluster, which would merge the Russian Lapland projects in Kirovsk and Revda, became a long-term target of the regional government. The Russian Lapland project sought to bring tourism to Revda, despite the community's lack of experience of the tourist industry. It sought to compete with the tourist industry in Northern Finland with various tourist attractions within the project from winter sports tourism and all-year-round holiday resorts to ethnographic (Sami culture) and cultural tourism (KIPMMGP Revda 2010: 53; Varenik 2012). The Russian Lapland project planned to create an estimated 362 permanent and 220 temporary jobs during the construction period. By bringing more tax incomes to Revda it should have also reduced the level of dependency of subsidies from the regional budget in the town and increase the flow of tourists to the Murmansk region by 44,000 people annually (KIPMMGP Revda 2010: 51–52).

Despite the desperate search for economic diversification in Revda in 2010, opinions that the Russian Lapland plan is unnecessary gained traction in 2011. This was caused by an upturn in LGOK's fortunes because of the increase in prices for rare earth metals, one of LGOK's products, which in turn was caused by China's reduced exports of these metals (Popov 2011). Thus, as the CIP was ostracized, it revealed the ad hoc character of the plan from the viewpoint of the regional administration, which lost interest in promoting economic diversification in Revda as the outlook of the town's main company improved. In 2012, after LGOK's main crisis had passed, the leaders of Revda's administration and LGOK concluded that Revda's economic situation was satisfactory without the Russian Lapland project (Chernovski 2012). LGOK's CEO V. Kolokol'tsev denied that there was a threat that LGOK might be closed (Chernovski 2012), which had been the subject of rumours during the height of the crisis in 2009 (Pettersen 2009). Kolokol'tsev pointed out that the future of the settlement would be based on mining (Chernovski 2012). Tourism is necessary as a supportive industry, but its positive impact for the community is not significant enough to allow

sustainable local development without mining (Chernovski 2012). Moreover, Kolokol'tsev argued that for the overall wellbeing of the community, investment should be directed to LGOK instead of tourism. Although positive, the development of tourism would be of secondary importance in comparison with any future success in the development of the main industrial field on which Revda was created (Sivonen 2012).

The Russian Lapland (*Russkaya Laplandiya*) plan turned out to be unsuccessful in 2012. In June 2012 the town's representatives still officially believed that the plan would be implemented (Mamedov, personal communication, June 18, 2012) despite the fact that the private investment needed for any plan to succeed had disappeared at the end of 2011 (Mihailov 2011; Chernovski 2012). However, the failure of the programme was a typical example of plans in Russian single-industry towns. It was one of those failed projects that led to the closure of the programme designed to support single-industry towns produced by the Russian government (Chernovski 2012). Federal subsidies in the amount of 150 million rubles were assigned to the Russian Lapland project, while a private investor had been expected to invest 450 million roubles (Chernovski 2012; Varenik 2012). However, Revda could not use this federal subsidy for its tourism project because it was conditional on the private investor investing simultaneously in the proposed project (Mihailov 2011; Chernovski 2012). The case of Revda was not the only megalomaniac or unrealistic idea in the programme of Russian single-industry towns. Fictional and unrealistic investment projects were also drawn up in other single-industry towns. Unsuccessful projects were common in towns which calculated that they would receive subsidies from the state (Grigor'ev 2012). These unrealistic plans that relied on receiving federal subsidies without any realistic chances of success represent the paternalistic expectations common in single-industry towns and resource communities.

When the failure of the Russian Lapland project was announced in August 2012, the regional governor of the Murmansk region, Marina Kovtun, who identified tourism as one of the region's priority objectives in the near future, revealed that she had been unimpressed with the project from the very beginning because of its enormous scale (Varenik 2012). Kovtun also called the project a fantasy and 'a Potemkin village' (Varenik 2012).<sup>4</sup> It was a Potemkin village, created by the regional government and Revda, in the sense that it tried to prove to the state authorities that their initiative for economic diversification would get a proper response in Revda. Moreover, the plan was called an investment-adventure project (Sivonen 2012), which was trying to outshine Finnish Lapland and its tourist industry. Figure 3 also shows the unrealistic character of a significant economic reorientation in Revda in 2009–2020, which resembled a "Potemkin leap" in terms of the significance of SMEs.

Revda and its diversification plan can be understood by using the concepts of path-dependency and paternalistic expectations. The failure of the tourism project of Russian Lapland can be explained by the existence of several incongruities in the plan beginning from the extension of the plan from Kirovsk to Revda. Moreover, the ambitions of the project were too unrealistic (Varenik 2012). Furthermore the initiative for economic diversification in Revda was not homegrown. According to the head of the municipal administration of Revda Alovsat Mamedov (personal communication, June 18, 2012), the initiative originated from a top-down push from federal and regional authorities, instead of developing as an initiative from the community. This reliance on the core/centre to

initiate policies is typical for resource communities (Tynkkynen 2007: 865). Moreover, Mamedov thought that the Russian Lapland project lacked economic realism for its implementation. He was personally against the project because he did not believe in its success (Sivonen 2012). Mamedov (personal communication, June 18, 2012) emphasized that Revda was a resource producer and that an alternative development path would be unlikely to succeed. In turn, V. Gorbunov (personal communication, June 19, 2012) pointed out that the way of thinking of Revda's residents is an obstacle to the development of tourism because they have been used to a different development path based on the mining industry. In addition, the Minister of Economic Development of the Murmansk region Elena Tikhonova pointed out that the locals in Revda view the future of their community as being based on LGOK's operations instead of tourism (Sivonen 2012). To conclude, the lack of realism in Revda's tourist development plan can also be explained by the lack of local ideas and initiative, as the main impulse came from the federal and regional authorities. The role of the resource community was simply to carry out the instructions of the state. There was never any real drive or enthusiasm to promote self-generated local sustainability.

The case of the Russian Lapland plan also reveals an important feature of Russian regional policies. The Russian Lapland project was originally part of the tourist development plans of Kirovsk and was also included in the KIPMM Kirovsk (2010: 51–52) and in the regional tourist development plan of the Murmansk region (Popova, personal communication, June 9, 2012). However, the regional government targeted the development of tourism infrastructure under the concept of Russian Lapland in Revda as a priority because the rescuing of Revda became one of the priorities of the regional government in 2009. As Revda had been selected as a federal priority, it ideally should have been a model example of successful planning to diversify a struggling single-industry community. Given that this was a 'Potemkin project' which was supposedly to fulfill instructions handed down by the state, the regional administration of the Murmansk region was also ready to sacrifice the long-term sustainability of regional tourism and the comparatively better prospects for tourism in Kirovsk, which already had a relatively prosperous local tourist industry, to serve and fulfill the needs of the federal programme. Revda and the regional administration marketed Russian Lapland as a unique tourism attraction of Revda (KIPMMGP Revda 2010: 5). However, from the point of view of the total numbers of tourists to the Murmansk region this would have had a sum negative result because Revda was less likely to attract tourists than Kirovsk. However, as the Russian Lapland project in Revda has collapsed, this might be to Kirovsk's advantage, allowing it once again to try to promote the Russian Lapland brand. In so far as the failure of the Russian Lapland project in Revda does not adversely affect the development of the Russian Lapland brand in Kirovsk, the failure of Revda's Russian Lapland plan may prove to be a positive development for a sustainable tourist industry in the Murmansk region as a whole. Moreover, Revda's Russian Lapland was the kind of 'showy project' that is typical of projects in resource peripheries (Schmallegger & Carson 2010: 207). However, in this 'showy project' it was the regional administration and the community which, in trying to create an alternative staple and carrying out the instructions of the federal authorities, ended up with a Potemkin village.

The failure of the Russian Lapland project shows the resource path and its influence on local attitudes in the community. Path dependency meant that there was a risk that tourism, based on the

attractiveness of nature, that is a local natural resource such as mining, might turn out to be a new monoculture in a community in economic transition from one industry to another (Kauppila et al. 2009: 432–433; Schmallegger & Carson 2010: 202). Hence, potential alternative sources of employment were treated as big ‘industries’, which by tradition had to be massive projects instead of more realistic small-scale projects that would lead to economic diversification. The alternative industry, in this case tourism, was treated like the mining industry, which is dependent on public subsidies. Hence, its economic sustainability and market potential were not taken into account, which resembles the ‘staples trap’ (Schmallegger & Carson 2010).

Since the official announcement of the failure of Russian Lapland project in Revda, news has followed that the project is being developed with small steps by supporting the growth of SMEs (“V Zapolyar’e...” 2012). This would follow the international experience of more successful small scale economic diversification instead of economically questionable massive projects, which often result in failures. Therefore, the program of Minregion brought at least a small initiative to self-evaluation of existing prospects for economic diversification, which in future might bring small scale positive changes to communities such as Revda.

## Conclusions and Discussion

Table 2 below summarizes the main impacts of path-dependency, the resource curse and paternalistic expectations on efforts at economic diversification in the case study’s mining communities of the Murmansk region.

**Table 2:** Summary of the results

	<b>Kirovsk</b>	<b>Revda</b>
<b>Path-Dependency: Resource Path</b>	Diversified path from the beginning (both mining and nature tourism potential are utilized)	Currently only the mining option utilized out of all the natural resource potential of the district
<b>Resource curse and economic diversification</b>	Financial level (partial dependence on the resource firm and public authorities in the economic diversification projects)	Financial level (great dependence on public authorities); Mental level (resource fatalism)
<b>Expectations of subsidies and paternalism from public authorities to local industries</b>	Middle: Participation needed and expected from the local resource firm to support the tourism industry. The construction of tourism infrastructure is also dependent on investments from the regional	High: State subsidies are expected to the main resource firm Lovozerskii GOK due to its economic problems. Public investments were expected to be the main source of money for the construction of tourism infrastructure. The expectations of subsidies on the main industry have

	administration.	high potential to spread also to alternative industries
<b>General mindset in the community and prospects for future development</b>	Open-minded attitude to economic diversification, realistic prospects for economic diversification from mining to tourism	“Resource fatalism” (mining-oriented way of thinking), likely continuation of the resource path and “resource-cursed development”

The study showed that the local development path in Revda stimulates resource fatalism in the community and forms a structural obstacle to economic diversification. In turn, the lower ‘psychological’ impact of the resource path on Kirovsk was shown in the study. The historical local path, where tourism has developed alongside the main industry, namely, mining, has had a positive influence in terms of economic diversification. This is seen in the way of thinking of the town administration and the main industrial company. In turn, Revda serves as an example of a place without a history of tourism. Therefore, its development struggles in large part because of a lack of human skills and difficulties in changing local attitudes and ways of thinking that hamper the switch away from resource fatalism to more diversification-friendly attitudes. Hence, Revda’s example reveals the obstacles that local path-dependency creates for economic diversification away from mining to tourism. Hence, the comparison of these two mining communities reveals the significance of the local historical path, which still influences local development today.

The results show that in Revda there were both attitudinal and financial obstacles to economic diversification away from mining to tourism. In turn, in Kirovsk, economic diversification towards tourism only faced financial obstacles. Diversification is dependent on the well-being of the main sponsor OJSC Apatit, which in turn is dependent on the price of natural resources and is therefore vulnerable to any volatility in the markets. Hence, the sustainability and diversification of the town is partly resource-dependent as long as OJSC Apatit has a significant role as a sponsor of the building of tourism attractions in Kirovsk. Therefore, the study shows the current impact of the volatilities of the resource prices on the economic diversification and sustainable development of both Kirovsk and Revda. Nevertheless, the challenge for promoting sustainable development with a diversified economy in Revda is fundamentally deeper than in Kirovsk, which has a limited attitudinal obstacle to economic diversification.

In Revda there are prevailing expectations of paternalist support from the public authorities and external investors, as local actors have limited financial resources to support economic diversification. In turn, in Kirovsk, OJSC Apatit supports economic diversification to tourism. So here too there are expectations that prosperous sponsors will be found in order to build the requisite infrastructure needed by the tourist industry. However, the self-sustainability of local tourism is questionable to a certain degree in both of the towns. Hence, Kirovsk is also partly “cursed” by its resource path because it is dependent on the town-constituting enterprise for promoting local economic diversification and also needs public subsidies. However, Kirovsk has a better chance of

avoiding the need for continuous subsidies for the tourism industry after an initial investment in tourist infrastructure has been provided.

This paper shows that economic diversification is not only restricted by obvious issues, such as the lack of prospects for diversified local economic development, but also by deeper structural hindrances to using the potential of local human capital in industries other than mining. The findings of the paper show how the local resource path supports resource fatalism and expectations of paternalism. In places like Revda the human capital is used insufficiently. Therefore, the prevailing 'resource fatalism' in the community fails to support alternative skills and development in the community, which leads to the out-migration of those who cannot find themselves a place in the mining industry.

The abolishment of Minregion is unlikely to have any significant negative consequences to economic diversification of these single-industry towns because Minregion had no finances to support their programs. The initiative for self-evaluation of the economic diversification potential of single-industry towns was the main positive result of the program. Therefore, different stakeholders in single-industry towns need to take for themselves the main responsibility of diversifying the economies of their towns with better understanding of their comprehensive economic potential. The task is not impossible as the international experience shows that there are often at least small prospects for economic diversification in peripheral resource communities in the Arctic.

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## Notes

1. Minregion was abolished by proposal of Prime Minister Dmitry Medvedev to President Vladimir Putin at September 8, 2014 ("Rabochaya vstrecha s...", 2014). The Ministry will cease to exist until 1 December 2014 and it will shift its functions to other ministries, such as the Ministry of Economic Development (Staalesen 2014b).
2. Revda (*munitsipal'noe obrazovanie gorodskoe poselenie Revda*) is part of the Lovozerskii district. It is officially classified as an urban-type settlement (*poselok gorodskogo tipa*).
3. Staples are basic commodities, such as raw materials, which are the backbone of the economic culture of resource regions and communities (Innis 1933).

4. A Potemkin village refers to an official called Potemkin, who built fake villages along the route travelled by the Empress Catherine the Great in order to impress her with the degree of progress made in his development of the area under his jurisdiction, namely, the Crimea, in 1787. Any attempt to create a good impression for one's superiors in government by using false means is now known as a Potemkin village.

## References

- Ahrend, R. (2005). Can Russia Break the "Resource Curse"? *Eurasian Geography and Economics*. 46(8): 584–609. doi: 10.2747/1538-7216.46.8.584.
- Ahrend, R. (2008, February). Can Russia Sustain Strong Growth As a Resource Based Economy? *CEISifo Forum*. 9(2): 3–8. Retrieved from: <http://core.kmi.open.ac.uk/download/pdf/6350493.pdf>.
- Anokhin, A., Kuznetsov, S., & Lachininskii, S. (2014, March). A Spatial Study of Geo-Economic Risk Exposure of Russia's Arctic Mono-Towns with Commodity Export-Based Economy. *Journal of Geography and Geology*. 6(1): 38–45. doi: 10.5539/jgg.v6n1p38.
- Blakkisrud, H. (2006). What's to be done with the North, in H. Blakkisrud & G. Hønneland (Eds.). *Tackling Space: Federal Politics and the Russian North*. (pp. 25–51). Lanham (MD) and Oxford: University Press of America.
- Bradshaw, M. (2006). Observations on the Geographical Dimensions of Russia's Resource Abundance. *Eurasian Geography and Economics*. 47(6): 724–746. doi: 10.2747/1538-7216.47.6.724.
- Carson, D. & Carson, D. (2011, November). Why tourism may not be everybody's business: the challenge of tradition in resource peripheries. *The Rangeland Journal*. 33: 373–383. doi: 10.1071/RJ11026.
- Chernovski, P. (2012, August 21). Revda vyzhivet i bez "Russkoi Laplandii" (Revda survives also without "Russian Lapland"). *Komsomol'skaya Pravda*. Retrieved June 21, 2014 from, <http://kazan.kp.ru/daily/25935/2882850/>.
- Coates, K. (1994). The Discovery of the North: Towards a Conceptual Framework for the Study of Northern/Remote Regions. *The Northern Review*. 12/13: 15–43. Retrieved September 21, 2014 from, <http://journals.sfu.ca/nr/index.php/nr/article/viewFile/254/250>.
- Connolly, R. (2011). Financial Constraints on the Modernization of the Russian Economy. *Eurasian Geography and Economics*. 52(3): 428–459. doi: 10.2747/1539-7216.52.3.428.
- Didyk, V. & Riabova, L. (2012). *Trendy ekonomicheskogo i sotsial'nogo razvitiya Murmanskoi oblasti: rezul'taty monitoringa za dva desyatiletija rynochnykh reform* (Trends of economic and social development of the Murmansk region: results of the monitoring during the two decades of the market reforms). Apatity: Kola Science Centre RAS Publications.
- Dmitriev, I. (2011, January 29). Urbanisticheskie pylesosy (Urban vacuum cleaners). *Rossiiskie Vesti*, 2. Retrieved May 7, 2014 from: <http://rosvesty.ru/2032/politic/7279-urbanisticheskie-pylesosi/>.

- Foxall, A. (2014). We have proved it, the Arctic is ours': resources, security and strategy in the Russian Arctic, in R. Powell & K. Dodds (eds.). *Polar Geopolitics? Knowledges, Resources and Legal Regimes* (pp. 93–112). Cheltenham, UK: Edward Elgar Publishing Limited.
- Grenier, A. (2007). The diversity of polar tourism. Some challenges facing the industry in Rovaniemi, Finland. *Polar Geography*. 30(1–2): 55–72. doi: 10.1080/10889370701666622
- Grigor'ev, F. (2012, August 27). Chto sdelano za dva goda programmoi podderzhki monogorodov (What has been done during two years of the support program for mono-towns). *Ponedel'nik.info*. Retrieved June 18, 2014 from, <http://ponedelnik.info/authority/chto-sdelano-za-2-goda-programmoy-podderzhkimonogorodov>
- Humphreys, M., Sachs, J. & Stiglitz, J. (2007). What Is the Problem with Natural Resource Wealth?, in M. Humphreys, J. Sachs & J. Stiglitz (Eds.): *Escaping the resource curse* (pp. 1–20). New York: Columbia University Press.
- Innis, H. A. (1933). *Problems of staple production in Canada*. Toronto, ON: The Ryerson Press.
- Johansen, H., & Skryzhevskaya, Y. (2013). Adaptation priorities on Russia's Kola Peninsula: Climate change vs. post-Soviet transition. *Polar Geography*. 36(4): 271–290. doi: 10.1080/1088937X.2013.788577
- Jussila, H. & Järviluoma, J. (1998). Extracting local resources: The tourism route to development in Kolari, Lapland, Finland, in C. Neil & M. Tykkyläinen (Eds.). *Local economic development* (pp. 269–289). United Nations University Press, Tokyo.
- Kabysh, Z. (2010, December 21). Chtob zemlyu v Khibinakh turistam otdat'. (To give territory in Khibiny for tourists). *Murmanskii Vestnik*. Retrieved June 21, 2014 from, <http://www.mvestnik.ru/shwpgn.asp?pid=201012214757>.
- Kabysh, Z. (2013, November 22). Chto proiskhodit na «Apatite» s uvol'neniyami? (What is going on in «Apatit» with dismissals?) *Khibiny.com*. Retrieved May 8, 2014 from, <http://www.khibiny.com/news/print.php?id=51822>.
- Kaupilla, P., Saarinen, J. & Leinonen, R. (2009). Sustainable Tourism Planning and Regional Development in Peripheries: A Nordic View. *Scandinavian Journal of Hospitality and Tourism*. 9(4): 424–435. doi: 10.1080/15022250903175274.
- Keyes, R. (1992). Mine Closures in Canada: Problems, Prospects and Policies, in C. Neil, M. Tykkyläinen & J. Bradbury (eds.): *Coping with Closure: An International Comparison of Mine Town Experiences* (pp. 27–43). London: Routledge.
- KIPMM Kirovsk (=Kompleksnyi investitsionnyi plan modernizatsii monogoroda Kirovsk Murmanskoi oblasti) (2010) (Comprehensive investment plan for the modernization of the mono-profiled town of Kirovsk in the Murmansk region). G. Kirovsk. Retrieved October 7, 2014 from, [http://minec.gov-murman.ru/files/4\\_3.doc](http://minec.gov-murman.ru/files/4_3.doc)
- KIPMMGP Revda (=Kompleksnyi investitsionnyi plan modernizatsii monoprofil'nogo gorodskogo poseleniya Revda Lovozerskogo raiona Murmanskoi oblasti) (Comprehensive investment plan for the modernization of the mono-profiled town of Revda in the Lovozero district in the Murmansk region) (2010). Munitsipal'noe obrazovanie gorodskoe poselenie Revda Lovozerskogo raiona Murmanskoi oblasti. Retrieved October 7, 2014 from, <http://minec.gov-murman.ru/files/8.docx>.

- Klepikov, A. (2012, June 4). Starye vyzovy dlya novoi komandy (Old challenges for the new team). *Ekspert Severo-Zapad*, 22. Retrieved May 7, 2014 from, <http://expert.ru/northwest/2012/22/staryie-vyizovy-dlya-novoj-komandy/>.
- Kortelainen, J. & Nystén-Haarala S. (2009). Construction of Trust in Russian Mill Towns, in S. Nystén-Haarala & J. Kortelainen (eds.): *The Changing Governance of Renewable Natural Resources in Northwest Russia* (pp. 149–167). Ashgate: Aldershot.
- Kuyek, J. & Coumans, C. (2003). *No Rock Unturned: Revitalizing the Economies of Mining Dependent Communities*. MiningWatch. Retrieved June 18, 2014 from, [http://www.miningwatch.ca/files/No\\_Rock\\_Unturned%20%281%29.pdf](http://www.miningwatch.ca/files/No_Rock_Unturned%20%281%29.pdf).
- Mah, A. (2012). *Industrial Ruination, Community, and Place: Landscapes and Legacies of Urban Decline*. Toronto: University of Toronto Press.
- Marina Kovtun: Odná iz nashikh glavnykh zadach – diversifikatsiya ekonomiki Kirovska – uspeshno reshaetsya (Marina Kovtun: One of our main goals – diversification of the economy of Kirovsk – is being solved successfully) (2013, 23 December). *Murmanskii Vestnik*. Retrieved May 7, 2014 from, <http://www.mvestnik.ru/shwpgn.asp?pid=201312238>
- Mihailov, A. (2011, December 12). V Murmanskoi oblasti zatyagivaetsya sozdanie turklastera "Russkaya Laplandiya" (The creation of tourism cluster "Russkaya Laplandiya" closes up in the Murmansk region), *Rossiiskaya Gazeta*. Retrieved May 8, 2014 from, <http://www.rg.ru/2011/12/12/reg-szfo/laplandiya-anons.html>.
- Moigorod (2014). Murmanskaya oblast'. Retrieved June 22, 2014 from, [http://www.mojgorod.ru/murmansk\\_obl/index.html](http://www.mojgorod.ru/murmansk_obl/index.html).
- Pettersen, T. (2009, December 23). Village of Revda to be closed. *BarentsObserver*. Retrieved May 17, 2014 from, <http://barentsobserver.com/en/sections/business/village-revda-be-closed>.
- Pilyasov, A. (2013, June 24). Russia's Policies for Arctic Cities. *Russian Analytical Digest*. 129:2–4. Retrieved May 7, 2014 from, <http://www.css.ethz.ch/publications/pdfs/RAD-129.pdf>.
- Popov, A. (2011, April 1). Ozolotimsya loparitom? (We are getting rich with loparite?). *Murmanskii Vestnik*. Retrieved June 18, 2014 from, <http://www.mvestnik.ru/shwpgn.asp?pid=201104011272>.
- Postanovlenie Pravitel'stva Rossiiskoi Federatsii ot 21 aprelya 2014 g. N 366 g. Moskva (Decree of the Government of the Russian Federation 21 April 2014, Number 366, Moscow) (2014, April 24). *Rossiiskaya Gazeta*. Retrieved September 22, 2014 from, <http://www.rg.ru/2014/04/24/arktika-site-dok.html>.
- Pyat' mesyatshev gornyaki Lovozerskoi GOK ne poluchayut zarabotannye den'gi (The miners of Lovozerskii GOK have not received their salaries for five months) (2006, 4 September), *GTRK «Murman»*. Retrieved June 18, 2014 from, [http://www.murman.ru/news/?d=04-09-2006\\_12:42](http://www.murman.ru/news/?d=04-09-2006_12:42)
- Rabochaya vstrecha s Predsedatelem Pravitel'stva Dmitriem Medvedevym (Work meeting with the Chairman of the Government Dmitry Medvedev) (2014, September 8). *President of Russia*. Retrieved September 22, 2014 from, <http://kremlin.ru/news/46572>.
- Schmallegger, D. & Carson, D. (2010, May). Is tourism just another staple? A new perspective on tourism in remote regions. *Current Issues in Tourism*. 13(3): 201–221. doi: 10.1080/13683500903359152.

- Shirmer, O. (2008, March). Lovozerskii GOK: est' perspektiva! (Lovozerskii GOK has prospects!) Retrieved June 18, 2014 from, <http://lovgok.ru/about/press-center/27-articles/65-est-perspektivy>.
- Sivonen, Ye. (2012, August 17). Priostanovlena realizatsiya proekta "Russkaya Laplandiya" (Implementation of the project "Russkaya Laplandiya" has been suspended), *GTRK Murmansk*. Retrieved June 18, 2014 from, <http://murman.rfn.ru/rnews.html?id=980205>.
- Staalesen, A. (2014a, April 24). Murmansk fights Moscow over Transport Hub. *BarentsObserver*. Retrieved September 22, 2014, from, <http://barentsobserver.com/en/business/2014/04/murmansk-fights-moscow-over-transport-hub-24-04>.
- Staalesen, A. (2014b, September 11). Moscow kicks regional development out of ministry. *BarentsObserver*. Retrieved September 22, 2014, from, <http://barentsobserver.com/en/politics/2014/09/moscow-kicks-regional-development-out-ministry-11-09>.
- Staalesen, A. (2014c, September 17). Towards the promised land with new Murmansk railway. *BarentsObserver*. Retrieved September 22, 2014, from, <http://barentsobserver.com/en/business/2014/09/towards-promised-land-new-murmansk-railway-17-09>.
- Suutarinen, T. (2013). Socio-economic Restructuring of a Peripheral Mining Community in the Russian North. *Polar Geography*. 36(4): 323–347. doi: 10.1080/1088937X.2013.845802.
- Top-100 (2010). *Ekonomika i vremya: Murmanskaya oblast: lyudi, resursy, vozmozhnosti* (pp. 20,22) (Economics and time: the Murmansk region: people, resources, possibilities) Retrieved 19 June 2014, from <http://www.rial-pronto.ru/heap/250.pdf>.
- Toropova, I., Abdulova, I. & Makhneva A. (2007). Metodicheskii otchet po rezul'tatam issledovaniya (Methodological report of results of the study). Irkutsk: Tsentri nezavisimykh sotsial'nykh issledovaniy i obrazovaniy. (Centre for Independent Social Researches and Education). Retrieved 18 June 2014 from, <http://www.greenpeace.org/russia/Global/russia/report/2007/9/1390990.doc>.
- Travin, D. & Marganiya, O. (2010). Resource Curse: Rethinking the Soviet Experience, in V. Gel'man & O. Marganiya (Eds.). *Resource curse and Post-Soviet Eurasia*. (pp. 23–47). UK: Rowman & Littlefield Publishers.
- Tul'chinskiy, G., Leshchenko, O., Neshchadin, A., Gorin, N., Donchevskiy, G., Yeremina N., ... Prilepin A. (2011). *Modernizatsiya Rossii: territorial'noye izmerenie*. (Modernization of Russia: The Territorial Dimension). Spb: Aleteyya.
- Tykkyläinen, M. (2010). Geography and the economic evolution of the Russian North, in T. Huttunen & M. Ylikangas (eds.): *Witnessing change in contemporary Russia* (pp. 250–283). Kikumora Publications B 38.
- Tynkkynen, V-P. (2005). Ympäristökonstruktioit periferiassa ja venäläinen resurssikiros – seuraukset suunnittelulle. (Environmental constructions in the periphery and the Russian resource curse – implications for planning) *Alue ja Ympäristö*. 34(2): 3–14.

- Tynkkynen, V-P. (2007). Resource Curse Contested – Environmental Constructions in the Russian Periphery and Sustainable Development. *European Planning Studies*. 15(6): 853–870. doi: 10.1080/09654310701214549.
- V Zapolyar'e vse-taki poyavitsya «Russkaya Laplandiya», no kogda – neizvestno (In the Arctic still emerges “Russian Lapland”, but when – unknown) (2012, November 14). *B-port.com*. Retrieved September 22, 2014, from, <http://www.b-port.com/news/item/91561.html>.
- Varenik, R. (2012, August 13). Gubernator Marina Kovtun: «Russkaya Laplandiya» okazalas' profanatsiei (Governor Marina KOVTUN: «Russkaya Laplandiya» was profanity). *Komsomol'skaya Pravda*. Retrieved May 8, 2014 from, <http://www.kp.ru/daily/25930.5/2879899/>.
- Viken, A., Granås, B. & Nyseth, T. (2008). Kirkenes: An industrial site reinvented as a border town. *Acta Borealia*. 25(1): 22–44. doi: 10.1080/08003830802302869.
- Zamestitel' predsedatelya Gosdumy Valerii Yazev posetil Lovozerskii raion Murmanskoi oblasti i obsudil tam aktual'nye problemy mestnykh zhitelei (Vice-chairman of the State Duma Valerii Yazev visited Lovozerskii district in the Murmansk region and discussed topical problems of local residents) (2011, November 7). *B-Port.com (Murmansk)*. Retrieved May 8, 2014 from, <http://www.b-port.com/news/item/70345.html>.

# *Geopolitics of the Arctic Region*

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# THE ARCTIC'S NEAREST NEIGHBOUR? AN EVALUATION OF THE UK'S 2013 ARCTIC POLICY DOCUMENT

Alyson Bailes

*In October 2013 the United Kingdom became the first sovereign state not included among the Arctic Council's members to publish an official Arctic strategy document. The paper discusses the human, environmental, and commercial aspects of Arctic management in turn, and places a strong emphasis throughout on British scientific contributions. It seems to be trying to stress relevant UK competences, and keep the door open for UK firms to get their fair share in development, while assuring the Arctic powers proper that London respects their rights and will behave as a 'model' Arctic Council observer. Compared with other Arctic strategies, the UK document is rather light on security-related analysis, climate concerns and commercial facts, taking in fact a rather laissez-faire position on economic development. It says little on the European Union's role. It remains to be seen whether this presentation of the UK position is complete and compelling enough to secure the desired national influence in Arctic affairs. Much may depend on how other AC observers behave and react.*

## Introduction and Aims

The rapid progress of climate change and its impact on land and sea conditions in the circumpolar North has created new policy challenges for states both in the Arctic zone<sup>1</sup> and beyond it. Between 2008 and 2012, the governments of all eight states who are members of the Arctic Council (AC)<sup>2</sup> published documents described as 'strategies' (or the equivalent), analyzing the issues and spelling out their intentions for handling them.<sup>3</sup> These strategies, like the 'security strategies' or other single-issue strategies issued both by nations and institutions in the post-Cold War period,<sup>4</sup> typically serve a combination of purposes. In contrast to former times' strategic planning carried out in secrecy, they offer a transparent declaration of intent, usually projecting a message of responsibility and readiness for international cooperation – though they may also warn of resolve to protect national interests. Domestically, they signal the government's concern and competence and seek to coordinate the efforts of the various departments of state, as well as providing guidance for non-state actors. In countries that have been less involved hitherto in

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Arctic governance or where only a limited part of the population lives in the High North, the educational motive towards their own publics may also be strong.

The world's largest powers outside the Arctic, and the larger states of Europe, have also shown a growing interest in Arctic developments. As many as twelve have now been accepted as Observers within the AC system,<sup>5</sup> allowing them to participate on carefully circumscribed conditions that were elaborated by the member states in 2011.<sup>6</sup> Some of these interested 'outsiders' have begun to make their own Arctic policy statements, or at least to publicly debate the issues and their own particular interests.<sup>7</sup> However – and understandably – they have been slower than the AC member states to formalize their overall national strategies.<sup>8</sup> Following the eight full members, the first government to issue such a document was in fact that of the Faroe Islands, an autonomous nation within the kingdom of Denmark, in April 2013.<sup>9</sup> When the UK's Foreign and Commonwealth Office (FCO), acting on behalf of the whole Government, published the document 'Adapting to Change – UK policy towards the Arctic' on 17 October 2013,<sup>10</sup> the latter thus constituted the first comprehensive statement from a sovereign state outside the circumpolar region proper. Hard on its heels, however, in November 2013 came a 20-page policy statement by the German Foreign Ministry on behalf of the German Federal Government;<sup>11</sup> and France is now working on a similar document.

The purpose of this study is to present and evaluate the UK's Arctic policy document, starting with the longer-term background of UK involvement, and the pre-history of the present paper (the second section). The third section summarizes and comments on the various parts of the text. In the fourth section, the UK statement is viewed in a comparative light alongside the ten other national strategies now available, and some larger analytical and normative issues are raised. The fifth section offers brief conclusions.

### **The UK and the Arctic: From Historic Times to 2013**

Even leaving aside the semi-mythical tales of monks visiting Thule in the dark ages, the British connection with High Northern latitudes goes back far into history and has at least three main dimensions. Probably foremost in the popular mind is the British role in Arctic exploration, which at times had had commercial or even strategic motivations but has been most strongly linked with the theme of discovery and scientific research. British expeditions began in the 16<sup>th</sup> century, probing both Westwards (Frobisher) and Eastwards into the White Sea (Willoughby and Chancellor). The 19<sup>th</sup> century saw UK explorers thronging the approaches to the NorthWest Passage (NWP), including the famous tragedy of Sir John Franklin's expedition and the useful discoveries made by some of those searching for him. In the twentieth century Wally Herbert became the first solo traveller to reach the North Pole and perhaps (depending on one's position on the Peary and Cook claims) the first person to reach it at all. More recent British adventurers like Ranulph Fiennes have gained their fair share of international attention. Organized British science has also been strongly engaged, with the principal clusters of expertise at the Scott Polar Research Institute (founded 1920)<sup>12</sup> and the British Antarctic Survey (thus named since 1962, formerly the Falkland Islands Dependencies Survey),<sup>13</sup> which actually cover both poles; but many other scientific agencies and programmes have been engaged in (for example) climatic and atmospheric, marine and other environmental, social and anthropological research, making use among others of a permanent British base on Svalbard.<sup>14</sup>

The second dimension is one that the UK has less cause to boast of: a prominent and sometimes leading role in raiding the High North's natural resources. In the early 17<sup>th</sup> century, British whalers were among those heading the race to hunt bowheads around Spitsbergen (Svalbard) – an archipelago that King James I for a while claimed as British territory. When the industry's focus shifted to Greenland and points West, UK-based vessels and companies again took a large part, alongside the Dutch and others, in whaling so intensive that it almost exterminated several species. The last British whalers left the area just before the First World War. More constant and still continuing has been the interest of the British fishing industry – particularly fishermen from England's East coast, Scotland and the Northern isles – in the cod, herring and other marine riches of High Northern seas. In the 15<sup>th</sup> century, English and German ships fought over the Icelandic cod harvest; the 20<sup>th</sup> century saw three UK-Iceland Cod Wars, and in 2013 a new dispute began with Scotland and Iceland (among others) on opposite sides, over quotas for an apparently Northward-migrating mackerel stock. A further 'dark side' of the British relationship with High Northern resources, at least in Nordic eyes, is the release of radioactive contaminants (principally technetium) from the Sellafield nuclear reactor on the Cumbrian coast, the results of which have been traced from the Irish Sea as far as the Barents Sea. This has long caused concern notably in North-West Norway and led to official protests (right up to the 2000s) from several Nordic ministers.<sup>15</sup>

In the latest surge of interest in exploiting new oil and gas fields exposed by melting ice, British firms have perhaps not had the highest profiles but are determined not to be excluded. The British flagship company BP has been dogged by a dispute with its Russian partner Rosneft over ownership of the subsidiary TNK-BP; but when Rosneft finally purchased the latter in March 2013, it offered BP a fresh chance of cooperation on other Arctic projects. Meanwhile, BP's Canadian subsidiary does co-own licences for offshore exploration in the Beaufort Sea and Eastern Canada, as well as shale oil/gas extraction on land. In July 2013 three out of six of the UK's main energy companies – Centrica, E.ON and RWE – were reported to have secured licences for offshore exploration fields including some considered sensitive by Norwegian environmental agencies.<sup>16</sup> Headlines of this kind help to explain why British companies have been among the targets of Greenpeace warnings about Arctic pollution, and why some British MPs (see below) have suspected excessive commercial influence behind the UK's Arctic policy-making.

Third and not least is the military role that the UK has played in the Arctic, both for its own direct defence and as a member of Western alliances. The icy seas saw acute naval competition in both World Wars as Germany sought to block Atlantic supply and reinforcement routes, and British troops occupied Iceland from 1940-41 and the Faroe Islands from 1940-1945 to preempt German control. As the Second World War ended, British diplomacy smoothed the path of Norway, Iceland and Denmark into the new NATO alliance, and the Greenland-Iceland-UK (GIUK) Gap became a strategic focal point as the route that any major Soviet naval break-out would have to take. While British nuclear, naval and naval-air assets were the most obviously relevant to countering this danger, from 1960 the UK also made an essential contribution to the ACE Mobile Force (Land) tasked to bring rapid reinforcement to NATO's Northern flank. British troops regularly carried out cold-weather exercises in Norway in that context, and continue to exercise there and in Canada despite the AMF(L)'s disbandment. Throughout such changes, Britain has maintained its general commitment to North European defence, as shown

by its affiliation to earlier Nordic defence cooperation schemes such as NORDCORP, its stake in the current Nordic framework organization NORDEFECO,<sup>17</sup> and frequent joint participation with the Nordics in High Northern force exercises (eg Arctic Challenge, which focused on air patrolling between Finland, Norway and Sweden in September 2013). Bilateral ties are also strong, as reflected in the intensifying UK/Norway defence cooperation cited by Depledge and Dodds as a significant part of the background to the UK Arctic ‘strategy’.<sup>18</sup> Last and not least, UK force representatives were invited to the Helsinki meeting in 2013 of the Arctic Security Forces Roundtable, an informal group first formed by the eight Arctic Council states to discuss topics of search and rescue and other military inputs to emergency management.<sup>19</sup> While Nordic governments with very rare exceptions<sup>20</sup> have welcomed this British commitment to their region’s defence, it has not failed to raise its share of environmental concerns, notably after an incident in 2007 when a British submarine suffered an explosion when patrolling near the North Pole and had to surface through the polar ice.<sup>21</sup>

The sum of these factors may seem to raise the question why a UK ‘strategy’ document on the Arctic was not produced much earlier. Indeed, the idea of such a publication was mooted at least five years before the present paper appeared. From the start, it involved close consultation especially with the British Antarctic Survey (which covers both poles) and the polar scientific community in general. While polar experts at the Foreign and Commonwealth Office did the drafting, the Department of Energy and Climate Change, the Department of the Environment, Farming and Rural Areas (DEFRA), the Department of Business and Innovation Skills, the Department for Transport, the Department for Education (in the context of its science responsibilities) and the Ministry of Defence were particularly important stakeholders.

The document was, further, designed for presentation to Parliament, where the issues covered had been in contention between MPs and ministers even before its appearance. During a series of hearings on Arctic developments, Members of Parliament’s Environmental Audit Committee had questioned the consistency of the UK’s position in endorsing tough climate-related measures while also countenancing major new oil and gas extraction in the High North. In its report of September 2012, ‘Protecting the Arctic’,<sup>22</sup> the Committee called for a moratorium on new drilling in the High North at least until a strong regulatory and security framework could be put in place to deal, especially, with the risk of accidental pollution. It questioned the logic of opening up new regions of supply when climate policy demanded a move away from fossil fuels. Caroline Lucas, the Green Party’s representative on the Committee, and other members challenged the government to stop uncritically supporting British firms and to lobby for an Antarctic-style protected Arctic zone.<sup>23</sup>

The official UK strategy document took account of, but – as we shall see – was not notably swayed by such pleas. Its public launch on 17 October was presided over by Mark Simmonds MP, Parliamentary Under-Secretary of State at the FCO, who also authored its Foreword. Simmonds was effectively the most junior Minister in the FCO team but held responsibility at the time for the polar regions as well as Africa, the Caribbean, and generic issues like climate change, energy, and conflict. In public comments he described the Arctic as ‘one of the most dynamic and influential regions of the world’, while the Government’s Science and Universities Minister, David Willetts, stressed the challenge for and importance of science in seeking to understand Arctic developments.<sup>24</sup>

## **The Policy Document**

The Foreword to 'Adapting to Change' begins the presentation of Arctic issues with climate change, but quickly segues to the new commercial opportunities arising. As regards the British national starting-point, a careful balance is drawn. The UK is not an Arctic state, but does claim to be the Arctic's 'nearest neighbour' – since the northern tip of the Shetland Isles falls only 400 kilometres short of the Arctic Circle. It respects 'the sovereign right of the Arctic States to exercise jurisdiction over their territory', and the interests of all people living in the Arctic: but it has a claim to be involved firstly in the light of its own national interests and competences (including possible 'leadership' in some fields), and secondly because 'what happens in the Arctic has a global impact'. Overall, the document commits the UK to work 'with international partners to balance the needs of human development with environmental protection'. It confirms that the principles and actions laid down will be binding on 'the whole of Government' in the UK. (Later, it is explained that the document will be open to review with no fixed timetable, and is designed to encourage public debate.)

The rest of the 33-page paper falls into four main sections. Its introductory part comprises a sketch of what is happening in the present-day Arctic and a chapter on 'the UK's approach'. The former covers the obvious ground on climate change and emergent commercial possibilities, but includes some interesting nuances, stressing for example that the Arctic has been linked with the world both by trade and by the effects of pollution since Roman times, and that fossil-fuel exploitation, fishing and tourism have already been expanding there since the 1960s. Current changes are driven substantially by pollution from outside the Arctic but in turn can affect non-Arctic regions through climatic feedback effects, new energy and rare earth supplies, new shipping routes and further growth in tourism. These points are clearly designed to bolster the legitimacy of a non-Arctic state's involvement, and recall arguments used lately by Chinese representatives among others.<sup>25</sup> Further, the document stresses that the Arctic is not a homogeneous region and contains many different sets of climatic and social conditions – perhaps an indirect way of relativizing the issue of indigenous peoples. Finally, this scene-setting section recommends an Arctic information website provided by British academic institutions for secondary schools.<sup>26</sup>

The UK's policy 'vision' is summarized thus:

The UK will work towards an Arctic that is safe and secure; well governed in conjunction with indigenous peoples and in line with international law; where policies are developed on the basis of sound science with full regard to the environment; and where only responsible development takes place.

More details are provided in sections sub-titled 'respect', 'leadership' and 'cooperation'. The first of these again states the UK's respect for the rights of the Arctic States, the rights of local peoples, and the environment (in that order), but again emphasizes that the Arctic is far from a 'pristine wilderness'. Environment and development need not form a dichotomy if good 'stewardship' is exercised, 'while providing opportunities for growth and prosperity'. Under 'leadership', the Arctic States are once more accorded the first responsibility for peaceful and well-balanced development in the Arctic; but the UK lays a claim to be a leading actor in

analyzing and reacting to climate change, and to have expertise in its governmental, scientific, industrial and NGO (non-governmental organizations) sectors that can help with Arctic solutions. Under ‘cooperation’ there is a short statement of the UK’s intent to go on working together with the Arctic States, indigenous peoples ‘and others’: there are no references (at this stage) to specific institutions and their roles.

The introductory part of the document then closes with three pages of information on the UK’s role in Arctic science: a choice that becomes understandable when we are told that this is an area in which ‘the UK excels and has an outstanding international reputation’. Details are given of the numbers (more than 500) of UK specialists working and publishing on Arctic issues; UK national funding for Arctic research (over £50 million in the last decade); the UK scientific base on Svalbard; UK assets (ships, aircraft etc.) available for polar research, and the relevance of British Antarctic expertise. The importance of science as a basis for understanding and policy is stressed, and it is said that this work will remain ‘central’ to the UK’s contribution and its interaction with other Arctic actors.

The rest of the document has three parts dealing respectively with the human, environmental, and commercial dimensions. Perhaps significantly, they receive four, six, and eight pages respectively.

### *Human Dimension*

Belying its title, this section serves mainly to explain the UK’s stance on Arctic security and governance, with a view to an Arctic that is ‘safe and secure; well governed in conjunction with indigenous peoples and in line with international law’. First, the importance of maintaining security and stability is stressed and the UK pledges itself to contribute through various local/bilateral defence and security cooperation arrangements – including visits for military cold-weather training – and the Arctic Security Forces Roundtable forum (see above). It is said that ‘the role of NATO will remain central’ –without further explanation. When it comes to general governance solutions, the coastal Arctic states are first mentioned and it is noted that in the Ilulissat declaration of 2008,<sup>26</sup> they committed themselves to peaceful solutions within international law for all outstanding territorial claims: an approach that the UK supports. The Arctic Council is then commended for successfully promoting cooperation especially on ‘environmental and sustainable development issues’. The UK has used its AC Observership actively, especially in order to participate in the Council’s six working groups (a whole page, p.15, is later devoted to examples of this from 2004–2013). When issues arise that have repercussions outside the Arctic, the UK recommends addressing them through dialogue with interested powers – who can be engaged both through the AC itself and ‘other fora’ – and notes the relevance of the UN Convention on the Law of the Sea (UNCLOS). ‘The UK considers moving towards a specific Arctic Treaty at this time neither necessary nor beneficial.’

The section goes on to provide details (with a map) of the indigenous peoples of the Arctic, and to note that they vary both in their views and in their opportunities to participate in local decisions. The UK will uphold their right ‘to be heard at the decision-making level of the Arctic Council’. After providing examples of UK work within AC working groups (as mentioned), the section concludes with an explanation of the role of the Scott Polar Research Institute, and a case-study where one of its senior researchers (actually a Canadian) worked with Inuit in Igloodik

to establish how indigenous communities could best interact with and benefit from independent scientific activities.

This section is interesting both for its emphases and its omissions. It aligns the UK with all AC states in rejecting an Arctic Treaty, in identifying the AC as the central place to seek Arctic solutions (also in dialogue with outsiders), and in noting the importance of UNCLOS – on which the document later expands. While the UK itself has no sovereign rights or territorial claims to protect in the Arctic, the forthright references to military activity and the role of NATO<sup>28</sup> bring London in line, notably, with Denmark's stated strategy for defending its Arctic possessions<sup>29</sup> as well as with some of the more recent US policy documents.<sup>30</sup> By praising the Ilulissat statement the UK also implicitly recognizes the special status under UNCLOS of the five 'coastal' (or 'littoral') states – Canada, Denmark by virtue of Greenland, Norway, Russia and the US. The other AC member states (Iceland, Finland Sweden) have complained when these five met separately, at Ilulissat and elsewhere.<sup>31</sup>

On the other hand, the document does not directly discuss the risks of and safeguards against conflict in the Arctic, as does for instance the recent Faroese strategy; and it fails to highlight – either here or, with only slight exceptions, later – the non-military security threats of accidents and oil spills, natural disasters, and possible non-state attack (terrorism, sabotage, violent protest). The AC has in fact devoted particular attention to civil emergency response in recent years, leading to the achievement of two legally-binding agreements among member states on Search and Rescue and major oil-spill handling respectively.<sup>32</sup> A further gap is any substantive discussion of the societal, developmental, and health challenges facing many indigenous groups, and indeed the urbanized Arctic populations. As for institutional omissions, the British document does not mention any general role for the European Union (EU), despite the fact that the latter has issued at least one set of (unanimous) Ministerial decisions outlining EU Arctic policies and contributions in the relevant fields,<sup>33</sup> and is directly engaged in the European Arctic through its Northern Dimension programme.<sup>34</sup> Even the more detailed later sections of the paper will mention the EU just three times in passing, in connection with its anti-sealing and fisheries policies and its research projects (see below). One other apparent omission will be remedied, however, in those sections when the important role of the global International Maritime Organization (IMO) in regulating Arctic shipping is acknowledged.

### *Environmental Dimension*

Starting with another reference to the importance of good science, this section first introduces the UK's general position on climate change including support for a global climate treaty, and mitigation efforts including reduced emissions where the UK regards itself as a leader in setting tough national targets. On Arctic issues, the document urges further action on black carbon (soot) emissions – a topic on which the AC set up a working party in 2013;<sup>35</sup> discusses action to protect biodiversity (including Arctic bird species that also visit the UK) and to preserve marine species *inter alia* by Marine Protected Areas; and endorses a moratorium on commercial whaling and the EU ban on trade in seal products (with exceptions for indigenous subsistence sealing).

A separate sub-section discusses possible environmental risks from new commercial activity. Making a point that will recur in the text, it stresses that 'Decisions on whether to proceed with exploration and extraction projects are commercial matters for operators to make in the light of

prevailing market and regulatory conditions.’ Regulatory frameworks will be set first and foremost by the states in whose jurisdiction the activity occurs. However, the UK will give advice where asked and will press for ‘the highest environmental and drilling standards in the Arctic, as elsewhere’ (an implicit reference to expertise gained in the North Sea). It will support stronger anti-pollution standards for shipping in the Arctic – within the IMO framework – ‘where scientific evidence demonstrates’ a practical need for this. Future Arctic fisheries should be handled on a precautionary principle, with especial prudence where the prospects for a given stock are not clear: decisions should be taken (in the UK’s case, through the EU) on scientific evidence and with a view to sustainability. The section ends with another page of case-studies on British inputs to climate science, mentioning among others UK expertise on ice observation and the study of ocean circulation, and UK leadership in the EU’s forthcoming ICEARC research project.

While prosaically expressed without talk of extreme climate scenarios (or indeed, of existing and ongoing environmental damage), this section situates the UK in a responsible European mainstream as regards the mitigation of climate change and concern for biodiversity. It implies support for further regulation of Arctic shipping (a topic currently on the table in the IMO) and for prudent management of new Arctic fisheries, where EU documents have mooted a moratorium.<sup>36</sup> Again, there is a marked emphasis on science; but this also implies reservations about more extreme conservationist positions not backed by specific evidence of environmental risk. Critics of the document’s pro-business bias could point, further, to the *laissez-faire* tone of the reference to business development, which by emphasizing national jurisdiction seems to be coming down against new international rules – even of a business-generated and voluntary nature.<sup>37</sup>

### *Commercial Dimension*

The statement that decisions on business development will be taken by companies themselves, and that regulation will be provided nationally, is repeated twice more on the first page of this section. The UK’s approach is defined as ‘to support legitimate and responsible business activity’, since ‘people in the Arctic, as elsewhere, have a right to pursue economic prosperity’. Companies should be encouraged to discuss the issues themselves with the AC and other stakeholders, and a case-study explains how a UK-based firm has worked with local reindeer-herders while developing a mining project on the far North of Finland.

The document then identifies energy, shipping, tourism, fisheries, and (more unusually) bio-prospecting as key commercial sectors. The energy page reduces to a single argument: that the world, including the UK, will need more gas imports in future, so the UK should support further Norwegian production in the High North (and help finance new infrastructure connections, as necessary). On shipping, the UK strongly supports taking any necessary measures within the IMO and on the basis of UNCLOS, and rejects any ‘fundamental changes to existing regimes’. The UK hopes that its ports, shipping companies and ‘maritime cluster’ can share in any profits from new Arctic shipping routes, and the government will consider whether to do or propose anything particular in this context. As for safety and environmental risks linked with shipping, the UK ‘will play a leading role in the development of the mandatory Polar Code’ – actually scheduled for discussion at the IMO in 2014 – ‘so as to ensure it comprehensively addresses safety and environmental issues, and press for its early adoption’. Here the document does finally

mention the AC's Search and Rescue agreement, though not its more recent agreement on oil-spills. It commits the UK to seek membership in the Arctic Regional Hydrographic Commission so that its hydrographic expertise can be applied.

Recognizing a likely increase in Arctic tourism, the UK will refine its system of online advice to travellers about hazards, and will discuss safety issues with the industry including arrangements for vessels to help each other. The short section on fishing repeats the importance of scientific study and expresses support for the system of Regional Fisheries Management Organizations (RFMOs) which should be best placed to ensure responsible and sustainable fishing. On bio-prospecting, the sole point covered is the UK's respect for the Nagoya Protocol – which deals with local sharing of the benefits of any new discoveries – and its intention to make sure its companies conform with it. The section closes with general remarks about the range of British commercial expertise, as seen *inter alia* in the fact that Lloyds of London launched a report offering advice for business in the Arctic in 2012. It ends with yet another advertisement for British science: a 'box' describing the British Antarctic Survey's leadership in the 'Polar View' consortium providing real-time information on the state of polar ice.

Nothing in this section could be construed as supporting *ir*responsible and *non*-sustainable commercial development, but the environmentally-motivated criticisms of it are also possible to understand. First, the UK stance on new regulation is relatively conservative, explicitly accepting only a new Polar Code for shipping, while it also explicitly rejects 'fundamental changes' to the rules either for shipping or fisheries. The idea of business self-regulation, or even the existing concept of Corporate Social Responsibility, remains absent. Perhaps more disturbing, however, for some readers will have been the general *laissez-faire* attitude implied and the relative shallowness – or at least, selectivity – of the analysis. The limitation of the energy discussion to gas, to offshore production, and to Norway (where the government actually decided just before publication of the UK document to halt exploration in a number of sensitive offshore fields<sup>38</sup>) avoids tackling more contentious dimensions of the topic, while the tourism and bio-prospecting sections also skirt the edges of the issues. (Bearing in mind the troubling experiences and hot debates generated by Antarctic tourism,<sup>39</sup> is an improved advisory service really the key to managing tourist access to the Arctic?). No facts are provided on the actual involvement of British companies, for instance, in oil and gas prospecting, in shipping operation and insurance, or in processing Arctic investments generally, while the selected case-studies are less than impressive.<sup>40</sup>

## Evaluation: Comparisons, Concepts and Norms

When attempting a broader evaluation of the UK paper, perhaps the first question should be: is it a 'strategy'? In a perceptive comment on the day of its publication, Professor Klaus Dodds from the Royal Holloway blog team on Geopolitics & Security<sup>41</sup> suggested that the looser term 'policy framework' was chosen in order to de-dramatize the statement and in particular, not to alienate states within the Arctic who might be sensitive about 'outsider' involvement. The explanation is compelling given that the form, length and content of the paper are close enough to those of other European 'strategies' to have merited attaching the strategy label to it if so wished. (There have been cases, notably in Swedish policy-forming, of avoiding the s-word in

fear of its militaristic connotations: but British attitudes to the military are sufficiently different to make that explanation implausible.)

Drawing on Dodds' hypothesis, the general signal sent by the UK document may be analyzed at two levels – identity definition, and the politics of participation. Several authors have noted how the strategy documents of AC members all stress their owners' identity as 'Arctic nations': even the Faroes make the claim (far-fetched in strict terms of physical geography) to be 'a nation in the Arctic'.<sup>42</sup> Clearly, a country lying beyond even the most widely-drawn depictions of the Arctic proper<sup>43</sup> cannot take this line, but must choose between justifying its interest on the basis of global implications, practical links of cause and effect with Arctic developments, and/or shared institutional responsibility. The UK document indeed presses all these buttons, albeit limiting the institutional references to NATO and UN agencies: but it also (already in its title) defines a distinct category of Arctic 'neighbour'. On the one hand this is a strong, simple claim that other larger EU members would find it hard to match;<sup>44</sup> on the other it accepts clear differentiation from the Arctic states proper, making a name weaker than 'strategy' for the policy paper appropriate.

At the level of institutional politics, Dodds is clearly also right in seeing the UK as trying to frame itself as a 'model' AC observer. The publicity and controversy surrounding the six would-be observer nations<sup>45</sup> who were eventually admitted at Kiruna in May 2013 (see above) also impacted upon existing holders of that status. The new rules framed in 2011 made clear that observership was not 'permanent' but conditional, and might be called in question if a nation failed to demonstrate its practical interest in the Arctic (e.g. by contributions to AC work) or to respect the jurisdictions and rights of full AC members. It can be no coincidence that, five months after Kiruna, the UK policy document went out of its way to meet both these points by its massive stress on British scientific inputs (including those to AC working groups), and its almost comically frequent assurances of 'respect'<sup>46</sup>. Indeed the whole timing of the paper's appearance makes most sense if it was held back – in face of rising parliamentary, business, and public interest – until it became clear what posture was the 'safest' for an observer nation to adopt. The resulting message is most obviously directed to the Arctic Eight themselves, conveying that the UK is no threat and there will be no down-side to accepting British (notably, scientific and commercial) contributions – a signal further underpinned by the paper's prudent, mainstream treatment of key issues like the idea of an Arctic Treaty. However, given that the group of AC observers is starting to be institutionalized in its own right (informal meetings of the twelve with the AC Chair and Permanent Participants are now held annually under the 'Warsaw process'<sup>47</sup>), the UK document might also imply a bid for some kind of trail-blazing role within that group. How other observers react will be interesting to watch.

### *Comparison of Content*

A comparison of existing Arctic strategies, as in Figure 1 below, reveals much overlap in their major themes. This is understandable not just because of the increasingly clear and homogeneous international discourse on the matter, but also because the strategies were produced in sequence, so that each could build on its predecessors. However, interesting distinctions also emerge, principally between the five coastal states whose texts must first and foremost buttress their claims to sovereignty, and those nations who lack an Arctic coastline (and in the Faroes' case, also full statehood). The latter tend to focus more narrowly on

economic, environmental and human issues, though they may also highlight non-military, trans-national security challenges such as the shipping disasters that loom large in the Faroese document. Along this spectrum the UK strategy largely, and logically, lies closer to the latter group, notably in its dual focus on environmental responsibility and sharing the economic spoils. Where it diverges from the ‘non-coastal’ model is in its forthright treatment of the military dimension (rather than, for instance, merely calling for ‘peaceful’ Arctic development): but this could be explained variously as a further claim to meaningful Arctic involvement, or a further expression of responsibility (since UK forces also boost neighbours’ defence).<sup>48</sup> Similar motives, combined with the play of institutional influences during drafting, can explain the abnormally large coverage of science.

**Figure 1:** Priority Themes of Arctic/High Northern Strategy Documents

*Adapted and expanded from Lassi Heininen, ‘Arctic Strategies and Policies – Inventory and Comparative Study’, Northern Research Forum 2011 (updated April 2012), available at <http://www.nrf.is/arctic-strategies>*

<b>Arctic Council Member States</b>	<b>Sov/Sec</b>	<b>Econ/Trans</b>	<b>Envir</b>	<b>Man/Res</b>	<b>Human/Ind</b>	<b>Sci</b>
Canada	x	x	x	X		
Kingdom of Denmark (2011)	x	x	x	X	X	x
Finland	/x	x/x	x	(x)	/x	
Iceland	/x	x/x	x	x/x	x	x
Norway	x	x	x	x/x	/x	x
Russia	/x	x/x		x/x	/x	(x)
Sweden	/x	x	x	/x	x/x	(x)
USA	x	x/x	x	x/x		x
<b>Other States and Entities</b>						
European Union 2012		x	x	X	x	
Faroe Islands 2013		X	x	x/x	/x	x
<b>UK 2013</b>	<b>/x</b>	<b>x/x</b>	<b>x</b>	<b>x/</b>	<b>(x/x)</b>	<b>x</b>
Germany 2013	/x	x/x	x	x/	(x/x)	x

Key to abbreviations:

Sov = Sovereignty

Sec = Comprehensive security

Econ = Economic development (inc. natural resources)

Trans = Transportation  
 Envir = Environment  
 Res = Rescue and search

Human = Human dimension  
 Man = Management and governance  
 Ind = Indigenous peoples

A further contrast is found between the larger or more influential states (including Norway) that can take their role and voice in Arctic management for granted, and smaller ones (notably Iceland and the Faroes) whose strategy papers focus largely on how to get their views heard. The latter start by stressing their Arctic identity and stakeholdership – see above – but also voice strong support for institutions where even the smallest can participate, and criticize fora where they cannot. The Finnish strategy of 2010<sup>49</sup> goes particularly far in pushing the EU as a vehicle for Nordic and European engagement. Where does the UK paper lie in this spectrum? It reflects the novel situation of a European observer state that is ‘large’ *per se* (including in its economic, military and scientific impact on the High North), but has a relatively ‘small’ foothold in formal Arctic governance. The UK’s chosen tactics in this situation seem to be to focus mainly on establishing stakeholdership in practical terms, while commending certain fora (the global ones, AC Observership and NATO) where the UK is present and comfortable, but *not* attacking the more exclusive groups (the five littoral states). The German document of November 2013 makes very similar choices, albeit playing up the EU role - as already noted – possibly to help make up for Berlin’s greater geographical distance.

### *Balance and Strength*

Like any published strategy document, the UK paper had to balance between the needs and expectations of different audiences, as well as between the claims of different Arctic challenges. The fact that pro-environment parliamentarians, and also the liberal media,<sup>50</sup> found it disappointing cannot have surprised its drafters, but was rather the price for two conscious choices the latter appear to have made. The first was to focus on smoothly inserting the UK into the discourse and practice of Arctic governance as defined by the eight AC states themselves. The second was to select topics where the UK had expertise to offer and a role to play, rather than highlighting such general and altruistic concerns – always liable to irritate certain AC members – as the plight of indigenous peoples or the danger to Arctic wildlife. Such choices would make sense in a document tailored to protect UK interests in the tactical situation of 2013, five months after Kiruna, with competition in the offing from six new AC observers and with the EU’s place in governance still moot. In addition, even if the strategy paper offered little detail of the ambitions of British firms like BP, its clear intent was to keep the way open for them to play an officially approved role, i.e. by rejecting any regulatory solutions that would narrow the space both for Arctic commercial development and free competition.

Clearly, the papers’ drafters could not please everyone; but one may still ask whether they created the best and strongest instrument imaginable for a coherent, and internationally respected, UK Arctic policy. Here the extreme prominence given to science could – for example – be questioned. While the document presents scientific knowledge as fundamental to environmental and fisheries management, it is less clear how it boosts British chances of profiting from new economic activity generally, and that linkage can anyway hardly be explored in the policy paper given the latter’s coyness (see above) over engagement in some key sectors. One could again argue that what is said about defence is either too much (because it might jar with opinion, especially when placed under the Human Dimension!), or too little, given that it is one of the

UK's strongest tools and also a major variable – will this activity expand as the UK gives higher priority to Arctic security, or decline for economic reasons? A more general weakness, if the paper was meant to fulfil some functions of a 'strategy' without the name, lies in its lack of any explicit discussion of or blueprint for ways to mobilize the various British actors involved. The US and Russian strategies - admittedly facing bigger coordination challenges - devote much space to 'who does what', while the smaller nations Finland, Iceland and the Faroes also explicitly address coordination in their strategies, and the Faroese paper includes interesting thoughts about optimizing non-state contributions.

The general tone of the document also has a bearing on its adequacy. It has been suggested above that the treatment of new economic activity is too 'light' or *laissez-faire* in nature. While critics have seen it as underplaying the ecological impact of business (to which might be added social implications and other aspects of human security), the British document also arguably says too little about regulatory possibilities including self-regulation, and the accompanying safety risks (accidents, pollution, fragile infrastructures etc). Yet more nationalistic observers might also ask if it does enough to assert British interests and to signal where the UK must take a distinctive stand. By comparison, the German strategy has robust sections insisting on 'freedom of shipping' (where it echoes EU language) and 'freedom of research'.<sup>51</sup> All these particularities of the British document could be explained by its tactical aim as posited above, namely to conciliate the Arctic states (especially the larger ones) and project a 'model observer' image. But while they may help the UK to go on playing its role in the AC (and bilaterally) without making enemies, they have clearly not enhanced the UK image with all important constituencies, and may fall short of boosting the UK's actual *influence* on Arctic outcomes.

A final question is prompted by the planned referendum on Scottish independence in September 2014:<sup>52</sup> does the UK strategy adequately reflect the interests of Scotland or indeed, any other part of the realm with particular Arctic connections? Obviously, it is Scotland that lies nearest the Arctic and would be the first port of call for any new shipping routes transiting the North Sea. It is more affected by patterns of Arctic weather and is more likely to be involved (including its rescue services and the armed forces stationed there) in any major civil accident in Arctic waters. Some Scottish economic interests are also particularly strong: a 2004 report found that with less than 9% of the UK's population, Scotland lands 62% of its fishing catch.<sup>53</sup> Conversely, Scotland has societal and human knowledge, notably of the impact of nearby offshore oil/gas development on remote areas (like Shetland), that could be of interest to nations like the Faroes, Iceland and Greenland now starting to develop their own fields. None of these points is made in the 2013 UK document, and there seems to be some merit in the discussion – launched in academic circles,<sup>54</sup> but also under consideration by the devolved government authorities in Edinburgh – over whether Scotland can and should (under any constitutional scenario) develop an Arctic strategy of its own.

## Conclusions

The UK Arctic policy document of October 2013 adds a new shade to the rainbow of existing Arctic strategies and strategy-equivalents, casting into clearer relief some distinctions among the states involved. Alongside the existing categories of littoral states, Arctic Council members, and interested great powers, it creates a self-styled class of 'neighbour' – a neighbour, in this case,

with ties to the Arctic past, present and future going beyond mere proximity. How, then, does a neighbour define its place, entitlement, and goals in the growing and increasingly complex and sensitive Arctic ‘business’?

The current UK answer seems to be to demonstrate engagement, illustrate present and future usefulness, and conciliate the major Arctic stakeholders at state and institutional level. This is certainly a necessary minimum, or starting point, for any state finding itself in the corresponding position. The more critical questions emerging above – and which cannot be fully answered until more is known of the reception and impact of the UK paper – are whether the UK has correctly framed and balanced these three basic objectives, and whether they are sufficient (and strongly enough expressed) to safeguard its national stake in the Arctic game.

The UK paper calls itself a ‘living document’ designed both to stimulate and to reflect debate, and it is open to review at any time. It will be discussed with partners abroad and at relevant public conferences, and while no formal debate was scheduled in Parliament on the strategy as such, the House of Lords is now studying the issue<sup>55</sup> and MPs may always revert to the question themselves. If reactions are lively, the authorities have hinted that a new version could be considered even within a year or so. The above analysis suggests that some adjustments may indeed be in order, both in the balance of issues covered and in the tone. How the British authorities will proceed depends on many possible factors; but the launch and reception of ‘strategies’ (whether so-named or not) by other observer states will surely be among the influential ones.

## Notes

1. The present author defines this zone not strictly by the geographical Arctic Circle, but in climatic, economic and societal terms corresponding to the usage of the Arctic Council itself.
2. The membership of the AC also includes six indigenous peoples’ groups as permanent participants.
3. The nations concerned are Canada, Denmark, Finland, Iceland, Norway, the Russian Federation, Sweden and the United States. On the substance of their strategies see Alyson JK Bailes and Lassi Heininen, *Strategy Papers on the Arctic or High North: a comparative study*, Occasional Paper of the University of Iceland Institute of International Studies, 2012, available at [http://ams.hi.is/sites/ams.hi.is/files/strategy\\_papers\\_-\\_pdf\\_-\\_singlepage.pdf](http://ams.hi.is/sites/ams.hi.is/files/strategy_papers_-_pdf_-_singlepage.pdf).
4. Alyson JK Bailes, ‘Does a small state need a strategy?’, Occasional Paper of the University of Iceland Centre for Small States, 2008, available at [http://stofnanir.hi.is/sites/files/ams/Bailes\\_Final\\_1.pdf](http://stofnanir.hi.is/sites/files/ams/Bailes_Final_1.pdf).
5. They are France, Germany, the Netherlands, Poland, Spain, the UK, China, Italy, Japan, Republic of Korea, Singapore and India, of which the last six were accepted at the AC Ministerial meeting of May 2013 in Kiruna, Sweden. An application for Observership by

the European Union (EU) was left unresolved on that occasion. A number of non-governmental and international governmental organizations also hold Observer status.

6. See <http://www.arctic-council.org/index.php/en/about-us/arctic-council/observers>; and for analysis, P. Graczyk & T. Koivurova (January, 2013). A new era in the Arctic Council's external relations? Broader consequences of the Nuuk observer rules for Arctic governance. *Polar Record*. ref.10.1017/S0032247412000824.
7. See for instance, on the Chinese case, L. Jakobson (2010). China Prepares for an Ice-free Arctic. SIPRI: Stockholm. Available at <http://books.sipri.org/file/sight/SIPRIInsight1002.pdf>.
8. National situations and motives vary in this context; for some examples see A. Spruds and T. Rostoks (2014) (eds.). *Perceptions and Strategies of Arcticness in the sub-Arctic Europe*, Riga: Latvian Institute of International Affairs. Available at: <http://liia.lv/en/publications/perceptions-and-strategies-of-arcticness-in-sub-a/>.
9. A. J. K. Bailes & B. í Jákupsstovu (December, 2013). The Faroe Islands and the Arctic: Genesis of a Strategy. *Stjórnsmál og Stjórnýssla* (University of Iceland). Available at <http://www.irpa.is/article/view/1228>.
10. The text is at [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/251216/Adapting\\_To\\_Change\\_UK\\_policy\\_towards\\_the\\_Arctic.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/251216/Adapting_To_Change_UK_policy_towards_the_Arctic.pdf). For the Ministerial comments on publication see <https://www.gov.uk/government/news/respecting-the-arctic-promoting-uk-interests>.
11. (In the author's English translation) 'Guidelines for Germany's Arctic Policy; accepting responsibility, seizing opportunities', Auswärtiges Amt (Berlin) November 2013, available at <http://www.auswaertiges-amt.de/cae/servlet/contentblob/658714/publicationFile/185889/Arktisleitlinien.pdf>; English summary at [http://www.auswaertiges-amt.de/EN/Aussenpolitik/InternatRecht/Einzelfragen/Arktis/Arktis-Grundlagentext\\_node.html](http://www.auswaertiges-amt.de/EN/Aussenpolitik/InternatRecht/Einzelfragen/Arktis/Arktis-Grundlagentext_node.html).
12. See [www.spri.cam.ac.uk](http://www.spri.cam.ac.uk).
13. See <http://www.antarctica.ac.uk>.
14. There is more on the scientific contribution in section 3 below.
15. L. Heininen & B. Segerståhl. (2002). International Negotiations Aiming at a Reduction of Nuclear Risks in the Barents Sea Region. In R. Avenhaus, V. Kremenyuk and G. Sjöstedt (eds.). *Containing the Atom. International Negotiations on Nuclear Security and Safety* (pp. 243-270). New York: Lexington Books.
16. 'Centrica, E.ON and RWE lead Arctic rush for oil', *The Guardian* online 4 July 2013, available at <http://www.theguardian.com/environment/2013/jul/04/uk-energy-companies-arctic-oil>.
17. The UK was among observers at the Nordic defence ministers' latest meeting at Helsinki in December 2013, see

- <http://www.defensenews.com/article/20131212/DEFREG01/312120021/Nordic-States-Roll-Out-New-Defense-Roadmap>.
18. D. Depledge and K. Dodds. (2014). No “Strategy” Please We’re British: The UK and the Arctic Policy Framework. *RUSI Journal* (forthcoming). See also D. Depledge (2013). Arctic Security and the United Kingdom?. *IFS Insights* 3/2013. Available at [http://ifs.forsvaret.no/publikasjoner/ifs\\_insights/insights\\_13/Sider/Ins\\_3\\_2013\\_UK\\_Arctic.aspx](http://ifs.forsvaret.no/publikasjoner/ifs_insights/insights_13/Sider/Ins_3_2013_UK_Arctic.aspx).
  19. The other non-AC states invited were France, Germany and the Netherlands. See comments by an officer of the US European Command at <http://www.eucom.mil/blog-post/25348/arctic-security-forces-round-table-a-new-way-to-live-by-an-old-code>.
  20. A planned British air force deployment to Iceland was abandoned in the winter of 2008-9 at a time of unusual bilateral tension over the ‘Icesave’ problem.
  21. Also often cited is a collision between a French and a British nuclear submarine in 2009, reportedly in the Bay of Biscay. The British authorities stated that there was no release of radioactive material on either occasion.
  22. Text at <http://www.publications.parliament.uk/pa/cm201213/cmselect/cmenvaud/171/17102.htm>.
  23. ‘MPs demand moratorium on Arctic oil drilling’, *The Guardian* 20 September 2012, available at <http://www.theguardian.com/world/2012/sep/20/mps-demand-moratorium-arctic-drilling>.
  24. For both sets of remarks see the government press release ‘Respecting the Arctic, protecting UK interests’ of 17 October 2013, available at <https://www.gov.uk/government/news/respecting-the-arctic-promoting-uk-interests>.
  25. See e.g. a statement by Ambassador Lan Lijun at a meeting with the Swedish AC Chairmanship in November 2012, available at <http://www.arctic-council.org/index.php/en/document-archive/category/392-observer-meeting-stockholm-6-nov-2012>.
  26. <http://www.discoveringthearctic.org.uk>.
  27. Text at [http://www.oceanlaw.org/downloads/arctic/Ilulissat\\_Declaration.pdf](http://www.oceanlaw.org/downloads/arctic/Ilulissat_Declaration.pdf).
  28. It is hard to deny the *de facto* role that NATO plays in the High North notably through the membership of four out of five coastal states and the system of strategic nuclear deterrence. But any overt Arctic role/policy for the Alliance is not only objected to by Russia, but currently barred from discussion in NATO itself because of Canadian objections. See Alyson JK Bailes (February, 2013). Turning European Security Upside Down? The Future Significance of the Arctic. In *Dis-politika* (Turkish Foreign Policy Institute, Ankara). Vol. XXXVII: 3-4.
  29. Kingdom of Denmark Arctic Strategy 2011-2020, available at [http://um.dk/en/~media/UM/English-site/Documents/Politics-and-diplomacy/Arktis\\_Rapport\\_UK\\_210x270\\_Final\\_Web.pdf](http://um.dk/en/~media/UM/English-site/Documents/Politics-and-diplomacy/Arktis_Rapport_UK_210x270_Final_Web.pdf).

30. For the US Department of Defense's Arctic strategy published in November 2013, see [http://www.defense.gov/pubs/2013\\_Arctic\\_Strategy.pdf](http://www.defense.gov/pubs/2013_Arctic_Strategy.pdf).
31. The 'Arctic five' held Ministerial meetings at Ilulissat, Greenland, in 2008 and near Ottawa, Canada, in 2010.
32. Texts available at <http://www.arctic-council.org/index.php/en/document-archive/category/20-main-documents-from-nuuk>, and <http://www.state.gov/r/pa/prs/ps/2013/05/209406.htm>, respectively.
33. The EU Arctic policy documents most frequently cited in the literature were issued by the European Parliament and Commission and so do not bind the Member States, but the Council did issue policy conclusions in 2009 as well in 2014 on the basis of the Commission's 2008 and 2012 submissions – see [http://www.consilium.europa.eu/uedocs/cms\\_Data/docs/pressdata/EN/foraff/111814.pdf](http://www.consilium.europa.eu/uedocs/cms_Data/docs/pressdata/EN/foraff/111814.pdf).
34. For comparison, the EU gets only brief coverage in other national strategies aside from Finland's (the 2010 version, see <http://www.geopoliticsnorth.org/images/stories/attachments/Finland.pdf>), but the German document (note 9 above) states as the last of its guiding principles that Germany 'supports an active Arctic policy by the European Union and is committed to ensure horizontal coherence in (the Union's) foreign and security policy and in the policy fields of research, environment protection, energy and natural resources, industry and technology, transport and fisheries.' (Author's translation). The downplaying of the EU in the British text may variously reflect a currently Eurosceptical British government; a wish not to inflame anti-EU sentiment in some AC (e.g. Canadian indigenous) circles; and a sense that the EU's Arctic policies and role are still a work in progress.
35. See <http://www.arctic-council.org/index.php/en/resources/news-and-press/news-archive/782-the-task-force-for-action-on-black-carbon-and-methane>.
36. 'The Council expresses its readiness to consider a proposal to put in place a regulatory framework for the part of the seas not yet covered by an international conservation system by extending the mandate of relevant Regional Fisheries Management Organisations or any other proposal to that effect agreed by the relevant parties. Until such a framework is in place, the Council favours a temporary ban on new fisheries in those waters.' *Op. cit.* at note 33 above, p. 3.
37. The AC's Kiruna Ministerial meeting agreed to establish a Circumpolar Business Forum which is expected among other things to discuss responsible business governance in the region. See <http://www.arctic-council.org/index.php/en/resources/news-and-press/news-archive/732-press-release-15-may-kiruna>.
38. 'Norway's new government drops Lofoten oil', *Barents Observer* 1 October 2013, available at <http://barentsobserver.com/en/politics/2013/10/norways-new-government-drops-lofoten-oil-01-10>.
39. An incident of cruise ship stranding in December 2013 has exacerbated these debates; see e.g. 'Antarctica expedition: are research and tourism a toxic mix?', *Christian Science*

- Monitor* 7.1.2014, available at <http://www.csmonitor.com/World/Asia-Pacific/2014/0107/Antarctica-expedition-Are-research-and-tourism-a-toxic-mix-video> (accessed 8 January 2014).
40. Commercial confidentiality may of course have been a factor here.
  41. <http://rhulgeopolitics.wordpress.com/2013/10/17/adapting-to-change-uk-policy-towards-the-arctic-2/>. The analysis is developed further in Depledge and Dodds (note 18 above).
  42. *Op. cit.* in note 9 above, pp. 536-539.
  43. The UK document devotes space to explaining these definitions in pp. 1-2; see also note 1 above.
  44. China does, however, call itself a 'pole-near' country.
  45. The EU had also applied to be an institutional observer (a status already held by several institutions, see <http://www.arctic-council.org/index.php/en/about-us/arctic-council/observers>) but a decision on admitting it was deferred at Kiruna.
  46. Page 7 of the document is an outstanding example.
  47. See [http://www.msz.gov.pl/en/foreign\\_policy/international\\_organisations/other\\_organisations/arctic\\_council](http://www.msz.gov.pl/en/foreign_policy/international_organisations/other_organisations/arctic_council). In 2012 this meeting was held at under-secretary of state level.
  48. Given the MOD's strong engagement in preparing the UK document, the military section might perhaps have been even more prominent, were it not for London's awareness of sensitivities about 'militarization' in some AC states and in public opinion.
  49. 'Finland's Strategy for the Arctic Region', Prime Minister's Office publications 8/2010, text at <http://www.geopoliticsnorth.org/images/stories/attachments/Finland.pdf>.
  50. See for instance Fiona Harvey, 'UK aims to become hub for oil exploration', 17 October 2013, available at <http://www.theguardian.com/environment/2013/oct/17/uk-hub-arctic-oil-exploration-greenpeace>.
  51. *Op. cit.* at note 11 above, pp. 9-11.
  52. For background and the international issues involved see Alyson JK Bailes, Baldur Thorhallsson and Rachael L. Johnstone, 'Scotland as a Small State: Where would it seek shelter?', *Stjórnsmál og Stjórnysla* (University of Iceland) June 2013, available at [http://english.hi.is/files/scotland\\_as\\_an\\_independent\\_small\\_state\\_1.pdf](http://english.hi.is/files/scotland_as_an_independent_small_state_1.pdf).
  53. Royal Society for Scotland, 'Inquiry into the Future of the Scottish Fishing Industry', available at [http://www.royalsoced.org.uk/cms/files/advice-papers/inquiry/scottish\\_fishing\\_industry.pdf](http://www.royalsoced.org.uk/cms/files/advice-papers/inquiry/scottish_fishing_industry.pdf).
  54. R. L. Johnstone. (2012). An Arctic Strategy for Scotland?. *Arctic Yearbook 2012*. Available at [http://www.arcticyearbook.com/images/Articles\\_2012/Johnstone.pdf](http://www.arcticyearbook.com/images/Articles_2012/Johnstone.pdf).
  55. A Select Committee of the House of Lords on the Arctic has called for evidence and scheduled its first hearings for September 2014; see

<http://www.parliament.uk/business/committees/committees-a-z/lords-select/arcticcom>.

## “ARCTIC-VISM” IN PRACTICE: THE CHALLENGES FACING DENMARK’S POLITICAL-MILITARY STRATEGY IN THE HIGH NORTH

Jon Rahbek-Clemmensen

*With the Afghanistan war winding down, the Arctic, already a hot button issue among Copenhagen policymakers, has become one of the main issues on the Danish foreign policy agenda. This article examines the challenges facing the Danish political-military planning in the Arctic. Danish Arctic policy reflects a wider Danish grand strategy that sees Greenland as a bargaining chip vis-à-vis the US. Danish political strategy emphasizes the region’s well-functioning cooperative order, while standing its ground in disputes with other nations. Denmark is thus willing to enhance its military deterrent in the Arctic. Military strategy focuses on handling traffic patterns in Greenlandic waters, where the Danish Armed Forces are responsible for both military defense of the realm and coast guard tasks. Danish defense planning aims to maximize regional cooperation and to diminish tensions between Denmark and Greenland.*

This article examines the specific challenges facing Danish political-military planning in the Arctic. It specifically explores how grand strategy, political strategy, and military strategy interact with one another. It argues that Danish political-military planning is shaped by the changing geoeconomics of the Arctic region, by Denmark’s grand strategic role as a close ally of the United States and a member of NATO, by the geopolitics of the Arctic, and by the relationship between Denmark and Greenland. Handling low politics defense planning and supporting peaceful cooperation between the Arctic states are seen as ways of reproducing Danish sovereignty over

Greenland. The Danish presence in the Arctic helps Copenhagen solidify the relationship to Washington that makes up the central axis of Danish grand strategy.

The article progresses through four stages. It begins by presenting Denmark's interests in the Arctic and how they fit within a wider grand strategy. It then proceeds to describe Denmark's foreign policy strategy in the Arctic. The third section examines how Copenhagen views the other states and institutions that operate in the Arctic. The final section describes how these strategic considerations shape Danish defense planning.

## Denmark's Presence and Interests in Greenland

Denmark's status as an Arctic coastal state is in constant risk of being challenged. It hinges on Greenland's continued membership of the Commonwealth of Denmark (*Rigsfællesskabet*), a complex constitutional union between Greenland, the Faroe Islands, and Denmark proper that gives the latter authority over foreign and security policy. Danish sovereignty over Greenland has been challenged by various sources in the past. Greenland, hitherto a Norwegian territory, came under Copenhagen's influence in 1380, when Denmark established a personal union, a constitutional arrangement where several states share the same monarch, with Norway. However, continuous Danish presence in Greenland only began in 1721. Greenland remained under the Danish crown even after the Danish-Norwegian dual-monarchy was dissolved in 1814. Danish sovereignty over Greenland was finally established in 1933, when the Permanent Court of International Justice rejected a Norwegian claim to Eastern Greenland (Danish Institute for International Studies, 2007: 10–17; Petersen, 2006).

Today, Danish sovereignty is not challenged by external powers, but rather by the possibility of Greenlandic independence. Greenland replaced Home Rule with Self Rule in 2009 – a constitutional arrangement that gave Nuuk more autonomy and a road map towards independence (Government of Denmark, 2009). The independence question is symbolically important in Greenlandic politics as a long-term goal and as a way for Greenlandic elites to shore up political support from the population (Gad, 2009, 2014). However, the Greenlandic economy cannot sustain itself even with significant subsidies from Denmark. Recent analyses have shown that Greenlandic independence depends on exploiting hitherto unfound oil and gas deposits. Other industrial opportunities – fishing industry, mining, and hydro-electric powered industry – cannot sustain an independent state (Rosing, 2014). Actual independence will not be a reality within the coming decades and even then it depends on rich oil and gas finds that may or may not be out there.

Greenland serves a political, not an economic, purpose for Denmark. Greenland has been bad business in strictly fiscal terms for the entire modern era. Copenhagen supports Greenland with an annual direct and indirect bursary of DKK 4.4 billion (USD 800 million) – a grant that roughly generates 40 percent of Greenland's GDP (Greenlandic-Danish Independence Commission, 2008: 450; Rosing, 2014: 10). This pattern is unlikely to change in the future. The current Self Rule Agreement makes it almost impossible for Denmark to generate a profit from its presence in Greenland, even if bountiful resources were to be found (Greenlandic-Danish Independence Commission, 2008).

Greenland is a strategic bargaining chip in Denmark's larger grand strategy. A significant part of Danish grand strategic thinking focuses the relationship to Washington. Copenhagen hopes to

tie the United States closer to Europe by supporting American foreign policy objectives. Since the mid-1990s, this has primarily been done by following an activist foreign policy (Pedersen, 2012). Denmark was an active part of “the coalition of the willing” in Iraq, suffered the most fatalities per capita of any Western nation in Afghanistan, and was among the nations with most attack sorties in the recent Libya intervention (Atlantic Council, 2011; iCasualties, 2014; Rahbek-Clemmensen, 2011). Greenland is part of this Atlantic dimension of Denmark’s foreign policy. The island was a bargaining chip that the Danish government could use to buy its way into the Western alliance during the Second World War and the Cold War (Danish Foreign Policy Institute, 1997; Danish Institute for International Studies, 2005; Lidegaard, 1996: 333–51).

The Thule Air Base remains the most important American asset in Greenland. The base and the adjacent radar facilities were completed in the early 1950s and are integral, if not essential, parts of the US early warning system (Archer, 2003: 139; Danish Foreign Policy Institute, 1997; Danish Institute for International Studies, 2005: 70–80; Kristensen, 2005: 184–86; Tamnes & Holtsmark, 2014: 32). After lengthy negotiations, Washington got permission from Copenhagen and Nuuk to upgrade the radar to make it a much needed part of its missile defense system in 2004. These negotiations were remarkable, because they gave Nuuk a seat at the table and the final agreement included concessions to the Greenlandic government, including influence over future changes to the installations at Thule. Denmark had to walk a tightrope between possible domestic opposition and the Nuuk and Washington’s demands. The final agreement allowed Denmark to reaffirm its strong bond with the US by providing a valuable asset to Washington (Archer, 2003; Kristensen, 2005; Wilkening, 2004: 31 & 34).

With the war in Afghanistan winding down, the Danish government has been looking for new ways to contribute to the Western alliance system. The Arctic is one of the theatres in which Denmark can show its dedication to the American-led world order. As one observer has noticed, Danish foreign policy thinking is moving from activism to “Arctic-vism” (Rasmussen, 2013). Tongue-in-cheek slogans aside, this Arctic focus does make sense in a grand strategic perspective. As an Arctic nation, Denmark has a privileged position at the table that far outweighs the country’s meager size. By being seen as a state that facilitates peaceful cooperation in the High North, Denmark hopes to buy influence not only in Washington, but also Moscow, Beijing, and the capitals of the European Union. The Arctic is thus a valuable, yet precarious, asset in Danish grand strategy and Copenhagen has a clear interest in hanging on to it in the decades to come.

## **Danish Political Strategy**

Danish strategic thinking about the Arctic reflects the wish to keep a presence in the region. Achieving that goal requires that Copenhagen continues providing services for the Greenlandic population and marking its military presence in the High North. The impact of climate change poses a new challenge for these practices and it has come to shape the Danish debate about the Arctic for the past decade.

The Arctic reemerged on the Danish political agenda during the final years of the 2000s. It soon became obvious that global warming would have an impact on the Arctic, opening the region to commercial opportunities that had so far been covered under a layer of ice: new shipping routes, exploitation of natural resources (oil, gas, minerals, hydroelectric power, and fishing stocks,

among other things), tourism, and a general easier access to Arctic settlements. The Russian planting of a titanium flag on the Arctic seabed in 2007 and a general renewed interest in Arctic matters in the international press also caught the attention of policymakers and analysts in Copenhagen.

The Danish Ministry of Foreign Affairs was already aware that rising temperatures would have an impact on Greenland and the political relations between the Arctic states (Home Rule of Greenland & Danish Ministry of Foreign Affairs, 2008: 4). In general, Copenhagen prefers to preserve Arctic cooperation. A militarization of the Arctic would mean that small states, like Denmark, risk being caught between the great powers. Denmark's position is especially precarious, because of the undetermined status of Greenland. Tensions between the Inuit population of Greenland and Denmark proper would be more difficult to manage in an Arctic in flux, where other great powers – most notably the United States – would try to solidify their geopolitical interests in Greenland. Simply put, Copenhagen risks that Washington decides to cut out the middle-man and supports Greenlandic independence. The Ministry of Foreign Affairs moved quickly to help create better relations between the Arctic nations. The Ilulissat Declaration, the result of a meeting held in Greenland between high-level representatives of the five Arctic coastal states in May 2008, helped establish these five states as the key players in the region. The hope was that interstate cooperation could prevent an Arctic great game for resources and territory.

Danish strategic thinking about the Arctic was grounded in policy documents and academic studies. The first academic studies of the impact of climate change for defense planning were soon conducted (Jørgensen & Rahbek-Clemmensen, 2009; Petersen, 2009). These studies focused on the strategic aspects of the changing Arctic and they plugged into the nascent strategic debate about the future of the Arctic that had already been going on within the halls of government. The Danish Ministry of Foreign Affairs co-published an Arctic strategy draft together with the Greenlandic Home Rule in 2008 (Home Rule of Greenland & Danish Ministry of Foreign Affairs, 2008). The 2008 defense commission placed the Arctic among the fix points for future defense planning (Defense Commission of 2008, 2009). Finally, in 2011, the Danish government published an official Arctic strategy for the period running through 2020 (Government of Denmark, Government of Greenland, & Government of the Faroe Islands, 2011). These strategic publications marked a shift away from seeing the Arctic as a pristine area that should be conserved – a nature reservation in the High North, so to speak – to a region ripe with commercial opportunities (Home Rule of Greenland & Danish Ministry of Foreign Affairs, 2008: 7). Though conservation of the environment still played a role in Danish planning, the focus was now on facilitating commercial opportunities. Denmark should focus on facilitating and supporting regional cooperation, while ensuring that the Danish and Greenlandic authorities were ready to handle changes in the commercial set-up in Greenland.

However, as is the case with most public strategies, the Danish Arctic strategy papers remain mum when it comes to certain politically sensitive issues. There are two significant omissions. First, the strategy papers do not discuss what Denmark gets out of its Arctic presence or how Denmark could maximize Greenland's value as a bargaining chip. Why does Denmark spend significant resources on a remote Arctic island? How does Denmark get the most out of its Greenland's strategic position in Washington? How does Denmark intend to engage with other

foreign powers and how should it balance its Arctic engagement against other foreign policy goals? Denmark's relationship to the other Arctic nations is analyzed in the next section.

Second, the strategies and the academic texts do not debate how Copenhagen can retain Greenland within the Commonwealth of Denmark. Instead, they either assume that Greenland is a natural part of Denmark or they bracket the discussion as a choice to be made by the Greenlandic government and people. However, one can argue that Denmark has an interest in keeping Greenland within the Commonwealth. Given that Denmark actually benefits from the current arrangement – as, arguably, does Greenland – it would seem natural to discuss how this arrangement can be preserved. How can policymakers curb Greenlandic nationalism? How can it be avoided that foreign powers interfere in Greenlandic politics? This debate is rarely taken in public and it is notably absent from the Danish Arctic Strategy.

To be sure, these omissions are not irrational mistakes. Instead, they reflect a highly developed political sensitivity to the contentious issues that characterize the relationship between Denmark and Greenland and the Arctic region at large. Discussing such issues out in the open would not only be bad form, especially when one takes the contentious relationship between Copenhagen and Nuuk into consideration, it would also reveal Denmark's preferences and thus be a poor bargaining strategy. One cannot conclude that these considerations are not being made behind closed doors.

Denmark's strategic thinking about the Arctic has thus matured over the past ten years. It has gone from tacit and informal debate within the halls of government to formal, written strategies. The strategies focus on regional cooperation and handling the commercial opportunities that follow from climate change, while omitting certain politically sensitive issues and debates.

## **Relationship to Other Nations**

Denmark's approach to the other nations in the High North is shaped by a general wish to further Arctic cooperation, mixed with a need to stand for the preservation of what is considered the natural claims and the sovereignty of the Commonwealth of Denmark. Denmark's relationship to the other Arctic states is quite amenable. The relationship to the United States is, as mentioned above, the central pillar of Denmark's Arctic presence. The early strategies also recognized that Denmark – the only Arctic coastal state that is also an EU member – could play a special role in ensuring that thinking about the High North in Brussels would not antagonize the Arctic states (Government of Denmark et al., 2011: 52; Home Rule of Greenland & Danish Ministry of Foreign Affairs, 2008: 15–18). Denmark's role in the EU is complicated by a tension between Copenhagen and Nuuk's focus on Arctic commercial development and energy exploitation and the more environmentally-oriented approach found in Brussels (Offerdal, 2014: 81).

Denmark and Canada cooperate on a host of practical issues, including search and rescue and a possible common satellite surveillance system. The few territorial disputes between the two states, for instance the row over Hans Island or the recent dispute over territory north of Greenland, are just minor blips in an otherwise well-functioning bilateral relationship (Hansen, 2014; Offerdal, 2014: 82; Stevenson, 2007). The Ilulissat Declaration provided the foundation for a peaceful solution to the border disputes between the Arctic coastal states, following the framework provided by the UN Convention of the Law of the Seas (UNCLOS). Like the other

littoral states, Denmark is currently submitting its claims. Denmark is interested in getting as much Arctic territory as possible and Copenhagen expects that these issues will be solved according to a rules-based approach (Government of Denmark et al., 2011: 13–15).

Denmark's relationship with the four Nordic Arctic nations occurs within a framework of Nordic cooperation. Denmark supports increased Nordic cooperation in the Arctic, but concurrently recognizes that its practical value is limited due to the relative isolation of Greenland. The 2009 Stoltenberg report, published by the Norwegian government as a platform for additional Nordic cooperation, suggested several options for Nordic cooperation in the Arctic (Stoltenberg, 2009). However, although the report created a lot of positive buzz among Danish officials and analysts, its recommendations have met significant practical barriers. The long distances between Scandinavia and Greenland mean that the Nordic countries are not likely to provide useful capabilities in case of emergencies. Instead, Denmark sees Canada as the most likely partner country in that regard. Nordic cooperation plays a more significant role in other areas like scientific research, education, and health (Government of Denmark et al., 2011: 35–36 & 40). The Ukraine crisis means that Nordic Defense Cooperation (NORDEF), a collaboration scheme between Denmark, Finland, Iceland, Norway, and Sweden, have come to play a more important role for each of the five member states (Nilsen, 2014). The collaboration increases defense efficiency by taking advantage of synergies between the five states, while functioning as an additional way of integrating non-NATO members Sweden and Finland into the Western security architecture (Dahl & Järvenpää, 2014: 129–30; Järvenpää, 2014). However, NORDEF mainly focuses on Northern Scandinavia and will not play a significant role in the Danish Arctic for now.

Russia has been the main cause for concern in Danish Arctic policy, even before the Ukraine crisis, and a rivalry between Moscow and Washington is the most likely source of conflict in the region (Jørgensen & Rahbek-Clemmensen, 2009; Rahbek-Clemmensen, 2014; Rahbek-Clemmensen, Larsen, & Rasmussen, 2012). Denmark is not concerned with a possible land-grab by Russian forces – instead, the main danger is that Denmark will be squeezed between Russia and the United States in case of a great power rivalry in the High North. Copenhagen is consequently walking a tight-rope between deterrence and accommodation. Denmark wants to keep Russia within the well-functioning cooperative order in the Arctic and is willing to surrender short-term political advantages to achieve that goal. However, Denmark is also well-aware of the need for effective deterrence of Russia. For instance, the recent Danish F-16 exercises in Greenland was as much a test of the aircraft's ability to act under Arctic conditions as a clear demonstration of Danish military prowess (Martin, 2014).

Denmark is, together with Canada, generally opposed to increased NATO involvement in the High North and NATO is largely absent from the Arctic Strategy. Copenhagen has not been as vocal as Ottawa about its opposition to an increased NATO involvement, but Copenhagen policymakers believe that an Arctic NATO involvement would be a red flag for Moscow that would complicate regional governance and increase the likelihood of militarization. Denmark has contributed with F-16s to NATO's air-policing operations in Iceland.

Denmark has seen China's entrance to the Arctic as an opportunity for further cooperation with Beijing. Denmark has generally supported giving China and other Northeast Asian states a seat at the Arctic table, including by giving them observer status in the Arctic Council (Government

of Denmark et al., 2011: 54). A recent SIPRI study, commissioned by the Danish Ministry of Foreign Affairs, has sought to explore new ways to facilitate Arctic cooperation between Denmark and the Northeast Asian states (Jakobson & Lee, 2013). Some analysts look at China's rising influence in the High North with concern. They are particularly concerned with the possibility that Chinese investments in the Greenlandic minerals industry will give Beijing influence over Greenland's government (Danish Defense Intelligence Service, 2013: 15; Wang, 2012).

All in all, Denmark's Arctic relations are characterized by an optimistic belief in the potential for future cooperation. Although Russia and China are viewed with caution, Copenhagen generally emphasizes the need to integrate both states within the regional institutions.

### **Danish Military Strategy**

Danish defense planning in the Arctic largely reflects the strategic considerations outlined above. This means that the blind spots that were found on the strategic level also reappear in defense planning. The Danish Armed Forces do not consider what Denmark gets out of its Arctic presence nor does it plan to keep Greenland within the Commonwealth. Instead, these political-strategic considerations become tacitly accepted assumptions that underpin Danish defense planning.

Denmark does not have a separate coast guard and the Danish Armed Forces fulfills both military and coast guard functions. The Armed Forces' permanent Arctic capabilities consist of two Thetis class inspection ships (OPV/frigate) with Lynx helicopters, two Knud Rasmussen class inspection vessels (OPV), one Agdlek class patrol cutter (which will soon be replaced with a third of the more formidable Knud Rasmussen class patrol vessels), one CL-604 Challenger patrol aircraft for roughly ten days per month, minor sea charting capabilities, and the Sirius patrol, an elite unit that conducts patrolling and reconnaissance missions in Eastern Greenland. Danish C-130 Hercules transport aircraft can also operate in the Arctic. The Armed Forces have access to bases dispersed along the Greenlandic coast. The Armed Forces also have a range of capabilities stationed in Denmark proper that can be deployed to the Arctic if needed. These include Iver Huitfeldt class frigates, Absalon class support ships, F-16 Fighting Falcons, Army and Navy Special Forces units (Huntsmen and Frogmen corps), and additional Challenger and Hercules capabilities.

The Armed Forces' missions include sovereignty enforcement, patrolling, surveillance, environmental protection, fisheries inspection, and search and rescue. Most major long-term decisions about defense matters are made in the Danish Parliament's five-year defense agreements. The strategic rationales for these agreements are made in ad hoc defense commissions that include experts and parliamentarians and are established roughly every ten years. The last defense commission statement – the Defense Commission of 2008 – specifically mentioned the Arctic as a focus area for the Danish Armed Forces (Defense Commission of 2008, 2009: 70–71, 98 & 101).

The defense agreement for 2010-2014 focused on rationalizing the existing command structures by merging the Faroe Islands Command and the Greenland Command in a common Arctic Command, headquartered in Nuuk. It also resulted in a number of initiatives that focused on maritime environmental protection (Danish Parliament, 2009: 12–13). These initiatives had

already been recommended by the 2008 defense commission (Defense Commission of 2008, 2009: 274 & 290).

The recent defense agreement for 2013-2017 continues the emphasis on the Arctic. The Arctic is meant to be one of the new core theaters for Danish defense policy as the mission in Afghanistan is winding down. The agreement continues the broad investment in capabilities and it emphasizes the inclusion of the local population of Greenland in the Armed Forces' activities. The Danish Armed Forces were criticized by the Danish Parliament's Public Accounts Committee (*Rigsrevisionen*), the Danish version of the GAO, for not supplying the necessary services in the Arctic (The Public Accounts Committee, 2013). The defense agreement responded by highlighting that the harsh geographical and climatic conditions in Greenland mean that the level of emergency preparedness cannot be comparable to the one found in Denmark. Furthermore, the agreement also established an inter-departmental working group, which is meant to provide a comprehensive strategic and operational analysis of the Armed Forces' mission and capability requirements until 2030. The working group's report will most likely be published ultimo 2014 or primo 2015 (Danish Parliament, 2012: 14–16 & 43–44; Vammen, 2014: 1).

These specific initiatives reflect three tacit strategic goals:

- Handle the new challenges that follow from Arctic climate change
- Support regional interstate cooperation
- Minimize tensions between Denmark and the Greenlandic government and population

The defense planning process reflects the challenges that result from climate change and the need for political cooperation between the Arctic states. The omissions in these strategies are mirrored in defense planning: the Danish defense does not consider the possibility that Greenland might become independent and that Arctic capabilities may become redundant in its long-term defense planning. However, the Danish defense establishment is well-aware of the contentious nature of the Danish-Greenlandic relationship and it goes to great length to include the Greenlandic population in future initiatives. The following sections examine how the three tacit strategic goals are reflected in concrete defense planning.

## **The Challenge of Climate Change**

The main challenge for the Danish Armed Forces is increased activities in Greenlandic waters, be it as increased sea traffic to and from Greenland, oil and gas exploitation off the Greenlandic coast, or increased fishing or tourism. The opening of new sea routes – the Northeast and Northwest Passages – will most likely not lead to a significant increase in traffic along the Greenlandic coast within a reasonable planning horizon. Although climate change may affect conditions on land, these land-based activities are beyond the purview of the Danish Armed Forces. They only have an impact for the Armed Forces' portfolio insofar as they require transport to and from Greenland.

Planning new capability investments is the main challenge facing the Danish Armed Forces. Global warming opens a larger area for more traffic for a longer period of the year. The main question is how the Danish Armed Forces plan to cover a larger task portfolio and which tasks it

aims to prioritize. There is a certain degree of synergy between the different tasks. Most of the tasks require increased presence on the Greenlandic seas. For instance, sovereignty enforcement, patrolling and fisheries inspection can all be handled by the same vessel, doing a regular patrol of the Greenlandic seas. Investing in new naval vessels has consequently been one of the main issues. The Danish Parliament announced the purchase of a third Knud Rasmussen class patrol vessel – a platform that is tailored for Arctic missions – as part of the latest defense agreement (Danish Parliament, 2012: 10). To be sure, some tasks do require separate capabilities. For instance, search and rescue missions require specific capabilities that cannot be used for other purposes. Defense planning is not only a question of procuring more capabilities – it is also a matter of prioritizing separate tasks.

Defense planners have also been looking at how new technologies could offer a cheap solution to some of the challenges of climate change. Indeed, the Danish Parliament recently allocated DKK 220 million (USD 40 million) to extensive tests of new technologies – including Unmanned Aerial Vehicles (UAVs) and satellites – in Greenland (Danish Parliament, 2012: 15). UAVs have sometimes been seen as a cheaper option for aerial surveillance of Greenland (Defense Commission of 2008, 2009: 300; Jørgensen & Rahbek-Clemmensen, 2009: 39). However, preliminary analyses indicate that the harsh weather conditions and the long distances mean that only strategic UAVs, like Golden Hawk, would be feasible in the Arctic. With a present unit cost of roughly DKK 2 billion (USD 365 million), the Golden Hawk is definitely beyond the spending limit of the Danish armed forces. In the mid- to long-term, new and cheaper strategic UAVs may enter the market, making drones a feasible option in Greenland (Kristensen, Pradhan-Blach, & Schaub, 2013: 20 & 23–24; Ringsmose, 2014: 16–20).

Satellite surveillance is also being considered. Denmark does not have the funds to launch a satellite program alone and would most likely cooperate with other Arctic nations. Satellites are a prerequisite for the use of larger UAVs. If Denmark has to invest in satellites either way, it might as well invest in surveillance satellites (Kristensen, Pradhan-Blach, et al., 2013: 23–24). Satellites are consequently seen as the most likely long-term solution to the Danish surveillance requirements in the Arctic.

Mission creep is a potential risk for Danish defense planning in the Arctic (Jørgensen & Rahbek-Clemmensen, 2009). The Greenlandic authorities lack the capabilities to handle all the major contingencies that may arise as commercial activities increase. For instance, they may be unable to quell popular unrest in remote mining settlements, handle urgent health emergencies in locations with harsh weather conditions, or perform search and rescue in case of the sinking of a cruise ship within Greenlandic waters. Defense planners face a dilemma. On the one hand, these contingencies are the responsibility of the Greenlandic authorities and should not influence Danish defense planning. On the other hand, it is hard to imagine that refraining from preparing for such contingencies would not be seen as a failure by the public, should they actually occur. Defense planners may thus be motivated to plan for missions that are strictly speaking not within the purview of the Armed Forces.

One should look to the political level to find a strict definition of Armed Forces' area of responsibility. The latest defense agreement includes some guidance in that regard. It specifies that one cannot expect the same level of emergency preparedness in Greenland as in Denmark – a claim that has later been reiterated by the Danish Minister of Defense (Danish Parliament,

2012: 15; Vammen, 2014). By making this an explicit strategic guideline, Danish policymakers relieve some of the pressure from the shoulders of the Armed Forces. Should a major accident occur in the Arctic, the Armed Forces can refer to the agreement to justify its level of preparation.

### **Support Regional Cooperation**

Danish defense planning not only reflects a wish to handle the challenges of climate change. Following the general strategic thinking about the Arctic, it also has a political dimension that sees practical cooperation between the Arctic states as a way of defusing regional tensions. Defense planning is thus meant to support the Ministry of Foreign Affairs' diplomatic initiatives by providing a practical dimension to the somewhat lofty agreements in the various regional fora. By actually cooperating about practical missions, the Armed Forces helps defuse some of the conflict potential in the High North.

Some defense planners are aware of the potential Arctic security dilemma, caused by the investments in new capabilities. Although these new capabilities are procured for peaceful purposes, they can typically also be used for offensive ends. This may spur a reaction in the other Arctic states, who may decide to bulk up their military capabilities. States consequently risk inadvertently starting a negative spiral of militarization in the Arctic, even though they only have peaceful intentions. Arctic cooperation may help prevent a security dilemma (Jørgensen & Rahbek-Clemmensen, 2009: 19).

One potential avenue for cooperation is the Radarsat Constellation Mission, the Canadian satellite surveillance program, which is meant to be launched in 2018. Denmark is considering participating in the program that could provide a comprehensive overview of activity in the Arctic. However, Copenhagen still hesitates, citing the considerable cost of the program as one of the reasons (Svendsen & Hannestad, 2013). Defense analysts also highlight joint UAV procurement and development as another potential source of cooperation (Kristensen, Pradhan-Blach, et al., 2013: 29–30).

Naval exercises essentially serve both an operational and a political purpose. They allow the authorities to prepare for several contingencies by running through possible outcomes, thus sharpening operational readiness. They concurrently help reduce tensions between the Arctic powers by showing a sense of openness. They also allow military commanders a better understanding of the command chain of other Arctic nations and they allow them to build informal networks across borders. Historical experience shows that these mechanisms may prevent misunderstandings from spiraling out of control (Axelrod & Keohane, 1985; Jervis, 1976, 1985; Jørgensen & Rahbek-Clemmensen, 2009: 39–40).

Finally, operational cooperation in various defense fora – for instance, the North Atlantic Coast Guard Forum - also supports regional cooperation in general. Much like exercises, these fora create informal networks that give commanding officers alternative information channels. American analysts have suggested the development of a new Arctic Coast Guard Forum, the purpose of which should be to increase mutual awareness among Arctic coast guards (Conley, Toland, Kraut, & Østhagen, 2012: 38–39; Troedsson, 2013; United States Coast Guard, 2013: 27). Denmark has not rejected this idea and Danish defense planners consider it a potential for future cooperation.

## **Avoid Conflict with Greenland**

Danish defense planning in the Arctic is also influenced by the somewhat contentious relationship between Denmark and Greenland. As mentioned before, the legitimacy of the Danish presence in Greenland is contested by some Greenlandic elite groups and segments of the Greenlandic population. The Danish authorities try to avoid offending Greenlandic sensibilities, while concurrently standing its ground on certain key matters.

Certain strategic questions, many of which would be thought to be reasonable considerations of any state, are almost taboo. For instance, the consequences of Greenlandic independence are rarely taken into consideration in Danish defense planning, although one could argue that it would have an impact on operational planning. Many of the Arctic capabilities that Denmark is currently procuring will have limited usefulness if Greenland becomes independent. In simple terms, what is Denmark supposed to do with its Arctic capabilities, if Greenland becomes independent?

The normal reaction is a mix of resigned moralism and belief that Greenland will never reach independence. On the one hand, Denmark is responsible, so one argument goes, for ensuring that an eventual transition to independence runs smoothly. Denmark must dispense of narrow national interests and invest in the capabilities regardless of the fact that they might become obsolete in the future. This line of thinking also contains an argument that sees responsibility as a way of ensuring the persistence of the Commonwealth. Perhaps Greenland will stay within the Commonwealth even if the conditions for independence arise, if Denmark acts responsible now and shows Greenland that it is not pursuing narrow national interests.

On the other hand, many observers do not believe that the time will ever be ripe for Greenlandic independence. As mentioned above, independence requires that either a major energy resource deposit is found along the Greenlandic coastline or that the United States becomes willing to sponsor the Greenlandic state. The latter does not seem likely, even in the long term. No-one knows if enough exploitable oil and gas can be found in Greenland, but even if they were found, these resources could only become profitable in the long term (Jørgensen & Rahbek-Clemmensen, 2009: 16).

The Danish Armed Forces have made establishing a better relationship to the Greenlandic society a long-term goal. The Arctic Strategy and the 2013-2017 defense agreement both stipulate the need to involve the citizens of Greenland in the activities of the Armed Forces (Danish Parliament, 2012: 15; Government of Denmark et al., 2011: 21). Translating this wish into concrete initiatives has been rather difficult. A recent study has suggested various measures, such as the inclusion of Greenlanders in land patrolling activities in North-East Greenland, using Greenlandic volunteers and local knowledge in the activities of the Armed Forces, opening military education facilities in Greenland, and including Greenlandic companies in coast guard activities (Kristensen, Hoffmann, & Pedersen, 2013).

These initiatives would probably improve the operational effectiveness of the Danish Armed Forces, albeit only marginally. From a purely operational perspective, they hardly merit the effort made to integrate Greenlandic society. Their benefits are primarily political. They serve to reduce tensions between Greenland and Denmark in general and the Armed Forces in particular. They

also help create a base of military know-how within Greenlandic society – a resource that would become essential in an independent Greenland.

## **Conclusion**

The purpose of this piece has been to examine the challenges of Danish political-military planning in the Arctic. It shows how Danish grand strategy and political and military strategy in the Arctic fit together. Danish political military strategy reflects grand strategic goals that follow from Denmark's relationship with the US and its status as a NATO member and from Greenland's geopolitical role. Greenland functions as a bargaining chip that Denmark uses to get goodwill in the United States. Danish strategic thinking about the Arctic has become formalized over the past ten years. However, some strategic questions regarding the relationship to other powers and to the Greenlandic government are not considered in the strategies. These different strategic elements have to be elucidated from the variety of policies that make up Danish Arctic policy and more general security policy.

Handling low politics defense planning and supporting peaceful cooperation between the Arctic states are seen as ways of reproducing Danish sovereignty over Greenland. The main challenge for Danish defense planning is thus to handle the geo-economic challenges that follow from climate change. Political considerations also have an impact on defense planning. Defense planners aim to cooperate with the other Arctic states to the greatest extent possible in order to facilitate peaceful relations between the Arctic states. They also try to defuse tensions between Copenhagen and Nuuk by including Greenlandic society in the activities of the Armed Forces.

Copenhagen hopes to defend the status quo in the long term. Regional cooperation and inclusion of Greenland in decision-making are means to this end. Whether or not this actually succeeds is an open question. Several developments – most importantly the exploitation of energy resources in Greenland – may destabilize Denmark's position. However, for now, Copenhagen sees no reason to change course. Centuries of Arctic presence has taught policymakers that when it comes to the High North, prophecies of change are plentiful – actual change is sparse.

## **Notes**

1. The Commonwealth of Denmark consists of three parts: Denmark proper, the Faroe Islands, and Greenland. The latter two are autonomous territories with extensive self-rule. Denmark largely controls the Commonwealth's defense, security, and foreign policy. This article uses the term "the Commonwealth" to denote the political unit that is made up of the three parts. "Denmark" is used to denote the Danish part of the Commonwealth, "Faroe Islands" denotes the Faroese part, and "Greenland" the Greenlandic part.

## References

- Archer, C. (2003). Greenland, US Bases and Missile Defence. *Cooperation and Conflict*. 38(2): 125–147.
- Atlantic Council. (2011). National Composition of NATO Strike Sorties in Libya. Retrieved May 23, 2014, from <http://www.atlanticcouncil.org/blogs/natosource/national-composition-of-nato-strike-sorties-in-libya>.
- Axelrod, R., & Keohane, R. O. (1985). Achieving Cooperation under Anarchy: Strategies and Institutions. *World Politics*. 38(1): 226–254.
- Conley, H. A., Toland, T., Kraut, J., & Østhagen, A. (2012). *A New Security Architecture for the Arctic - An American Perspective*. Washington D.C.: Center for Strategic and International Studies.
- Dahl, A.-S., & Järvenpää, P. (2014). Sweden, Finland and Nato: Security Partners and Security Producers. In A.-S. Dahl & P. Järvenpää, *Northern Security and Global Politics. Nordic-Baltic Strategic Influence in a Post-Unipolar World* (pp. 124–136). Abingdon: Routledge.
- Danish Defense Intelligence Service. (2013). *Efterretningsmæssig Risikovurdering 2013*. Copenhagen: Danish Defense Intelligence Service.
- Danish Foreign Policy Institute. (1997). *Grønland under den Kolde Krig, Danske og Amerikansk Sikkerhedspolitik 1945-68*. Copenhagen: Danish Foreign Policy Institute.
- Danish Institute for International Studies. (2005). *Danmark under den Kolde Krig, Den Sikkerhedspolitiske Situation 1945-1991*. Copenhagen: Danish Institute for International Studies.
- Danish Institute for International Studies. (2007). *Afvikling af Grønlands Kolonistatus 1945-54 - En Historisk Udredning*. Copenhagen: Danish Institute for International Studies.
- Danish Parliament. (2009). *Danish Defence Agreement 2010-2014*. Copenhagen: Ministry of Defense.
- Danish Parliament. (2012). *Danish Defence Agreement 2013-2017*. Copenhagen: Ministry of Defense.
- Defense Commission of 2008. (2009). *Dansk forsvar - Globalt engagement. Beretning fra Forsvarskommissionen af 2008*. Copenhagen: Ministry of Defense.
- Gad, U. P. (2009). *En Post-Kolonial Grønlandsk-Dansk Fremtid? Tre Scenarier for Rigsfællesskabets Opløsning – og Tre for Dets Beståen og Forandring*. University of Copenhagen Working Paper, Copenhagen.
- Gad, U. P. (2014). Greenland: A Post-Danish Sovereign Nation State in the Making. *Cooperation and Conflict*. 49(1).
- Government of Denmark. Lov om Grønlands Selvstyre, 473 Lovtidende A (2009).
- Government of Denmark, Government of Greenland, & Government of the Faroe Islands. (2011). *Strategy for the Arctic 2011– 2020*. Copenhagen: Ministry of Foreign Affairs.
- Greenlandic-Danish Independence Commission. (2008). *Grønlandsk-Dansk Selvstyrekommissions Betænkning om Selvstyre i Grønland*. Copenhagen: Greenlandic-Danish Independence Commission.

Hansen, J. L. (2014, September 16). Danmark Skærper sine Territoriale Krav i Arktis. *Information*, p. 1.

Home Rule of Greenland, & Danish Ministry of Foreign Affairs. (2008). *Arktis i en Brydningstid. Forslag til Strategi for Aktiviteter i det Arktiske Område*. Copenhagen: Ministry of Foreign Affairs.

iCasualties. (2014). Operation Enduring Freedom. Fatalities By Nationality. Retrieved May 23, 2014, from <http://icasualties.org/OEF/Nationality.aspx>.

Jakobson, L., & Lee, S.-H. (2013). *The North East Asian States' Interests in the Arctic and Possible Cooperation with the Kingdom of Denmark*. Stockholm: Stockholm International Peace Research Institute (SIPRI).

Järvenpää, P. (2014). Nordic Defense Cooperation: NORDEFECO and Beyond. In A.-S. Dahl & P. Järvenpää, *Northern Security and Global Politics. Nordic-Baltic Strategic Influence in a Post-Unipolar World* (pp. 137–54). Abingdon: Routledge.

Jervis, R. (1976). *Perception and Misperception in International Politics*. Princeton: Princeton University Press.

Jervis, R. (1985). From Balance to Concert: A Study of International Security Cooperation. *World Politics*. 38(1): 58–79.

Jørgensen, H. J., & Rahbek-Clemmensen, J. (2009). *Keep It Cool! Four Scenarios for the Danish Armed Forces in Greenland in 2030*. Copenhagen: Danish Institute for Military Studies.

Kristensen, K. S. (2005). Negotiating Base Rights for Missile Defence - The Case of Thule Air Base in Greenland. In *Missile Defence - International, Regional and National Implications* (pp. 183–207). Abingdon: Routledge.

Kristensen, K. S., Hoffmann, R., & Pedersen, J. (2013). *Samfundsbåndhævelse i Grønland - Forandring, Forsvar og Frivillighed*. Copenhagen: Center for Military Studies.

Kristensen, K. S., Pradhan-Blach, F., & Schaub, G. (2013). *Om Fremtidig Brug af Ubemandede Fly i Det Danske Forsvar*. Copenhagen: Center for Military Studies.

Lidegaard, B. (1996). *I Kongens Navn : Henrik Kauffmann i Dansk Diplomati 1919-1958*. Copenhagen: Samleren.

Martin, H. (2014, August 5). Preparing for the Unfriendly Skies? Retrieved October 2, 2014, from [arcticjournal.com/politics/861/preparing-unfriendly-skies](http://arcticjournal.com/politics/861/preparing-unfriendly-skies).

Nilsen, T. (2014, April 9). Crimea Crises Changes Nordic Defense Perspective. Retrieved from <http://barentsobserver.com/en/security/2014/04/crimea-crises-changes-nordic-defense-perspective-09-04>.

Offerdal, K. (2014). Interstate Relations: The Complexities of Arctic Politics. In R. Tamnes & K. Offerdal, *Geopolitics and Security in the Arctic: Regional Dynamics in a Global World* (pp. 73–96). Abingdon: Routledge.

Pedersen, R. B. (2012). Danish Foreign Policy Activism: Differences in Kind or Degree? *Cooperation and Conflict*. 47(3): 331–349.

- Petersen, N. (2006). Denmark as an International Actor 706-2006. *World Political Science Review*, 2(3).
- Petersen, N. (2009). The Arctic as a New Arena for Danish Foreign Policy: The Ilulissat Initiative and its Implications. In N. Hvidt & H. Mouritzen, *Danish Foreign Policy Yearbook 2009* (pp. 35–78). Copenhagen: Danish Institute for International Studies.
- Rahbek-Clemmensen, J. (2011). Denmark in the Arctic: Bowing to Three Masters. In *Atlantic Perspective*. 35(3): 9–14.
- Rahbek-Clemmensen, J. (2014). *Arktiske Usikkerheder - Fem Trusler Mod Det Fredelige Samarbejde i Det Høje Nord*. Copenhagen: Danish Institute for International Studies.
- Rahbek-Clemmensen, J., Larsen, E. S., & Rasmussen, M. V. (2012). *Forsvaret i Arktis – Suveranitet, Samarbejde og Sikkerhed*, København: Center for Militære Studier. Copenhagen: Center for Military Studies.
- Rasmussen, M. V. (2013, December 12). Arktisvisme. *Berlingske*.
- Ringsmose, J. (2014). *Danske Droner - en Nuancering af Debatten om Ubemandede Fly*. Copenhagen: Royal Danish Defense College.
- Rosing, M. (2014). *Til Gavn for Grønland*. Copenhagen: University of Copenhagen.
- Stevenson, C. (2007). Hans Off: The Struggle for Hans Island and the Potential Ramifications for International Border Dispute Resolution. *Boston College International and Comparative Law Review*. 30: 263–75.
- Stoltenberg, T. (2009). *Nordic Cooperation on Foreign and Security Policy*. Oslo: Prime Minister's Office.
- Svendsen, J., & Hannestad, A. (2013, October 30). Danmark Tøver i Arktisk Milliardspil. *Politiken*.
- Tamnes, R., & Holtmark, S. G. (2014). The Geopolitics of the Arctic in Historical Perspective. In R. Tamnes & K. Offerdal, *Geopolitics and Security in the Arctic: Regional Dynamics in a Global World* (pp. 12–48). Abingdon: Routledge.
- The Public Accounts Committee. (2013). *Beretning om Danmarks indsats i Arktis* (No. 16). Copenhagen: The Public Accounts Committee.
- Troedsson, P. (2013). A Coast Guard for the Emerging Arctic. Retrieved from [http://www.cfr.org/arctic/coast-guard-emerging-arctic/p30820?cid=rss-fullfeed-a\\_coast\\_guard\\_for\\_the\\_emerging-053113](http://www.cfr.org/arctic/coast-guard-emerging-arctic/p30820?cid=rss-fullfeed-a_coast_guard_for_the_emerging-053113).
- United States Coast Guard. (2013). *Arctic Strategy*. Washington D.C.: United States Coast Guard.
- Vammen, N. (2014, January 20). Ministerredegørelse til Beretning 16/2012 om Danmarks Indsats i Arktis. Retrieved from <http://www.rigsrevisionen.dk/media/1943150/16-2012-fmn.pdf>.
- Wang, N. (2012, June 12). Råstoffer, Rigdom og Realpolitik. *Politiken*. Copenhagen. Retrieved from <http://politiken.dk/debat/kroniken/ECE1653037/raastoffer-rigdom-og-realpolitik/>.

Wilkening, D. A. (2004). *Ballistic-Missile Defence and Strategic Stability* (Adelphi Paper No. 334). London: Institute for International Strategic Studies.

# RUSSIAN MILITARY BUILD-UP IN THE ARCTIC: STRATEGIC SHIFT IN THE BALANCE OF POWER OR BELLICOSE RHETORIC ONLY?

Barbora Padrtová

*The Arctic has been playing a central role in Russia's identity and economic development. On the naval-strategic level, the most relevant for Moscow is maintaining of the credibility of nuclear deterrence, securing the open access of strategic submarines to world's seas and in theoretical case of large-scale European war the Russian Navy's strategic objective would be to interrupt the connection between Europe and North America (the latter was more eminent during the Cold War but still it is a part of Russian strategic thinking and objectives). Besides that, recent developments shows that the Arctic's importance for Russia is not only growing but also widening and new sectors have been gradually added. Moscow's strategic goal is to determinate Russia as preeminent Arctic nation eminently clear by political, economic, and military means to "defend" its interest. As part of its effort to create a comprehensive presence in the Arctic, Russia has been steadily expanding its military component there since 2007. However, these movements are primarily focused on protection of coastlines and offshore energy extraction installations, search-and-rescue operations and icebreaker capabilities, therefore should not be seen strictly as an militarization of the region. The occasional assertive statements by Russian representatives are more tailored for domestic audience rather than threatening factor to the other Arctic states. More substantive signals of Russian intent would be refusal to recognize the decisions or authority of international organizations in the Arctic, or its withdrawal from such organizations. In observing Russian activities in the Arctic, it is important to analyze the relevance of these statements to map it in those framework and wider context. The aim of proposed paper is to focus on the relevance and substance of above mentioned developments.*

## Introduction

The Russian Northern territories are crucial for Moscow to keep its relevance in world affairs. The aim of this paper is to analyze Russia as a status quo power in the Arctic and the motives behind its approaches and actions. To keep its position in the Arctic as a dominant power, Russia needs to focus on the modernization of its Arctic capabilities. The official statements of Kremlin's representatives supported by regular exercises are however often perceived as provocative to the other Arctic littoral states. Such developments can lead to a "spiral" effect, when other states feel threatened by the Russian build-up and launch countermeasures. It can lead to a classic security dilemma and increase the securitization of the whole region.

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## A Strategic Framework: Development of the Arctic's Importance for Russia

In order to understand recent Russian ambitions in the Arctic it is necessary to define a framework for the broader strategic picture of Moscow's strategic culture and security identity. Russia is perceiving the Arctic as a geopolitically central region and sees its own role/position there as a predominant one.

During the Cold War the strategic importance of the Arctic was irreplaceable. First, the Northern Fleet (NF), stationed in the Arctic (Kola Peninsula) guaranteed nuclear deterrence. Second, the surface combat ships protected its nuclear strategic submarines by establishing a "naval fortress" in the Arctic, preventing access of NATO fleets that could harm its strategic submarine force. Third, if needed (in theoretical case of war) they could conduct operations from Arctic bases to interrupt Transatlantic supply lines and crucial naval communications between the US and Europe.

After the collapse of the USSR, the Arctic witnessed dual-direction simultaneous development. First, there was a slight diminishing of its importance from a strategic-military point of view, caused by the decreasing overall relevance of nuclear deterrence, which in the Russian context was guaranteed predominantly by the NF. On the other hand, that decrease was just a relative one; because of Russia's dramatically reduced conventional capabilities, the nuclear strategic forces has maintained a high level of importance in Moscow's overall strategy. Further, the relative importance of nuclear deterrence dramatically increased during late 1990s, because of continuous deterioration of conventional capabilities and the lowering threshold for engaging nuclear weapons. As stated in the Russian military doctrine – "Russia retains nuclear power status for deterring (preventing) aggression against it or its allies" (Prezident Rossii 2000). This was reconfirmed in the 2010 Military Doctrine. It reversed attention back towards the elements and regions crucial for nuclear capabilities, thus the Arctic was among the biggest winners of this development, again because of its NF. In the end it has caused the renaissance of the military factor of the Arctic's relevance. As Baev confirms, the main permanent factor in the securitization of the Arctic agenda is still the Northern Fleet (Baev 2009).

Second, there has been an increase of economic and political importance of Russia's High North. Due to the loss of Eastern European territories (especially Ukraine and Belarus) and Central Asia, the relative share of the Arctic on overall Russian GDP/economy increased. Moreover, the nature of the Arctic economy has been transformed. During the Soviet era, natural resources in Northern territories were developed to provide the necessary materials for an isolated Soviet Union to industrialize. Today, this region is developed to meet the needs of international markets (Southcott 2010: 49). Currently, the Arctic accounts around 20 percent of the total Russian GDP (Medvedev 2008b) comparable to Ukrainian SSR's share before 1991.<sup>1</sup>

## Russia as the Arctic's Status Quo Power

As stated in the Russian "Arctic Strategy" Moscow's key objective is to *maintain Russia's role as a leading Arctic power*" (Medvedev 2008a).<sup>2</sup> According to Zysk, Russian military activity in the Far North has tangibly increased in recent years. Combined with political assertiveness and rhetorical hostility toward the West, which was a particular feature of Vladimir Putin's second presidential term (2004-2008),<sup>3</sup> the intensified presence of the Russian naval and air forces operating in the region has drawn much of the international attention and contributed to the image of Russia as

the wild card in the Arctic strategic equation (Zysk 2011: 85-86).<sup>4</sup> However, in contrast to quite frequent military exercises and harsh public diplomacy, one of the main declared priorities of Russian politics is *to keep the Arctic as a zone of peace and cooperation* (Medvedev 2008a). The reason is that Russia is a dominant actor in the Arctic (with half of its territory and a majority of its population) it can thus be considered as a status quo power in the region, i.e. it is not seeking revision in the regional balance of power. Moscow needs stability in its Northern territories to guarantee the necessary level of industrial and economical development. As a status quo power, it wants to solve disputes in this region by peaceful means, with the help of international law and international organizations, as it guarantees economical, political and security benefits (Konyshev and Sergunin 2014a).<sup>5,6</sup>

In the field of social-economic development Kremlin plans to *transform the Arctic as a principal source of natural resources, which will fully meet the Russian needs, by 2020*.<sup>7</sup> From this perspective the above mentioned status quo and stability are crucial. A potential military conflict could negatively influence the assurance of Russia's national interests (Strategia 2009). Therefore, in this case the economic interests prevail over other intentions. Furthermore, Moscow realizes that it is very much in their interest to avoid significant militarization in the Arctic, as they need to have good relations with western corporations, first and foremost because of western capital and know-how to develop its Arctic oil and gas resources.

On the other hand, Moscow has expressed its readiness to protect its interests in the Northern territories even by military force. This does not necessarily mean a change in the existing strategic balance, but rather applies to situations where some potential factor threatens Russia's security or economic development, and thus threatens the status quo (in geopolitical terms).

### **Modernization of Russian Military Capabilities: A Key Factor in Maintaining the Status Quo**

In a strategic context, Arctic military capabilities play a crucial role in Russia's ability to maintain its current advantages and deter potential challengers. In recent years all Arctic countries have increased their capabilities to operate militarily in the Far North. They have also started to increase their military presence and have presented plans for additional military build-up (acquiring specific equipment capable for the polar conditions, improving military infrastructure and increasing military forces) (for detailed information see Annex 1). While these changes are sometimes portrayed as significant military build-ups and potential threats to security, the five littoral states are making only limited increases in their capabilities to project military power beyond their recognized national territories (Wezeman 2012).

However this development could be perceived in Moscow as a challenge to the status quo which is favorable to Russia.<sup>8</sup> The reaction included the development of several modernization plans tailor-made for the Arctic. It includes modernization of military hardware but also support capabilities and necessary infrastructure in the High North. In the vast distances of the Arctic, the maintenance of infrastructure is a necessary precondition for effective military presence. In this context the Ministry of Defence has announced plans to modernize its Arctic military and border patrol capabilities and to reopen its airfields as well as ports on the New Siberian Islands and the Franz Josef Land archipelago, which were mothballed in 1993 (Ria Novosti 2014a). In 2013, Russia also completed reconstruction of the runway at the airport "Rogachevo" ("Anderma-

2”), which is located on the peninsula *Gusinaya Zemlya* (part of the Novaya Zemlya archipelago), and has started to restore its airfield “Temp” on Kotelny Island near the city of Norilsk. It is also overhauling urban facilities in Tiksi, Naryan-Mar, and Anadyr. Additionally, seven airstrips on the continental part of the Arctic Circle are planned to be reopen. The location of these islands is strategic as it enables Russia to control the entire region (Muhin 2013; RT 2013).

Besides infrastructure, the Kremlin also seeks to reinforce its military. Russia emphasizes the importance of maintaining a “necessary combat potential” in the North (Medvedev 2008a). President Putin supported this statement saying that Russia needs to use every means to protect its national interests in the region. “Next year, we have to complete the formation of new large units and military divisions (in the Arctic)” (BBC News 2013; Ria Novosti 2014c). In March 2009, the Kremlin announced a plan for a special military force to protect Arctic interests. Later on (May 2011), it was reported that two Arctic special forces brigades had been unveiled, based at Pechenga on the Kola Peninsula. Despite the fact that the concrete status of these brigades still remains unclear, the first brigade should be the 200th Independent Motorised Rifle Brigade (200 IMRB), which was resubordinated from Ground Forces to the Russian Navy’s Northern Fleet in 2012. It should receive modernized systems and upgraded equipment suited to the polar conditions, while retaining its existing armored vehicles and tanks. The whole process was planned to be completed by the end of 2011, however, as the Russian officials saw its limits to fulfill the proposed plans, the timetable for the “Arctic brigades” full readiness has been extended to somewhere between 2015 and 2020. The second brigade is to be based at Arkhangelsk. This brigade’s disposition also remains to be clarified. The fundamental equipment changes (such as snow capable vehicles) are still to be fulfilled. Each of the Arctic brigades should have about 4000 troops, although what ultimate size, scale, composition and missions these new “Arctic brigades” will have will become much clearer after the complete transformation of these formations (O’Gorman 2013).<sup>9</sup>

According to some experts Moscow’s legitimacy for such a plan (together with new equipment for Russian border guards and coast guard forces) has been presented to the domestic audience as a necessity to protect its interests and borders against the US and Canada. However, there is no such threat, neither from the US nor Canada, to which Moscow should fear. Therefore, it looks like more political and economic posturing than a real, cross-Arctic, rapid-intervention force capability (O’Gorman 2013).

Even more importantly, these investments will also focus on enablers as automatic systems for constant surveillance of the furthestmost Arctic reaches, including stationary and mobile electro-optical and infrared systems, as well as meteorological, communication and radar satellites within the space system “Arktika” (Zysk 2010).

The air force is perceived by Moscow as a central element in its demonstration of power. Two Tu-95MS, based in the Saratov region at the Engels aviation base with mid-flight refueling capability, now regularly patrol the Arctic. The Russian air force potential available for operations in the Arctic has a fleet of aging long- and medium-range bombers. The air force consists of 63 turbo-propelled Tu-95MSs, which are very old but remain a strategic aviation component. The air force further includes 18 long-range Tu-160 Blackjacks bombers, as well as 80 Tu-22M Backfire medium bombers. In the regard of the Russian airforce, no credible plans to modernize the above fleet are known (Konyshev and Sergunin 2014a).<sup>10</sup>

The NF is responsible for the protection of the Northern territories - the largest of the Russian fleets - which is stationed at several large naval and air bases on the Kola Peninsula and along the coasts of the Barents and White seas. It plays a crucial role in securing Russian sovereignty over its part of the Arctic. The NF includes 30 nuclear-powered submarines, from which 7 are nuclear-powered ballistic missile submarines (SSBNs), protected by surface ships. Russia's only aircraft carrier "Admiral Kuznetsov" is also dedicated to the NF, however its primary role is to project power to the Atlantic Ocean and beyond. The fleet also includes 17 cruisers, destroyers and frigates, including the flagship of the Navy, "Pyotr Velikiy", a nuclear-powered guided missile cruiser, and 33 auxiliary vessels.

According to the latest news, 40 new ships and logistics vessels will be supplied to the NF by 2020, including 6 multi-role nuclear and conventional submarines, 2 large landing vessels, a destroyer, 5 frigates, 5 trawlers and 21 logistics vessels. As confirmed by fleet commander Admiral Vladimir Korolyov: "it is planned to replenish the Northern Fleet with new vessels and upgrade those in service by 2020 as part of the state armaments program and by 2016, the amount of new equipment should reach 50 percent, by 2020, it has to rise to 85 percent" (Lenta.Ru 2014). Priority has also been given to the modernization of Russian nuclear arsenals, including the building of Russia's first multi-purpose nuclear submarine - *Yasen class* (NATO classification Severodvinsk), which officially started service in 2013. An additional 4 *Yasen class* submarines are planned to be completed by 2020 (Staalesen 2012).

Currently, Moscow is preparing a detailed plan for this new structure, which should become operational by the end of 2014 (Ria Novosti 2014b). The new command structure, "*Northern Fleet - United Strategic Command (SF-USC)*" will include the NF, Arctic warfare brigades, part of the Air Force and Air Defence units as well as additional administrative structures. The new command will be subordinate to the Commander of the NF (Admiral Vladimir Korolev in 2014) and will be responsible for protecting Russia's Arctic shipping and fishing, oil and gas fields on the Arctic shelf, and the country's national borders in the north (Pettersen 2014a).

### **Specifics of Russian Arctic Capabilities: Icebreaker Fleet and Nuclear Deterrence**

One of the crucial enablers of the NF is the unique icebreaker capability of Russia. In the geographical context and circumstances of the Arctic, the icebreakers have a superior strategic importance. Icebreakers guarantee necessary level of access to territories - without the access there is no real, only a theoretical capability to deploy forces or to use the territory for military or economic purposes. The unique capabilities of Russia's icebreaker fleet gives it a central position in Russian strategic thinking and considerations. In this context it is a crucial factor that Russia has the world's largest and most powerful icebreaker fleet. At present, Rosatomflot possesses 18 icebreakers of which 6 are active nuclear-powered and 12 are diesel-powered.<sup>11</sup> The Kremlin has been actively using icebreakers created mainly for the purpose of supplying and servicing the country's Northern settlements, including the export of natural resources, ensuring naval and civilian ship traffic across thick ice along the route (Ragner 2008).

At the moment, the icebreaker fleet is largely capable of fulfilling needs in the Russian Arctic, but while capacity is bound to diminish, the need for icebreaker services will increase as petroleum activities and transport increases in the Barents and Kara Seas. In a not too distant

future, needs will surpass capacities (Ragner 2008). While refurbishing efforts have been made to enable the nuclear icebreakers to operate beyond their normal service-life, several of the remaining icebreakers will inevitably be decommissioned within the coming decade. The icebreaker fleet is ageing, therefore under current conditions of limited funding, perhaps the highest priority is life extension of the icebreakers.<sup>12</sup> Since the planning and building of a new generation of large (nuclear) icebreakers can be assumed to take at least ten years from the time a decision is made, it seems obvious that Russia's icebreaker fleet will shrink considerably before it grows again.<sup>13</sup> Currently, there is only one ship under construction - the biggest nuclear-powered icebreaker "Arktika", which is planned to be commissioned in 2017. This ship will be able reach any point in the Arctic Ocean any time of the year (Weaver, 2013).<sup>14</sup>

Nuclear icebreakers remain important for the economic survival of Russia's Arctic regions, as they guarantee the free naval transport through far north territories and secure access to isolated regions. Therefore, they are a central element of the Northern Sea Route development strategy (Bukharin 2006).

Besides the icebreaker fleet, the nuclear deterrence force stationed at the bases of the Kola Peninsula, should be considered as Russian-specific, but in the Arctic. The Kola Peninsula hosts two-thirds of the Russian sea-based nuclear forces. However it is necessary to underline that those forces are not useful in case of conventional military conflict in the High North. Their primary role is global strategic deterrence and the only connection with the Arctic is, that their home bases and parts of their operational area are located there. While not tailored for strikes in the Arctic their presence gives very specific importance to the Russian military in general.

In this context it is crucial to secure open access to the world's oceans and the possibility of broad operational maneuver for the submarine forces (unlike the ports on the Black Sea or the Baltic which have choke points to open oceans controlled by NATO countries). Moreover, there is relatively developed military infrastructure which makes this region well suited for strategic naval operations, and land territories also provide a test bed for new weapons and host a range of important military installations and defence industries.

The specific importance of the Arctic is emphasized by the fact that the nuclear deterrent remains not only a key element of the Russian military strategy, but serves also as a symbol and guarantee of Russia's great power status. Maintaining strategic nuclear capabilities is, therefore, one of the highest priorities of Russia's military policies both in the North and globally (Zysk 2010; Konyshv and Sergunin 2014a). Currently, one of the main Arctic-related strategic motivations of the Kremlin is to regain status as a "world naval power" as it is declared in the National Security Strategy, and thus is impossible without guaranteed access to the Atlantic Ocean (Strategia 2009).

## **Conclusion**

Russia's growing attention to the geopolitics of the Arctic has been occasionally accompanied by rhetoric, and to some extent, an increase in northern military presence is to protect Russian interests. Certainly, the two new "Arctic brigades" as well as the military infrastructure development in the High North can be considered as an increase in Russia's Arctic presence.

While those improvements are often seen as serious in terms of military capabilities, the majority of advertised military programmes have been launched to modernize current capabilities and replace decommissioned weapon systems. It means, in the best-case scenario, that they slow the gradual downsizing of armed forces. The icebreaker fleet is a cogent example of the continuously shrinking capabilities, which will not be able to maintain current levels even through the already declared modernization plans. Altogether, these changes have little or nothing to do with power projection outside of Russian territory. Most of them are supporting border patrol capabilities and protecting national territories that have recently become more accessible.

Therefore, the Kremlin's strong announcements about the large acquisition of military capabilities are misleading and have little prospect of being completely realized (mainly for financial reasons). These "political dances" are mostly addressed as a message for domestic audience, even though they have drawn international attention. The Russian strategic interest is to maintain the status quo, as within the current situation they have the most advantage. Cooperation with other Arctic states is the utmost priority for Moscow, as it guarantees some level of stability and necessary know-how for economic prospects. Any changes at the international platforms, which could lead to the isolation of Russia, would have dramatic consequences, as it could weaken Russia's Arctic position. As Byers notes, even though the Arctic Council was established as part of efforts to engage Russia in the post Cold War era, the latest developments might stir the Kremlin's biggest concern, that is that NATO could potentially speak with one voice against Russia (Byers 2014).

Russian shortfalls in transparency about their long-term military ambitions could also have a negative impact on the region's security, and in the end on Moscow's strategic position as well. Russia's unclear and insufficient communication about the current status of their armed forces and modernization plans could lead to serious concerns on the part of other Arctic states. If their concerns reach a critical level, the reaction would be further securitization of the region, in an atmosphere which currently lacks confidence-building measures.

## Notes

1. Paradoxically, during the 1990s, Russia's Arctic regions were perceived by the federal government as a burden or source of various socioeconomic problems rather than an economically promising region. The far northern regions were almost abandoned by Moscow and had to rely on themselves (or foreign humanitarian assistance) in terms of survival (Konyshchev and Sergunin 2014a).
2. Strategic document for Russian policy in the Arctic. *Osnovy gosudarstvennoi politiki Rossiiskoi Federatsii v Arktike na period do 2020 goda i dalneishniiu perspektivu*, 2008, Sovet Bezopasnosti Rossiiskoi Federatsii, Retrieved from <http://www.scrf.gov.ru/documents/15/98.html>, hereafter "Foundations" 2008.
3. One of the best-known examples of the assertiveness is found in a famous speech by president Putin at the 2007 Security Conference in Munich. The address, which many observers felt as a reminiscence of the Cold War, contributed to the perception of Russia

as a resurgent power with an approach to international relations rooted deeply in classical realpolitik and an inherently conflictual zero-sum game (Zysk 2011). The speech was delivered on 10 February 2007 and is available at the conference's website: <http://www.securityconference.de>.

4. The military activity includes regular aircraft surveillance patrols by Russia's long-range-aviation (LRA) and support aircrafts to the Atlantic and Pacific Oceans. This practice was resumed in August 2007 after fifteen years long pause. The increase in the activity was remarkable - 14 flights of Russian strategic bombers along the Norwegian coast in 2006, next year, in 2007, the number was 88 flights, in 2008 the number was 97 flight, in 2009 the number slightly decrease to 75 flights (Zysk 2011). For more information see: Pål Guttormsen, "Møter færre russerfly", Finnmarken, 3 August 2010.
5. Such a privileged position of Russia in the Arctic is very unique, because on other borders (like Ukraine or South Caucasus) the Kremlin doesn't have such a position, and is rather challenging the balance of power in terms of geopolitics and strategy.
6. Even though the rhetoric over the Arctic was politically charged, Russia and the other Arctic countries have been cooperating on a regular basis. The military cooperation between Russia and NATO countries, such as Norway and the US, has been one distinctive and exceptional Arctic feature. The first bilateral Russian-U.S. exercise "Northern Eagle" was conducted in 2004 and Norway joined these exercises in 2008. Since that time, the exercises have been held every two years in the Barents and Norwegian seas. For more information see: Pettersen, T. (2014b March 05). USA cancels joint exercises with Russia. Barents Observer. Retrieved from <http://barentsobserver.com/en/security/2014/03/usa-cancels-joint-exercises-russia-05-03>. However, the cooperation has been disturbed this year, when the biannual "Northern Eagle" was called off after the US announced that it would be cancelling its participation as a result of Russian invasion to the developments in Ukraine. Furthermore, Canada boycotted an Arctic Council Working Group meeting in Moscow. As this is the first time that an Arctic Council meeting was boycotted by one of the state member, this event remains historical in the Arctic co-operation. Cancellation of these events could have serious impacts on the future status of relations among the Arctic leaders. Mainly in regard to the next US chairmanship of the Arctic Council, the other littoral states might not be willing to include Russia to the negotiation table.
7. *Osnovy gosudarstvennoi politiki Rossiiskoi Federatsii v Arktike na period do 2020 goda i dalneishuiu perspektivu*, 2008, Sovet Bezopasnosti Rossiiskoi Federatsii, Retrieved from <http://www.scrf.gov.ru/documents/15/98.html>, hereafter "Foundations" 2008.
8. Russian national interests and main strategies in the Arctic were formulated the draft of the document "Foundations of the State Policy of the Russian Federation in the Arctic", which was approved by the Russian Cabinet, on 14 June 2001. After seven years, on 18 September 2008, President Medvedev approved the "Foundations of the State Policy of the Russian Federation in the Arctic Up to and Beyond 2020", which was the first Russian post-Soviet Arctic strategy. Russia was one of the first among the Arctic states who managed to adopt such a document (only Norway had its official doctrine for the North in 2006). Since the Strategy-2008 was of a rather general nature, it should be

specified and regularly updated by other documents. On 20 February 2013, a document titled “The Strategy for the Development of the Arctic Zone of the Russian Federation” was approved by President Vladimir Putin (Konyshev and Sergunin 2014a). For more information see Konyshev, V., Sergunin, A. (2014a). *Is Russia a revisionist military power in the Arctic?*. Defense & Security Analysis. Routledge.

9. Russia has several aspirations for these new military reforms but the one that most pertains to the formation of the Arctic brigades can be found resonating in a statement from then Russian Minister of Defence Anatoliy Serdyukov: “*All ground forces to become fully manned, permanent-readiness units.*” In practical terms, this meant the desire for the most modern equipment, the adoption of a regular trainings and the readiness to deploy on short notice (six to eight hours) within their areas of responsibility (O’Gorman 2013).
10. Over flights of Russian military aircraft over the Arctic fell from 500 per year during the Soviet period to only half a dozen in the 1990s and at the start of the 2000s. In 2007, Russian strategic bombers flew over the Arctic for the first time since the end of the Cold War (Konyshev and Sergunin 2014a).
11. The primary difference between nuclear-powered and diesel-powered ships is that the former one are bigger, more powerful, without almost no range limitations, and most importantly they don’t require refuelling for several years (5-7 years) (<http://arcticjournal.com/politics/243/russia-building-largest-nuclear-ice-breaker>).
12. Icebreaker life expectancy depends on operational tempo, ice conditions, maintenance and other factors. The expected service life is 100,000 full power hours, which corresponds to about 20 years of ship operation. Makarov et al., “The Experience of Designing and Operation of Civilian Ship Reactor Units,” *Atomnaia Energia* (September 2000): 179–189 (Bukharin 2006).
13. After the Yamal joined the fleet in 1993, it took 14 years until another major icebreaker – the 50 Let Pobedy – was launched in 2007. Bigger and more powerful icebreakers of the Arktika class, such as the “50 Let Pobedy” and the “Yamal”, have been playing the first fiddle, as it were, since the 1970s.
14. The “Arktika” icebreaker is able to open passages through 3 metres thick ice fields, in comparison to current icebreakers, which are able to cut average ice fields about 1.5-2 metres depth (Bukcharin 2006).
15. Canada’s current defence policy is contained in the Canada First defence strategy of 2008, which includes plans for investments until 2028 (Canadian Department of National Defence (DND), Canada First Defence Strategy (DND: Ottawa, 18 June 2008).; Canada’s Arctic policy is specified in the government’s Northern Strategy, which was released in July 2009. Canadian Government, *Canada’s Northern Strategy: Our North, Our Heritage, Our Future* (Minister of Public Works and Government Services: Ottawa July 2009).
16. Denmark’s defence policy for the period 2010–14 is contained in the 2009 Danish Defence Agreement, which underlines the changing geostrategic significance of the Arctic (Danish Ministry of Defence (MOD), Danish Defence Agreement 2010–2014

- (MOD: Copenhagen, 24 June 2009); A special Arctic strategy was adopted in 2011. (Danish Ministry of Foreign Affairs (MFA), Greenland Department of Foreign Affairs and Faroe Islands Foreign Service, Kongeriget Danmarks Strategi for Arktis 2011–2020 [The Kingdom of Denmark’s strategy for the Arctic 2011–2020] (MFA: Copenhagen, Aug. 2011).; In July 2009 the Danish Parliament approved a plan for an Arctic military command and task force to be set up by 2014 (Danish Ministry of Foreign Affairs, Greenland Department of Foreign Affairs and Faroe Islands Foreign Service; The Arctic Military Command will merge the Greenland and Faroe Islands commands and will be headquartered in Nuuk, Greenland (ibid.)
17. Norwegian defence policy is guided by the 2007 Soria Moria Declaration on International Policy, which gave the north of Norway and Svalbard a priority in national defence. (Office of the Norwegian Prime Minister, ‘The Soria Moria declaration on international policy’, 4 Feb. 2007, <<http://www.regjeringen.no/en/dep/smk/documents/Reports-and-action-plans/rappporter/2005/The-Soria-Moria-Declaration-on-Internati.html>>; Norwegian Ministry of Defence (MOD), Norwegian Defence: Facts and Figures 2011 (MOD: Oslo, 2011), p. 30.
  18. The US Arctic Policy was firstly presented in 1994, than it was replaced during the President Bush administration in 2009 - White House, ‘Arctic region policy’, National Security Presidential Directive no. 66 and Homeland Security Presidential Directive no. 26, 9 Jan. 2009, <<http://georgewbush-whitehouse.archives.gov/news/releases/2009/01/20090112-3.html>>; The Arctic was not mentioned at all in a January 2012 document outlining security priorities for the 21st century. Later on, in May 2013, the US published its National Strategy For the Arctic Region, [http://www.whitehouse.gov/sites/default/files/docs/nat\\_arctic\\_strategy.pdf](http://www.whitehouse.gov/sites/default/files/docs/nat_arctic_strategy.pdf) The new strategy is being unveiled as the United States begins preparations to take over the rotating chairmanship of the Arctic Council. (<http://www.ipsnews.net/2013/11/u-s-unveils-military-strategy-arctic/> )
  19. Russia’s latest Arctic military exercises took place in March 2014, when paratroopers (a 350-strong battalion) landed on the New Siberian Islands. Such an exercise was realized for the first time in Russian history (Ria Novosti 2014a).
  20. The most prominent military capabilities located in the US part of the Arctic are connected with the air force basis in Alaska, which are dealing with Russian far east, and – as the most recent development – the built up anti-missile capabilities tailored for countering missile threat from north east Asia. It means that the most important US military capabilities in the Arctic, notably Alaska, are there to counter security threats and challenges rooted in other-than-Arctic regions. The American military capabilities directly associated with the Arctic remain limited, if we do not count with air force dealing with Russian air forces and long-range strategic bombers.
  21. Norway has always played an irreplaceable role from the NATO strategic point of view. The latest NATO military exercise “Cold Response” took place in March 2014 in Harstad (northern Norway), which included nearly 16,000 troops from 16 different NATO countries to train high-intensity operations in an extremely challenging cold-

weather. As such, it improves the NATO's ability to effectively fight and survive in an Arctic environment. It is believed, that following the withdrawal from ISAF mission, NATO is returning to the type of winter warfare drills that were used during the Cold War. Some of the equipment (for example winter clothes) that were specially prepared for Afghan mountains will be possible to use also in cold Arctic weather conditions (Pettersen, T. 2014, March 21). *Exercise Cold Response in final phase*. Barents Observer. Retrieved from <http://barentsobserver.com/en/security/2014/03/exercise-cold-response-final-phase-21-03>).

22. The readiness of Russian navy is being checked by the military exercises. In 2011, Russia conducted large-scale military exercises of Northern Fleet, which included the only aircraft carrier "Admiral Kuznetsov", the Navy's flagship nuclear-powered heavy cruiser the "Pyotr Veliky", also submarines, surface vessels, ground force and air force. (Pettersen, T. 2011, September 9). *Russian navy flexing muscles in Barents Sea*. Barents Observer. Retrieved from <http://barentsobserver.com/en/regions/russian-navy-flexing-muscles-barents-sea>.

## References

- Argumenty i fakty (2014, June 1). *Sostav Severnogo flota RF. Infografika* (Structure of the Russian Northern Fleet. Infographics). Argumenty i fakty. Retrieved from <http://www.aif.ru/infographic/1179880>.
- Arctic.ru (2014). *Geography & Population*. Retrieved from <http://arctic.ru/geography-population>.
- Baev, P. (2009). Troublemaking and Risk-Taking: The North in Russian Military Activities. In Rowe, E., W. (ed.) (2009). *Russia and the North* (pp. 17-34). Ottawa: University of Ottawa Press.
- BBC News (2013, December 11). *Putin orders Russian military to boost Arctic presence*. BBC News. Retrieved from <http://www.bbc.com/news/world-europe-25331156>.
- Blank, S. (2014, 22 September). Moscow Begins Building a New Black Sea Fleet. *Eurasia Daily Monitor* (The Jamestown Foundation). 11(166). Retrieved from [http://www.jamestown.org/programs/edm/single/?tx\\_ttnews\[tt\\_news\]=42852&tx\\_ttnews\[backPid\]=756&no\\_cache=1#.VCgnKRZr9co](http://www.jamestown.org/programs/edm/single/?tx_ttnews[tt_news]=42852&tx_ttnews[backPid]=756&no_cache=1#.VCgnKRZr9co).
- Bukharin, O. (2006). *Russia's Nuclear Icebreaker Fleet*. Routledge: Taylor & Francis Group, pp.25-31.
- Byers, M. (2014). The Emerging Arctic. *Council on Foreign Relations*. Retrieved from <http://www.cfr.org/arctic/emerging-arctic/p32620#!/?cid=soc-Facebook-in-infoguide-the-emerging-arctic-032514#overview>.
- Heininen, L., Sergunin, A., Yarovoy, G. (2013, September 30). *Russian Military Strategies in the Arctic*. Valdai Discussion Club. Retrieved from <http://valdaiclub.com/defense/63263.html>.
- Humpert, M. (2013). *The Future of Arctic Shipping: A New Silk Road for China?* Arctic Shipping. The Arctic Institute. Retrieved from <http://www.thearcticinstitute.org>.
- Isachenkov, V. (2009, March 27). *Russia Plans to Create Arctic Military Force*. Associated Press Retrieved from [http://www.huffingtonpost.com/2009/03/27/russia-tocreate-arctic-m\\_n\\_180157.html](http://www.huffingtonpost.com/2009/03/27/russia-tocreate-arctic-m_n_180157.html).
- Keil, K. (2014). *Evaluation of the Arctic Shipping Season 2013*. The Arctic Institute. Retrieved from <http://www.thearcticinstitute.org/2014/01/evaluation-of-arctic-shipping-season.html>.

- Konyshev, V., Sergunin, A. (2014a, September 1). *Is Russia a revisionist military power in the Arctic? Defense & Security Analysis*.
- Konyshev, V., Sergunin, A. (2014b). *Sotrudnichestvo priarkticheskikh gosudarstv v oblasti predotvrasheniia chrezvychajnykh situacii i poiskovospasatel'nykh rabot: problemy i perspektivy* (Cooperation of the Arctic states in the field of prevention of emergency situations and search and rescue works: problems and prospects). *Arktika i Sever*. No. 15. Severnyi (Arkticheskii) federal'nyi universitet imeni M. V. Lomonosova. Retrieved from [http://narfu.ru/aan/article\\_index\\_years.php?SECTION\\_ID=6231](http://narfu.ru/aan/article_index_years.php?SECTION_ID=6231).
- Kříž, Z. and Chrástanský, F. (2012). *Existing Conflicts in the Arctic and the Risk of Escalation: Rhetoric and Reality*. 20(1): 111-140.
- Laruelle, M. (2014). *Russia's Arctic Strategies and the Future of the Far North*. New York: M.E. Sharpe.
- Lasserre, F., Le Roy, J., Garon, R. (2012). Is there an arms race in the Arctic? *Journal of Military and Strategic Studies*. 14(3 & 4): 56p. Retrieved from <http://www.jmss.org/jmss/index.php/jmss/article/view/496/492>.
- Lenta.Ru (2014, April 8). *Severnyj flot poluchit èsminec proekta «Lider»* (Northern Fleet receives a destroyer project "Leader"). Retrieved from <http://lenta.ru/news/2014/04/08/lider>.
- Medvedev, D. (2008a). *Osnovy gosudarstvennoi politiki Rossijskoi Federatsii v Arktike na period do 2020 goda i dalneishuiu perspektivu* (Foundations of the State Policy of the Russian Federation in the Arctic Up to and Beyond 2020). Sovet Bezopasnosti Rossijskoi Federatsii, Retrieved from <http://www.scrf.gov.ru/documents/15/98.html>
- Medvedev, D. (2008b, September 17). *Speech at Meeting of the Russian Security Council on Protecting Russia's National Interests in the Arctic*. Retrieved from [http://archive.kremlin.ru/eng/speeches/2008/09/17/1945\\_type82912type82913\\_20654.shtml](http://archive.kremlin.ru/eng/speeches/2008/09/17/1945_type82912type82913_20654.shtml).
- Ministerstvo oborony Rossijskoj Federacii (Ministry of Defence of the Russian Federation), 2013, Retrieved from [http://function.mil.ru/news\\_page/country/more.htm?id=11836566@egNews](http://function.mil.ru/news_page/country/more.htm?id=11836566@egNews).
- Muhin, V. (2013, October 17). *Rossija gotovit voennye bazy dlja zashity Arktiki* (Russia is preparing a military base to protect the Arctic). *Nezavisimaja gazeta*. Retrieved from [http://www.ng.ru/armies/2013-10-17/1\\_arctica.html](http://www.ng.ru/armies/2013-10-17/1_arctica.html).
- Ondrejcsák, R. (2009). American Foreign and Security Policy under Barack Obama: change and continuity. In Majer, M., Ondrejcsák, R., Tarasovi, V., Valášek, T. (eds.). *Panorama of Global Security Environment 2009* (pp. 147-162). Bratislava: CENAA.
- O'Gorman, R. (2013, June 21). *Fire on ice: Russia's new Arctic brigades*. Briefing paper. Open Briefing. Retrieved from <http://www.openbriefing.org/thinktank/publications/russias-new-arctic-brigades>.
- Padrtová, B. (2012). Russian approach towards the Arctic region. In Majer, M., Ondrejcsák, R., Tarasovič, V. (eds.), *Panorama of Global Security Environment 2012* (pp. 339-350). Bratislava: CENAA.
- Pettersen, T. (2014a, February 17). Russia to reorganize military forces in the Arctic. *BarentsObserver*. Retrieved from <http://barentsobserver.com/en/security/2014/02/russia-reorganize-military-forces-arctic-17-02>.
- Pettersen, T. (2014b, March 05). USA cancels joint exercises with Russia. *Barents Observer*. Retrieved from <http://barentsobserver.com/en/security/2014/03/usa-cancels-joint-exercises-russia-05-03>.
- Pettersen, T. (2014c, September 02). Northern Fleet pilots again training on Crimea. *Barents Observer*. Retrieved from <http://barentsobserver.com/en/security/2014/09/northern-fleet-pilots-again-training-crimea-02-09>.

- Prezident Rossii. *Voennaja doktrina Rossijskoj Federacii* (Military Doctrine of Russian Federation). Published on 21 April, 2000. Nezavisimaia Gazeta. Retrieved from [http://www.ng.ru/politics/2000-04-22/5\\_doktrina.html](http://www.ng.ru/politics/2000-04-22/5_doktrina.html).
- Pukhov, R., Frolov, A. (2014). The Ukrainian Crisis: Possible Implications for the Russian Military Industry. *Valdai Discussion Club*. Retrieved from <http://valdaiclub.com/defense/68761.html>.
- Ragner, C., L. (2008). The Northern Sea Route. In Hallberg, T. (ed), *Barents- ett gränsland i Norden* (pp.114-127). Stockholm. Arena Norden.
- Rambler (2010, October 7). *Rosnedra zavershili ekspedicionnii etap issledovanii po obosnovaniiu vneshnej granicy shel'fa RF v Arktike* (Rosnedra completed expeditionary phase of research to justification of the external border of Russian shelf in the Arctic). Rambler.ru. Retrieved from <http://news.rambler.ru/7730359/20461268/>.
- Ria Novosti (2007, October 1). *Lomonosov ridge could bring Russia 5 bln tons of extra fuel*. Ria Novosti. Retrieved from <http://en.ria.ru/russia/20071001/81830517.html>.
- Ria Novosti (2011). *National claims to the Arctic shelf*. Ria Novosti. Retrieved from <http://en.ria.ru/infographics/20111005/167347167.html>.
- Ria Novosti (2013, October 8). *Russia to Up Nuclear Weapons Spending 50% by 2016*. Retrieved from [http://en.ria.ru/military\\_news/20131008/184004336/Russia-to-Up-Nuclear-Weapons-Spending-50-by-2016.html](http://en.ria.ru/military_news/20131008/184004336/Russia-to-Up-Nuclear-Weapons-Spending-50-by-2016.html).
- Ria Novosti (2014a, February 17). *Russia to Set Up Arctic Military Command by 2015*. Ria Novosti. Retrieved from <http://en.ria.ru/russia/20140217/187620827/Russia-to-Set-Up-Arctic-Military-Command-by-2015.html>.
- Ria Novosti (2014b, March 14). *Massovniu vysadku desantnikov v pervie v istorii RF proveli v Arktike* (Mass paratroopers landing first in the Russian history held in the Arctic). Ria Novosti. Retrieved from [http://ria.ru/defence\\_safety/20140314/999422766.html](http://ria.ru/defence_safety/20140314/999422766.html).
- Ria Novosti (2014c, April 22). *Rossia ukrepit voennye i finansovye pozicii v Arktike* (Russia strengthens the military and financial positions in the Arctic). Ria Novosti. Retrieved from <http://ria.ru/politics/20140422/1005011001.html>.
- RT (2012, September 12). *Race for Arctic resources shouldn't spark new Cold War – Russian official*. RT. Retrieved from <http://rt.com/politics/arctic-resources-russia-gas-972/>.
- RT (2013, December 10). *Putin orders Arctic military build-up in 2014*. RT. Retrieved from <http://rt.com/news/arctic-russia-military-putin-000/>.
- SIPRI (2013). *The SIPRI Military Expenditure Database*. Retrieved from <http://milexdata.sipri.org/files/?file=SIPRI+military+expenditure+database+1988-2013.xlsx>.
- Sapir, J. (2014). Future of the Mistral Contract. *Valdai Discussion Club*. Retrieved from <http://valdaiclub.com/defense/71185.html>.
- Southcott, C. (2010). History of Globalization in the Circumpolar World. In Heininen, L., Southcott, C. (eds.) (2010). *Globalization and the Circumpolar North* (pp. 23-55). Fairbanks, Alaska: University of Alaska Press.
- Staalesen, A. (2012). *New attack submarine ready before year's end*. Barents Observer. August 20, 2012. Retrieved from <http://www.barentsobserver.com/en/security/new-attack-submarine-ready-years-end-20-08>.
- Strategia (2009). *Strategia natsional'noi bezopasnosti Rossijskoj Federatsii do 2020 goda* (The National Security Strategy of the Russian Federation until 2020). Sovet Bezopasnosti Rossijskoj Federatsii. Retrieved from <http://www.scrf.gov.ru/documents/1/99.html>.
- Weaver, R. (2013). *Russia building largest nuclear icebreaker*. The Arctic Journal. November 12, 2013. Retrieved from <http://arcticjournal.com/politics/243/russia-building-largest-nuclear-icebreaker>.

- Wezeman, S.T. (2012). *Military Capabilities in the Arctic*. SIPRI Background Paper. March 2012. Retrieved from <http://books.sipri.org/files/misc/SIPRIBP1203.pdf>.
- Zysk, K. (2010, August). *Russian perspectives on Arctic security*. *Baltic Rim Economies*. 4(31): 17-18.
- Zysk, K. (2011). *Military Aspects of Russia's Arctic Policy: Hard Power and Natural Resources*. In Kraska, J. (ed.) (2011). *Arctic Security in an Age of Climate Change* (pp. 85-106). New York: Cambridge University Press.

## Annex 1: Military Capabilities in the Arctic

Air capabilities	
Canada <sup>15</sup>	<ul style="list-style-type: none"> <li>- the Royal Canadian Air Force operates 18 CP-140 (P-3C) anti-submarine warfare (ASW) aircraft that have the range to patrol the Arctic region from their base on the east coast of Canada</li> <li>- they will be replaced by 10–12 new aircraft from 2020</li> <li>- 80 F/A-18 combat aircraft stationed in south-east and central Canada that are regularly deployed in the Arctic region, especially to intercept Russian bomber, which are supported by 7 tanker aircraft</li> <li>- Aircraft acquisitions in recent years, such as of C-130J and C-17 transport aircraft, have been partly for Arctic missions</li> <li>- Joint Uninhabited Surveillance and Target Acquisition System (JUSTAS) project for 6 unmanned aerial vehicles (UAVs) for maritime and Arctic patrol</li> <li>- air surveillance radars North Warning System, which forms part of the North American Aerospace Defence Command (NORAD)</li> <li>- <i>plans to replace the F/A-18s with 65 F-35 Joint Strike Fighters (JSFs) from 2020</i></li> <li>- <i>17 search-and-rescue aircraft are planned to replace older C-130 and other aircraft</i></li> </ul>
Denmark incl. Greenland <sup>16</sup>	<ul style="list-style-type: none"> <li>- Denmark operates three unarmed maritime patrol aircraft over the Baltic Sea and off Greenland.</li> <li>- <i>plans for the potential deployment of F-16 combat aircraft to Greenland</i></li> <li>- in the past Danish F-16s have used Kangerlussuaq (Søndre Strømfjord) Airport in western Greenland. The renewed use of the currently dormant Thule Air Base in the north-west of Greenland has been considered</li> <li>- in Thule there is the air surveillance radar, which is operated by the North Warning System and controlled by the North American Aerospace Defence Command (NORAD)</li> </ul>
Norway <sup>17</sup>	<ul style="list-style-type: none"> <li>- a large proportion of the approximately 60 F-16 combat aircraft that Norway operates is based in Bodø, the main base of the Royal Norwegian Air Force. However, in November 2011 the Norwegian chief of defence recommended the closure of the air base at Bodø by 2024 and relocation of the combat aircraft south to Ørland</li> <li>- Norway has decided to buy up to 56 F-35 aircraft to replace the F-16s from around</li> </ul>

	<p>2018. However, with their limited range and lack of tanker aircraft support, F-16 and F-35 aircraft are not much use in the Arctic area outside Norway. The bulk of what can be seen as a real Arctic capability lies with the six P-3 long-range maritime patrol aircraft. However, these are now over 20 years old and, while they are to be modernized, no plans have yet been announced for a replacement</p>
Russia	<ul style="list-style-type: none"> <li>- Russia's air assets in the Arctic region consist mainly of the aircraft supporting the Northern Fleet or stationed in northern Russia, along with some of the aircraft based with the Pacific Fleet. Many of these do not have the range for operations in the Arctic area outside Russia, but 100 navy-operated long-range Tu-22 bomber and Tu-142 and Il-38 maritime reconnaissance aircraft also form part of the fleets.</li> <li>- after a 15-years hiatus, in 2007 Russia recommenced regular deployment of these reconnaissance and bomber aircraft on missions near or over the Arctic</li> </ul>
The US <sup>18</sup>	<ul style="list-style-type: none"> <li>- military-strategic component of the US Armed Forces is the North American Aerospace Defence Command (NORAD), based in Alaska, which controls the North Warning System, which operates air surveillance radars in Alaska, Canada and Greenland. NORAD is crucial for the US strategic security. Even though it is located in the Arctic, it focuses on global dimension of security rather than regional or strictly Arctic-rooted security challenges.</li> <li>- the US maintains 2 large air bases in Alaska: Eielson Air Force Base (AFB) near Fairbanks and Elmendorf-Richardson AFB near Anchorage</li> <li>- both bases house combat and support aircraft, including F-22 interceptors and airborne early-warning (AEW) aircraft and are able to accommodate substantially larger forces</li> <li>- while the US has over 200 long-range maritime patrol aircraft, only a few US Coast Guard HC-130 aircraft based on Kodiak Island operate over the Bering Sea and the Arctic</li> <li>- the US forces also have the use of Thule AFB in the north-west of Greenland, which has a long runway. It is the most northerly US air base but it currently houses only a large intercontinental ballistic missile (ICBM) detection radar and no aircraft</li> </ul>

Sources: (Wezeman, 2012; Lasserre-Le Roy-Garon, 2012)

Land capabilities	
Canada	<ul style="list-style-type: none"> <li>- the Canadian Rangers, a lightly armed paramilitary force with a patrol and reconnaissance role in northern Canada, is trained and equipped for year-round Arctic operations. Its size is being increased from 4100 personnel in 2008 to 5000 by 2012, and it will receive new equipment and weapons</li> <li>- a special small battalion-sized (500 troops) regular army unit for Arctic operations is to be set up. Since 2008, Canadian reserve forces have included an Arctic company, based in Yellowknife, NWT, which under the Northern Strategy is planned to have a strength of 100 by 2019</li> <li>- Since the 1950s a small military base has been located at Alert on Ellesmere Island,</li> </ul>

	Nunavut, in the extreme north of Canada, facing Greenland. To improve Arctic training, a special Arctic training base was set up at Resolute Bay, Nunavut, in 2007
Denmark incl. Greenland	- the small Frømandskorps (frogman corps) special forces unit has a partly Arctic role on Greenland. Denmark also maintains a small military patrol force on Greenland, the Slædepatrulje Sirius (sledge patrol Sirius)
Norway	- Brigade Nord (Brigade North), is the largest active unit of the Norwegian Army. It is winter-trained but is organized as a heavy mechanized unit and is equipped for operations in Norway.  - in November 2011 the chief of defence recommended that the brigade's 2 battalions be reduced to 1  - in August 2009 the headquarters of the Norwegian Armed Forces moved from Jåttå in the south of the country to Reitan, near Bodø, just north of the Arctic Circle, and the headquarters of the Norwegian Army is even further north, in Bardufoss
Russia <sup>19</sup>	- ground forces include naval infantry and an army brigade on the Kola Peninsula. These are winter-trained but are organized and equipped for operations in the north of Russia, not in the more inhospitable regions of the Arctic.  - In March 2009 Russia announced a plan for a special military force to protect Arctic interests. In May 2011 it was reported that Russia's first Arctic special forces brigade had been unveiled, based at Pechenga on the Kola Peninsula. According to Russia, these forces 'balance the situation' with NATO forces in the Arctic. The exact status of the Russian Arctic forces is unclear.
The US <sup>20</sup>	- the US has not yet announced plans for a separate command to supervise military operations in the Arctic  - currently, the Northern Command (USNORTHCOM), the Pacific Command (USPACOM) and the European Command (USEUCOM) all have responsibilities in the Arctic region  - the US Army Alaska (USARAK) 'America's Arctic Warriors', fall under the Alaskan Command (ALCOM), which is part of USPACOM  - ALCOM consists of 16 000 regular personnel and 3700 National Guard and reserve personnel  - the USARAK is made up of ordinary mechanized infantry and airborne troops and is not specifically ear-marked for Arctic operations. It has bases near Anchorage and Fairbanks  - all US Army cold weather training takes place in the Northern Warfare Training Center in Black Rapids  - the 1850-strong Alaska National Guard is the most likely army components to have Arctic tasks  - some other US land forces (incl. the US Marine Corps) have specific training or equipment for potential Arctic roles

Sources: (Wezeman, 2012; Lasserre-Le Roy-Garon, 2012)

Sea capabilities	
Canada	<ul style="list-style-type: none"> <li>- Canada's 15 major surface warships are large enough and its 4 conventional submarines have enough range to operate in the Arctic Ocean</li> <li>- The Royal Canadian Navy currently has no ice-strengthened warships. Patrolling the Arctic is mainly done by the Canadian Coast Guard which has five large- or medium-sized unarmed icebreakers and six small icebreakers. However, most of these can only operate in the Arctic in the summer.</li> <li>- <i>plans for 6 to 8 large Arctic offshore patrol vessels (OPVs) for the navy and 1 large icebreaker for the coastguard to be operational by 2017 replacing an older ship</i></li> <li>- <i>The nearest naval base is at Halifax, Nova Scotia, in the far south-east of Canada. However, the existing small coastguard base at Nanisivik on Baffin Island, Nunavut, is being expanded in the period 2010–15 to a naval base with docking and supply facilities</i></li> </ul>
Denmark incl. Greenland	<ul style="list-style-type: none"> <li>- Denmark's 3 frigates, are able to operate in Arctic waters but are not ice-strengthened (soon to be increased to 5). However, 4 Thetis class OPV/frigates, which were commissioned in the early 1990s and designed for patrols in the North Atlantic and off Greenland, are capable of breaking ice up to 1 metre thick.</li> <li>- 2 smaller but potentially more heavily armed ice-strengthened Knud Rasmussen class OPVs are dedicated for patrols off Greenland; they were ordered in 2004 and commissioned in 2008–2009, and a third is planned for 2017</li> <li>- 1 ice-strengthened large patrol craft also operates from Greenland.</li> <li>- the Royal Danish Navy has a base at Kangilinnuit (Grønnedal) in the south of Greenland</li> </ul>
Norway <sup>21</sup>	<ul style="list-style-type: none"> <li>- the Royal Norwegian Navy is based mainly in Bergen, in the south</li> <li>- in 2010 the coastguard's headquarters was moved north, to Sortland</li> <li>- they had replaced its 5 small frigates by 5 much larger and more capable Fridtjof Nansen class frigates by early 2011. Because of their size and equipment, the new frigates are much more able to operate in Arctic waters, as are Norway's six Ula class submarines.</li> <li>- for the first time, Norway is planning to acquire a large support ship, to be in service in 2015, which will give the frigates a substantial increase in range</li> <li>- Norway also operates a large 'research ship' with electronic and signals intelligence equipment, which is capable of operations in thin ice. A replacement was ordered in 2010.</li> <li>- the Norwegian Coastguard operates 4 large but lightly armed OPVs capable of operations in icy conditions, including 3 with a helicopter hangar, and 4 other large ocean-going OPVs. None of Norway's warships or patrol ships can break ice.</li> </ul>
Russia <sup>22</sup>	<ul style="list-style-type: none"> <li>- the Northern Fleet is the largest of the 5 Russian fleets, stationed at several large</li> </ul>

	<p>naval and air bases on the Kola Peninsula and along the coasts of the Barents and White seas</p> <ul style="list-style-type: none"> <li>- the fleet includes nuclear-powered ballistic missile submarines (SSBNs), which operate in the Arctic area (including under the ice) and are protected by surface ships (including Russia's sole aircraft carrier), nuclear-powered submarines and aircraft</li> <li>- Flagship of the Russian Navy "Pyotr Velikiy" nuclear-powered guided missile cruiser</li> <li>- 10 nuclear powered submarines with ballistic missiles</li> <li>- The Kuznetsov Class heavy aircraft carrying cruiser "Admiral Kuznetsov", which was launched in 1985</li> <li>- a thick icebreaking capacity with the large icebreaker "50 Let Pobedy"</li> <li>- 4 small Project 97 icebreakers, capable of breaking thin ice</li> <li>- the Border Guard Service operates 3 Project 97P large armed icebreaking OPVs in the Northern Fleet area</li> <li>- over 20 civilian icebreakers, including several former navy ships</li> <li>- Russian SSBNs have become more active and in 2009 restarted operations near or under the Arctic ice. In 2009 SSBN launched a ballistic missile after breaking though the Arctic ice. Several older SSBNs are being modernized and new SSBNs are being built. It is likely that this larger and more active SSBN fleet will lead to an increase in surface ships and aircraft</li> <li>- need for escorts and patrol aircraft</li> <li>- while announced plans or visions that foresee several aircraft carriers and large numbers of submarines and escort and support ships are unlikely to be realized due to their high costs, a substantial increase in the Northern Fleet escort capabilities is likely</li> <li>- in addition, power-projection capabilities will increase with the introduction of new amphibious ships</li> <li>- 2 Mistral class amphibious assault/helicopter carrier</li> </ul>
The US	<ul style="list-style-type: none"> <li>- while not specifically adapted to ice conditions, the many US aircraft carriers, other major combat ships and amphibious warfare ships are generally capable of operating in northern weather conditions, but none of them are permanently or partly located in the Arctic</li> <li>- the annual large Northern Edge and Alaska Shield summer exercises included an aircraft carrier group in 2004 and 2009.</li> <li>- The US Navy's only surface ship specifically adapted to Arctic ice conditions is the MV Susitna, a small experimental icebreaking ferry/landing ship</li> <li>- most of the approximately 53 US nuclear attack submarines (but not the SSBNs) are known to be able to operate under the Arctic ice and break through the ice from below; they regularly transit under the Arctic ice or break through the ice and surface near the North Pole</li> <li>- the US Pacific Fleet has a dedicated Arctic Submarine Laboratory that is responsible for developing and maintaining the Arctic capabilities of submarines.</li> </ul>

	<ul style="list-style-type: none"> <li>- in April 2011 2 US nuclear attack submarines participated in Ice Exercise (ICEX) 2011, operating under the Arctic ice. In the same exercise a camp was established 278 nautical kilometres north of Prudhoe Bay, Alaska.</li> <li>- the US Coast Guard regularly deploys OPVs in or near the Arctic</li> <li>- the new Legend (also known as National Security Cutter, NSC) class large OPVs have been designed partly to be able to operate in Arctic weather conditions better than the previous Hamilton class, but they are not ice-strengthened</li> <li><i>-8 are planned, the first 2 of which were commissioned in 2010–11</i></li> <li>- the US Coast Guard operates 3 large, unarmed icebreakers capable of breaking Arctic ice, which have mainly scientific role</li> <li>- 1 of the ships is being modernized in the period 2009–13, and 1 has been out of service since 2010 and is scheduled for decommissioning due to budget constraints</li> <li>- plans for 1 large icebreaker under the Coast Guard in 2013-2017</li> </ul>
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Sources: (Wezeman, 2012; Argumenty i fakty, 2014 ; Lasserre-Le Roy-Garon, 2012)

# CONFIDENCE- & SECURITY-BUILDING MEASURES IN THE ARCTIC: THE ORGANIZATION FOR SECURITY & CO-OPERATION IN EUROPE AS A ROLE MODEL FOR THE AREA?

Benjamin Schaller

*Confidence- and Security-Building Measures (CSBMs) had a major contribution to the lowering of military tensions and the reduction of false threat perceptions in Europe at the end of the Cold War. Embedded in the theoretical framework of the Bargaining Theory, this article claims to understand the role of CSBMs as an early structural tool of conflict prevention. Based on this theoretical understanding, this article focuses on practical implications and lessons learned from existing CSBM regimes in the OSCE framework and provides suggestions for a possible extension of these regimes to the Arctic Region. As the co-operation among all Arctic states is strong, this article further argues that the implementation of military information exchanges as well as measures of verification should not be seen as to counter any form of emerging military tensions, but rather as a means to further manifest the good bi- and multilateral relations in the area and in order to serve as a role model for other geographical regions and the discussion on future reforms of arms control.*

## Introduction

The exchange of military information, measures of their verification and additional forms of military co-operation form the core of military Confidence- and Security-Building Measures (CSBMs), which aim to prevent interstate conflicts by increasing openness and transparency in the field of military capabilities. Having their origin in the middle of the Cold War, a phase of military standoff between Warsaw Pact and the North Atlantic Treaty Organization (NATO), CSBMs have made a major

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contribution to the lowering of military tensions and the reduction of false threat perceptions in Europe (e.g. Lachowski & Rotfeld, 2001: 323; IFSH, 2005: 5). At the end of the Cold War, four major international treaties and agreements containing CSBMs and other measures of Conventional Arms Control (CAC) emerged on the basis of the Helsinki Final Act and within the framework of the Organization on Security and Co-operation in Europe (OSCE) (*ibid.*: 19 ff.). These treaties and arrangements are the Treaty on Conventional Armed Forces in Europe (CFE Treaty), the Vienna Document (VD),<sup>1</sup> the Treaty on Open Skies (OS) and the Global Exchange of Military Information (GEMI).

Early research in the field tried to evaluate the potential of these measures to sufficiently lower military tensions in East-West relations (e.g. Larrabee & Stobbe 1983; Ben-Horin et al. 1986; Borawski 1986; Berg & Rotfeld 1986) or analyzed them from a regime-theoretical perspective (e.g. Rittberger et al. 1990; Niemtow 1996; Krupnick 1998; Schmidt 2004). In addition, several studies focused on new potential areas of application taking the measures of the OSCE as source of inspiration (Nathan 1994; Levite & Landau 1997; Self & Tatsumi 2000; Urgell 2005; Robinson 2010; IFSH 2011). The Arctic, and its constantly melting environment, has so far received little attention within this discussion.

One of the first comparable initiatives for the Arctic dates back to Mikhail Gorbachev's so called 'Murmansk Initiatives' in 1987 (Åtland 2008: 290 ff.). Besides the proposal of a Nuclear-Weapon-Free Zone (NWFZ), these initiatives also included proposals on the reduction of the amount and size of major naval exercises, their mutual notification including the invitation of observers as well as the defining of "No-go zones" for naval vessels and anti-submarine warfare (ASW)" (*ibid.*: 294 ff.). Even though the military sector of the Murmansk initiatives failed, tensions could be lowered by spill-over effects from successful cooperation in non-military areas (*ibid.*: 305 ff.).

Whilst the current security situation in the Arctic is still far away from any actual outbreak of armed conflict, authors like Kristian Åtland call in mind "that desecuritization is not an irreversible process" and that the emerging situation in the region may "jeopardize the achievements of Gorbachev's Murmansk initiative" (*ibid.*: 306). As a consequence, institutes like the Stockholm International Peace Research Institute (SIPRI) likewise conclude that the increase of military forces in the area could be mitigated by the establishment of a respective CSBM regime (Wezeman 2012b: 13 ff.). Such a regime could possibly prevent the Arctic from becoming an area of military arbitrariness, and help to avoid misleading threat perceptions, as well as military driven tensions and accidents:

“[...] you need to have proper rules of engagement, proper rules when you meet each other, because you are in a territory that both claim. Both can say: ‘Well it is my right to point guns at you.’ If you start doing that, you are asking for disaster” (Wezeman 2014).

Since by today the main military presence in the area is composed by Russian and US nuclear submarines as part of the countries' nuclear deterrence as well as their respective surface protection

fleets (Wezeman 2012a: 8 ff.), the discussions on arms control in the Arctic mainly focused on a possible establishment of a Nuclear-Weapon-Free Zone (NWFZ) (see e.g. Prawitz 2011).

Nevertheless, as average temperatures in the region are rising, conventional weapon systems will have an easier time operating in the area, an aspect which has so far remained scientifically and politically mainly unaddressed. In order to contribute to the closure of this gap, this article will primarily concentrate on a policy-orientated investigation of the subject and also try to establish an understanding of CSBMs as a structural tool of conflict prevention based on their impact on James D. Fearon's 'Rationalist Explanations for War' (1995).

This article will thus not only provide suggestions for a possible CSBM regime in the Arctic Region, but also contribute to the theoretical discussion on conflict prevention. In order to achieve these goals, this article will first briefly summarize the current political situation in the Arctic, before presenting the theoretical background which forms the foundation of the argument why the implementation of CSBMs would have a positive effect on the manifestation of the existing strong co-operation in the area, before the article concludes with practical implications and proposals on the issue.

### **The Absence of Conflict? – The Arctic's Political Status Quo**

With its still expected, nearly unexploited great fields of petroleum and gas, the Arctic, today, is considered to be one of the resource richest areas in the world (Bird et al. 2008: 1 ff.). This natural wealth has raised conflicting territorial claims by nearly all Arctic littoral states, but mainly Canada and the Russian Federation (UN DOALOS 2013) and a slowly but constantly increasing military presence in the area can be recorded (Wezeman 2012b: 1). As Dmitry Rogozin, Deputy Prime Minister of the Russian Federation stated:

“Obviously military efforts safeguard economic ambitions. It would be strange for Russia, which has an enormous Arctic coastline, not to begin energetic, firm action for exploiting the region. [...] This is not an economic task, it's a geopolitical one. It's a question of national defence“ (RIA Novosti 2013).

Besides the national interests of the eight Arctic states, the national energy security and economical interest of additional players such as China might hold an additional source of potential future conflict (e.g. Jakobson 2010; Xing & Bertelsen 2013). Regardless, currently, researchers and diplomats alike consider any form of military escalation in the Arctic to be very unlikely (Lind 2014; Bergh 2014; Wezeman 2014), an evaluation which is primarily based on three different aspects:

First of all, within the 2008 'Ilulissat Declaration' all five Arctic border states committed themselves to abide by international law in order to settle their conflicting territorial claims on the Arctic continental shelves (Arctic Ocean Conference 2008) and reiterated this commitment in 2013 in the context of the Arctic Council's 'Vision for the Arctic':

“The further development of the Arctic region as a zone of peace and stability is at the heart of our efforts. We are confident that there is no problem that we cannot solve together through our cooperative relationships on the basis of

existing international law and good will. We remain committed to the framework of the Law of the Sea, and to the peaceful resolution of disputes generally” (2013: 2).

Second, the recent military build-ups have been to date neither very strong in force projection nor specifically directed towards the Arctic. They are rather a logical response to a quickly melting environment, which for example requires a strengthening of the Arctic countries’ northern border security infrastructure in order to counter potential threats through for example smuggling or human trafficking (Wezeman 2012b; Lind 2014; Wezeman 2014; Bergh 2014). As Siemon Wezeman from SIPRI states:

“There are of course in Russia a number of clear points into the direction of a stronger military presence in the Arctic, [...] most likely a number of extra patrol vessels, a number of extra bases along the northern axis of Russia, but nothing in the direction of ‘we are going to set up there a major force’ which is going to do exactly what? [...] Is it going to protect Russian claims on the Arctic by moving ice-strengthened patrol vessels around, which are not beefed up by any stronger military force, as they are incapable of operating in the Arctic with its too cold and too nasty weather conditions?” (Wezeman 2014)

Third, the strong co-operation among all Arctic states and in particular within the framework of the Arctic Council, such as in agreements on ‘Search and Rescue’ (SAR) or the detection of oil-spills (Lind 2014), lets a military escalation between the states currently appear very unlikely:

“I think the Arctic Council has been a fantastic confidence-building measure, not by talking on military issues, but we sort of build this sense of community and bring together key decision-makers” (ibid.).

Taking this multilayered character of Arctic security – a balance between high stability and an increasing military presence – into account, the implementation of CSBMs in the Arctic seems currently neither very pressing nor very high up on the political agenda (ibid.). This consequently raises the question of why CSBMs in the Arctic should be implemented in the first place, a question which shall be answered in the subsequent sections of this article.

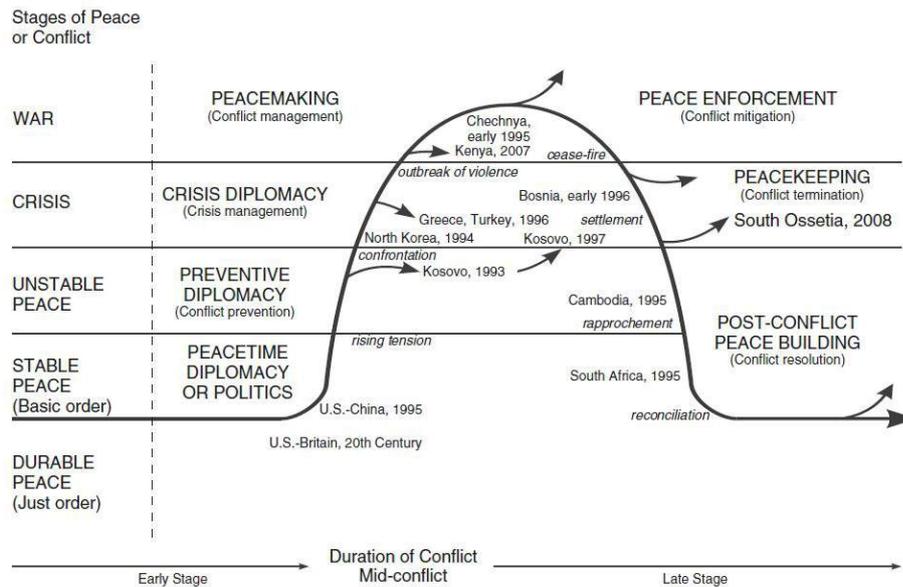
## **Theoretical Background: Confidence- and Security-Building Measures as a Tool of Structural Conflict Prevention**

In order to better understand the positive conflict preventing effects of CSBMs if implemented in an area of strong ties and constructive multilateral co-operation, it is first of all important to define the concept of conflict prevention and to broaden the theoretical understanding of CSBMs as a form of structural preventive action.

### *Defining the Concept of Structural Conflict Prevention*

Despite the prominent role of ‘conflict prevention’ in the policy sector as well as the considerable amount of research on the issue (Ackermann 2003: 340 f.), there is still little consensus on what the

term ‘conflict prevention’ or the synonymously used terms of ‘preventive diplomacy’ and ‘crisis prevention’ actually imply (e.g. Wallensteen & Möller 2003; Lund 2007: 288). Also the scientific debate still lacks a clear and consistent theory of conflict prevention which mainly origins in disagreements on the time frame in which conflict prevention actually takes place and which instruments the concept should include (e.g. Wallensteen & Möller 2003; Lund 2007: 288). A concise overview over the different stages of peace and conflict is for example provided by Michael Lund:



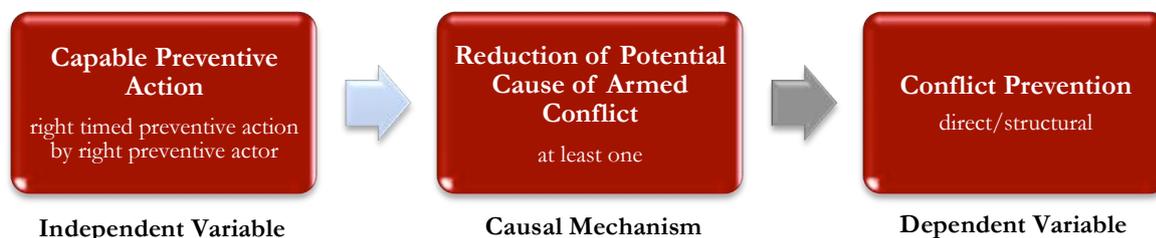
**Figure 3:** Basic life-history of conflicts and the phases of engagement (Lund, 2007: 290).

The consequence is a large variety of different definitions (Wallensteen & Möller 2003: 4 f.) which is why Wallensteen and Möller propose to differentiate between ‘direct’ and ‘structural’ preventive actions (2003: 6). Whilst ‘direct preventive actions’ use a rather reactive strategy in which a crisis is already at the stage of a possible military escalation, ‘structural preventive actions’ focus on creating “such conditions that conflicts and disputes hardly arise or do not threaten to escalate into militarized action” (ibid.). This understanding of structural preventive actions shall also serve as the foundation of the main argument for the implementation of CSBMs in the Arctic region.

This article will therefore further follow the definition of Carment and Schnabel who see preventive actions as “a medium and long-term proactive strategy intended to identify and create the enabling conditions for a stable and more predictable international security environment” (2003: 11).

In order to narrow down this still rather broad definition, this article further follows the proposal of Wallensteen and Möller by arguing that the ‘dependent variable should rather be treated as a reduced likelihood of armed conflict than its actual full prevention (2003: 11). The ‘independent variable’ instead needs to focus on: “... an evaluation of how the typical factors that explain the onset of war can be offset by the preventive actions that the prevention literature discusses” (ibid.: 17). Thus any reduction of potential causes of armed conflict should also automatically lead to a reduction of the

likelihood of its outbreak. This argumentation can be illustrated and summarised in the following general causal diagram:



**Figure 4:** Causal Diagram of Conflict Prevention.

In other words, in order to analyze and understand the conflict preventive effects of preventive actions, it is first of all necessary to identify the causal mechanism which links these actions to the reduction of a certain cause or even numerous causes of armed conflict. How this general approach of conflict prevention translates to the specific effects of CSBMs as a structural tool of conflict prevention shall be discussed in the subsequent section of this article.

### Fearon's Rationalist Explanations for War

The issue of 'uncertainty', regarding other nation's military capabilities presents one of the root causes of armed conflict in the international system and is also subject to the bargaining theories of war, one of the most prominent in the field of peace and conflict research (e.g. Levy & Thompson 2010: 68; Mitzen & Schweller 2011: 12).

As many scholars in the field argue: war from a rational perspective is too risky and costly, which is why negotiated settlements should be the logical consequence for disputes in the international arena as they provide for the same outcome without both sides paying the high price of military escalation (e.g. Wittman 1979: 744 f.; Fearon 1995: 380; Gartzke 1999: 584; Reiter 2003: 28; Powell 2006: 169; Levy & Thompson 2010: 64). As James D. Fearon claims, war is considered to be a costly gamble, close to a coin flip situation and because most states in the international arena are seen as risk-neutral or risk-averse, there should always exist a number of possible negotiated outcomes – a bargaining range – which would leave both sides better off than the risk of actual fighting (1995: 386 f.). Fearon argues that under such conditions, only three fully rational explanations for the outbreak of interstate conflicts can be considered.

First, and probably most apparent, is the argument of 'indivisible issues at stake' which make it impossible to reach any agreeable bargain between two state parties (ibid.: 389). Fearon nevertheless refutes this argument by arguing that at least in theory, no issue which states usually argue about is indivisible per se, as there is also always the theoretical option of side payments (ibid.).

Second, states hold private information about their own capabilities and also have incentives to misrepresent them for strategic reasons. If combined, this can result in rational miscalculations which then, in a worst-case scenario, eventually lead to military escalation (ibid.: 390 f.). Due to such

private information, states could for instance conclude to be militarily superior over their opponent, an issue which might increase their calculated probability to win or which could cause and underestimation of the opponent's willingness to fight (ibid.: 390). Consequently, the higher the levels of private information, the less sure each side can be of the other's minimum threshold for war and the more dangerously and riskily is any attempt to increase one's own outcome within a bargaining situation.

Finally, Fearon argues that the outbreak of interstate armed conflict might be the result of possibly existing commitment problems in which states consider themselves unable to uphold a previously reached agreement (ibid.: 401). Due to the limited scope of this article as well as the focus on CSBM's military information exchanges and measures of verification, the impact of this aspect cannot sufficiently be addressed, but forms an interesting point of departure for further research.

As the aspect of indivisible issues at stake has been refuted, this article will consequently focus on the impact of CSBMs to reduce the amount of private information on military capabilities in interstate bargaining situations.

### *Defining the Concept of Confidence- and Security-Building Measures*

The OSCE's Forum for Security Co-operation (FSC) defines CSBMs as

“a comprehensive set of [...] information exchanges, means for compliance and verification, and different forms of military co-operation [which] aim to reduce the risk of conflicts, increase trust among the OSCE participating States, and contribute to greater openness and transparency in the field of military planning and military activities” (2011: 2).

Military CSBMs thus differ from non-military Confidence-Building Measures (CBMs) as they are understood to focus on hard security issues of the first security dimension (OSCE - CPC 2012: 5) whilst CBMs rather address the “political, economic, environmental, social or cultural fields” (ibid.: 9) of mainly intrastate security (ibid.: 5):

	CSBMs	CBMs
<i>Focus</i>	Military	Non-Military
<i>Addressed Security Dimensions</i>	Politico-Military	Political, Economic, Environmental, Social, Cultural
<i>Conflict Dimension</i>	Interstate	Intrastate

**Table 1:** Differentiation between CSBMs and CBMs (based on OSCE - CPC 2012: 5 ff.).

While this article focuses on the reduction of private information on military capabilities, this constraint is not to neglect the “mutually reinforcing manner” (ibid.: 11) and possible spillover effects from an additional implementation of non-military CBMs, but rather a concession to the article's limited scope.

At this point it shall also be noted that CSBMs also differ from classical approaches of disarmament as they

“do not seek to limit forces in terms of quantity or quality, but rather control and communicate how, when, where and why military activities are employed. They are intended to mitigate the possibility of conflict occurring through accident, miscalculation, or failure of communication, and to diminish opportunities for political coercion and surprise attack” (Borawski 1986: 113).

### *CSBMs and the Reduction of the Levels of Private Information in Interstate Bargaining Situations*

Based on the above presented definition of CSBMs, it is possible to identify and deduce the following three causal mechanisms through which they appear able to reduce the level of private information and thus also the likelihood of interstate armed conflict:

1. Exchange of military information;
2. Verification of compliance with agreed commitments;
3. Different forms of military co-operation.

This reduction of private information can already be considered to have a structural conflict preventing effect, as it increases the accuracy of the calculations of both sides' military capabilities: “In principle, both sides could gain by sharing information, which would yield a consensus military estimate [...] [and] doing so could not help but reveal bargains that both would prefer to a fight” (1995: 393). It can thus be assumed that the mechanism of ‘military information exchange’ forms the centrepiece for the conflict preventing effects of CSBMs.

Nevertheless, the sole exchange of military information itself appears not able to reduce the amount of private information sufficiently because rational acting states still remain with incentives to misrepresent their true military strength in their military information exchange for strategic reasons. While it is maybe not possible to exclude such situations completely from political reality, the key to their frequency lies in the possibility for other states to detect such non-compliance. If a state is caught cheating, the cheating state is sanctioned by the other side and the general level of trust in this state is strongly reduced. Consequently rational acting, risk-averse states which face a high quality of verification measures will avoid any of such situations. Therefore, the availability of measures of verification as well as their quality level appears to be the second crucial component of CSBMs as a structural tool of conflict prevention.

Thus, if combined, military information exchanges and measures of verification are able to credibly reduce the amount of private information in interstate bargaining situations as they increase the overall level of military transparency. Nevertheless, in order to unfold their full potential two additional preconditions need to be met.

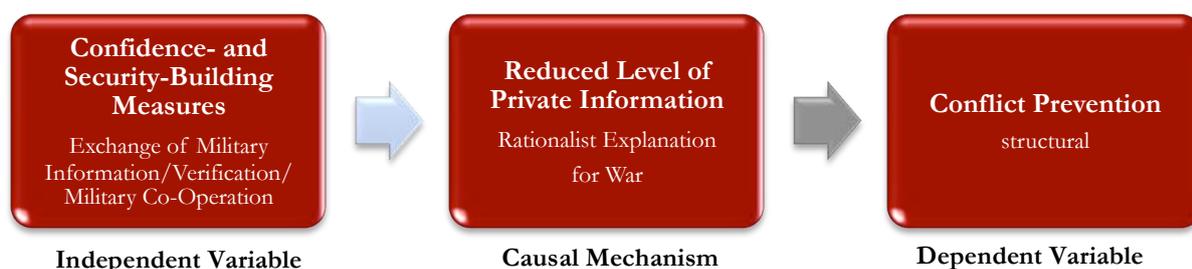
First, the information exchange needs to include geographical information which actually allows the other side to verify the exchanged information, a claim which is also affirmed by the head of the Swedish team of Open Skies, Lieutenant Håkan Josefsson (2014). In a simplified model three such

different locations can be imagined: the peacetime location of armed forces or military equipment, their area of deployment and their participation in military exercises or manoeuvres.

Second, the inspecting party must also have access to a respective measure of verification of which zone of application (ZoA) covers the geographic location reported within the information exchange.

If both conditions are fulfilled, the implementation of CSBMs can lead to a strong reduction of private information within their ZoA and can thus be seen as “a medium and long-term proactive strategy intended to identify and create the enabling conditions for a stable and more predictable international security environment” (Carment & Schnabel 2003: 11). The positive effects of additional measures of ‘military co-operation’ and especially the aspect of person-to-person contacts have been repeatedly stressed during the conduction of several qualitative in-depth interviews (Lind 2014; Josefsson 2014; Wezeman 2014; Bergh 2014). Such measures can be imagined to further contribute to a reduction of private information, through for example the invitation of observers to or even the conduction of joint major military exercises.

In sum, the conflict preventing nature of CSBMs can be summarized in the following causal diagram:



**Figure 5:** Causal diagram of CSBMs as a Tool of Structural Conflict Prevention.

### *From Theory to Practice: The Implementation of CSBMs as a Means to Manifest the Strong Arctic Co-operation*

Based on this article’s theoretical argumentation, it can be argued that the implementation of CSBMs in the Arctic Region would not only contribute to a manifestation, but even to a further strengthening of the already high levels of co-operation in the area, as a CSBM regime would:

1. Increase the overall levels of military transparency;
2. Establish a mutual understanding of all nation’s military intentions;
3. Serve as a strong signal of all Arctic states to their also in the future full commitment to existing laws and agreements; and
4. Provide assurances about the fully defensive nature of the nation’s increasing military presence in the region.

These positive effects are not to be undervalued even though the Arctic is currently characterized by a high level of co-operation and stability. Similar statements and evaluations which have until recently also characterized the political status quo on continental Europe, have now for example also undergone a drastic change as the result of the current crisis in Ukraine. Also the Arctic states need to acknowledge that the region remains still part of the broader context of global politics and has for example also already been a hotspot during the times of the Cold War (Lind 2014; Bergh 2014). As a consequence, the proposal of the implementation of CSBMs in the Arctic is not entirely new, but most of the times practical ideas did not address all aspects of CSBMs or did not touch upon their practical implementation at all (Bergh & Oldberg 2011: 6; Wezeman 2012b: 14). It is thus important to broaden the general understanding of CSBMs and conflict resolution in particular, as both should not exclusively be seen as reactive tools to counter immediate threats to peace and security, but rather as proactive tools which create and further strengthen the structural conditions ensuring the peaceful settlement of disputes among nations.

### *Practical Implications and Proposals*

As this article aims to contribute to the closure of this gap, the following section will present a selection of practical proposals which are based on the author's previous research on the issue and which have been worked out under the careful consideration of the current political status quo. The author would nevertheless like the reader at all time to bear in mind that some of these proposals might reflect a slightly idealistic point of view and solely reflect the author's personal perspectives on the subject.

#### *Mechanisms and Zone of Application*

When talking about practical implications and proposals for CSBMs in the Arctic, some researchers point to the importance of establishing proper rules of engagement and a higher level of people-to-people contacts in the area (Wezeman 2014; Bergh 2014).

In addition, the presented theoretical argumentation of this article also illustrates the positive conflict preventing effects of military information exchanges and measures of verification. These information exchanges should include location-specific information on the peacetime locations of troops and military equipment as well as on deployments and the conduction of military exercises and manoeuvres. These exercises and manoeuvres should be notified on lower notification thresholds than within the current version of the Vienna Document.

The zone of application for these information exchanges and measures of verification should furthermore be extended in order to include the currently existing CSBM regimes in the OSCE framework for uncovered Arctic regions in Northern Alaska, Northern Canada, Greenland and Russia:

Location-Specific Information	VD	OS Treaty	CFE Treaty
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<b>Arctic Region</b>	<i>Peacetime Location</i>	ca. 2 %*	ca. 36 %	ca. 0,8 %**
	<i>Deployments</i>	ca. 66 %	ca. 36 %	ca. 0,8 %**
	<i>Military Exercises/Manoeuvres</i>	ca. 66 %	ca. 36 %	ca. 0,8 %**

\* the sovereign territories of Finland, Iceland, Norway, Russia and Sweden within Europe

\*\* only the Arctic land territories of Norway

**Table 2:** Coverage of the Arctic by existing CSBM regimes in the OSCE framework.

*Included Categories of Military Equipment and Measures of Verification*

Additionally, a potential CSBM regime in the Arctic should also aim to better cover the military branch of naval forces, especially since these forces already now, but even more so in the future, will play an even stronger role in the area (Lind 2014; Wezeman 2014; Bergh 2014) and are currently not sufficiently covered by existing regimes of CSBMs (Schmidt 2013: 16). In order to credibly reduce the amount of private information on naval forces, a possible CSBM regime in the Arctic should thus also aim to provide location-specific information for naval forces outside their peacetime location as long as they currently operate in the area.<sup>2</sup> Otherwise roughly 64% of the region consisting of international waters and Exclusive Economic Zones would remain uncovered by a possible future CSBM regime.

If such location-specific information on naval forces operating in the area would be provided, the treaty on Open Skies, in which state parties agree to accept (*passive quota*) and are able to carry out (*active quota*) aerial observation flights over the sovereign territories of all other state parties (OS 2002: 5), would probably appear as the first choice of their verification (Spitzer 2009: 11; Josefsson 2014). While currently not able to credibly verify naval forces on the high seas, a prior briefing of the observed party on the current naval presence and activities in the area, as well as the further designation of respective OS airfields in the countries’ northern territories would make the treaty on OS appear a strong potential tool of verification (Josefsson 2014).

While Open Skies already covers the land territories of all Arctic states, but is not able to verify detailed information on state’s military equipment (ibid.), a possibility of on-site inspections following the general concept of the Vienna Document would most likely further contribute to an increased level of transparency and trust in all states’ defensive presence of military forces. While in general of a more thorough nature, inspections as carried out under



**Figure 6:** A Russian nuclear submarine vessel in its home port (RIA Novosti. Vityaly Ankov).

the legally binding treaty on Conventional Armed Forces in Europe appear to be too overdrawn considering the current level of cooperation in the Arctic.

When it comes to the question of which categories of military equipment should be included in the exchange of military information, countries should not only take into account currently used and deployed equipment in the area. Instead, their decision should already consider today that the melting environment and the associated increase in the general temperature levels, might open up the Arctic for more different categories of conventional weapon systems, even though they are by today not able to operate in the area (Lind 2014; Wezeman 2014).

A final thought shall be dedicated to the inclusion of submarine vessels. While already forming one of the major present forces in the Arctic nowadays (Lind 2014; Wezeman 2014; Bergh 2014), information exchanges and especially measures of verification outside their peacetime locations appear extremely difficult and of highly sensitive military nature. This holds especially true as submarines form a major component of some Arctic states' nuclear deterrence (Lind 2014; Wezeman 2014; Bergh 2014). While submarine vessels if submerged are not detectable through aerial observation and hence countries invest large amounts of resources in techniques which ensure that they remain undetected, it appears least likely that they would agree to any form of verification which suddenly makes these vessels detectable. A workaround for this problem could nevertheless lie in the division of the Arctic seas into larger sectors, for which the entrance and departure of submarine vessels should be made notifiable. Such sectors of course need to be defined large enough so that the primary defence of submarines, meaning their ability to operate undetected, is not too severely restrained. For the purpose of verification, submarines could for example let ascend smaller signal-transmitting surface markers which indicate their entrance or departure into a certain sector and which could then afterwards be verified through for example aerial observation flights. If needed for reasons of protection, such surface markers could also transmit their signals delayed, in order to further ensure that their precise detection of submarine vessels is not possible. Apart from the purpose of verification, such notifications of the entrance and departure of submarines into certain areas of the Arctic could also enhance their operating security and support potential SAR missions in case of emergencies.

#### *Cost Efficiency and Role of the Arctic States*

While maybe not fully convinced of the positive effects and necessity of CSBMs in the area, most of the Arctic states are probably also concerned about too strong of an influence by outside actors (Bergh & Oldberg 2011: 6 f.; Lind 2014; Bergh 2014). This concern can be met as it would be possible to implement a solely regional interstate agreement between all Arctic states as it has for example already been the case for the Baltic Sea, the Black Sea region or South Eastern Europe (Lachowski & Rotfeld 2001: 321) and as it is also strongly encouraged by the current version of the Vienna Document:

“The participating States are encouraged to undertake, including on the basis of separate agreements, in a bilateral, multilateral or regional context, measures to increase transparency and confidence. Taking into account the regional

dimension of security, participating States, on a voluntary basis, may therefore complement OSCE-wide confidence- and security-building measures through additional politically or legally binding measures, tailored to specific regional needs. On a voluntary basis, numerous measures provided for in the Vienna Document, in particular, could be adapted and applied in a regional context. Participating States may also negotiate additional regional CSBMs, in accordance with the principles [of the OSCE]” (VD'11 2011: 44).

Since the mandate of the Arctic Council explicitly excludes issues of military defence (The Ottawa Declaration 1996: 2), any form of discussion or negotiation would probably best take place within the regularly meetings of the Arctic chiefs of defence staff (Lind 2014; Bergh 2014).

Furthermore, most of the above mentioned and proposed steps could be implemented without any larger additional investments by the Arctic states, as they could simply make use of existing structures and regimes. This could for example be achieved by extending their mandates and by increasing their zones of application, which would furthermore increase the degree of capacity utilisation of the nation's verification departments. In order to even further reduce costs, information exchanges and verifications in the Arctic region could be carried out in close cooperation such as through combined verification teams and institutions as it has already been proposed for future reforms of arms control in the European context (Schmidt 2013: 23 f.). In this regard, a potential CSBM regime in the Arctic could not only be designed in a more cost efficient manner, but the region could furthermore also serve as a role model for other areas or future reforms within the OSCE framework. The good co-operation among all Arctic states would in this aspect only further support such a forward-looking layout of arms control.

The proposed systems of information exchange and verification could moreover also be used as complementing tools for SAR missions, maritime law enforcement, and border control as well as for the possible detection and observation of oil-spills and other environmental disasters. Such cooperation for example already exists in form of the Sea Surveillance Cooperation Baltic Sea (SUCBAS) (2014) or has been proposed for the extended use of the mandate of the treaty on Open Skies (Spitzer 2009: 10).

### *Summary*

Summing up the practical proposals of this article, a possible future CSBM regime in the Arctic should include location-specific military information exchanges and measures of verification on military equipment, armed forces, and military exercises. Furthermore it should provide information on military policies and doctrines as well as preferably also incorporate additional measures of cooperation as well as commonly shared rules of engagement (Wezeman 2014). With regards to the zone of application, CSBMs should not be solely limited to the sovereign territories of the Arctic states, but also include the Arctic international waters. The more of these aspects are met by a potential future CSBM regime, the more it would be able to increase and manifest an atmosphere of cooperation and mutual trust.

### *Concluding Remarks*

In the light of major budget cuts and modern equipment, the strong role of conventional arms control is often seen as a relic from the times of the Cold War (Schmidt 2013: 4 ff.). Letting its role further diminish would be a severe mistake, due to its important contribution to create structural conditions for the prevention of interstate armed conflicts (ibid.: 6). The recent crisis in Ukraine in which measures of CSBMs have been used intensively in order to diminish the escalatory developments (OSCE, 2014), seem to confirm the strong and important role of existing regimes of conventional arms control and CSBMs and let them appear more important than ever. The Arctic region, as an area of generally good co-operation and trust among its states, could for this purpose serve as a role model and lead the discussion on the future of arms control into a new time period.

Such discussions on CSBMs in the Arctic are better started earlier than too late, as the sufficient build-up of trust between states is a time-consuming process and is easier and faster seriously harmed, as again the current crisis in Ukraine and the strong decline in NATO-Russian relations illustrate. Thus it might be best to use the currently fruitful cooperation in the region and to start a respective dialogue on the topic early in order to be well prepared for any potential future developments and to establish the structural “conditions that conflicts and disputes hardly arise or do not threaten to escalate into militarized action” (Wallenstein & Möller 2003: 6).

It should nevertheless not be neglected that while CSBMs appear to have a positive contribution to the structural prevention of interstate armed conflicts, they are not necessarily able to fully prevent the outbreak of interstate armed conflict by themselves:

“Arms control is only a small part of conflict prevention. It takes away some of the means, but it does not take away the will. You may have cases where you have arms control, you have much reduced numbers of weapons, but still the conflict will break out, because the will is there or the unwill to prevent it” (Wezeman, 2014).

Consequently, CSBMs and also their measures of verification (Ifft et al. 2012: 16) should within the concept of conventional arms control be understood as one strategy within a broader set of different mechanisms. These mechanisms range from for example limitations of major weapon systems to the establishment of demilitarised zones (Wezeman 2014). Furthermore CSBMs should also be treated as part of a broader package of policies as for example the different security dimensions of the OSCE indicate (IFSH 2005: 17 ff.).

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## Notes

1. In the further course, this article will also make use of the abbreviation 'VD'11' in order to refer to the most recent version of the Vienna Document adopted in November 2011 (VD'11 2011).
2. Similar provisions on the ZoA have for example also been made in the in 2002 adopted 'Document on confidence- and security-building measures in the naval field in the Black Sea' (2002: 8).

## References

### *Treaties and Agreements*

A/57/82 (2002). *Document on confidence- and security-building measures in the naval field in the Black Sea*. UN GA.

Arctic Council (2013). *Vision for the Arctic*. Arctic Council.

OS (2002). *Treaty on Open Skies*. OSCE.

The Ottawa Declaration (1996). *Declaration on Establishment of The Arctic Council*. Arctic Council.

VD'11 (2011). *Vienna Document 2011 on Confidence- and Security-Building Measures*. OSCE.

### *Conducted Interviews*

Bergh, K. (2014). About security and geopolitics in the Arctic as well as the potential contribution of CSBMs in the region. Conducted by the author. Stockholm. 28.04.2014.

Josefsson, H. (2014). About the effectiveness and quality of OS verification flights and a possible future role of OS in the Arctic region. Conducted by the author. Uppsala, Sweden. 22.04.2014.

Lind, G. (2014). About the perception of military security and the role of the Arctic Council in a possible future regime of CSBMs in the Arctic region. Conducted by the author. Stockholm. 04.04.2014.

Wezeman, S. T. (2014). About military capabilities and equipment in the Arctic region as well as a potential role of CSBMs in the area. Conducted by the author. Stockholm. 28.04.2014.

### *Further Sources*

- Ackermann, A. (2003). The Idea and Practice of Conflict Prevention. *Journal of Peace Research*. 40(3): 339–47.
- Arctic Ocean Conference (2008). The Ilulissat Declaration. Retrieved from [www.oceanlaw.org/downloads/arctic/Ilulissat\\_Declaration.pdf](http://www.oceanlaw.org/downloads/arctic/Ilulissat_Declaration.pdf). Accessed: 04.01.2014.
- Åtland, K. (2008). Mikhail Gorbachev, the Murmansk Initiative, and the Desecuritization of Interstate Relations in the Arctic. *Cooperation and Conflict*. 43(3): 289–311.
- Ben-Horin, Y., R.E. Darilek, M. Jas, M. Lawrence & A. Platt. (1986). *Building confidence and security in Europe. The potential role of confidence- and security-building measures*. Santa Monica, CA: Rand.
- Bercovitch, J., V. Kremenyuk & I. Zartman (eds.) (2007). *Handbook of Conflict Resolution*. London [u.a.]: SAGE.
- Berg, R. & Rotfeld, A.-D. (1986). *Building security in Europe*. Boulder, Colo: Westview Press.
- Bergh, K. & Oldberg, I. (2011). The New Arctic: Building Cooperation in the Face of Emerging Challenges. *SIPRI Conference Report*.
- Bird, K., K. J. Bird, R. R. Charpentier, D. L. Gautier (CARA Project Chief), D. W. Houseknecht, T. R. Klett, J. K. Pitman, T. E. Moore, C. J. Schenk, M. E. Tennyson, & C. J. Wandrey (2008). Circum-Arctic Resource Appraisal: Estimates of Undiscovered Oil and Gas North of the Arctic Circle. *U.S. Geological Survey Fact Sheet*. Retrieved from <http://pubs.usgs.gov/fs/2008/3049/>. Accessed 27.12.2013.
- Borawski, J. (1986). Confidence-Building Measures: Rescuing Arms Control. *Fletcher Forum*. 10(1): 111–31.
- Carment, D. & A. Schnabel (2003). Conflict prevention - Taking Stock. In Carment, D. & Schnabel, A. (eds.), *Conflict prevention. Path to peace or grand illusion?* (pp. 11-25). Tokyo, New York: United Nations University Press.
- CIDOB Foundation (2005). *Ten Years of the Barcelona Process. Results and New Aims*. Barcelona.
- Fearon, J. (1995). Rationalist Explanations for War. *International Organization*. 49(3): 379–414.
- Gartzke, E. (1999). War Is in the Error Term. *International Organization*. 53(3): 567–87.
- Ifft, E. (2012). On-Site Inspections: a Major Arms Control Verification Tool. International Research Seminar. Available from <http://www.gcsp.ch/Leadership-Crisis-Conflict-Management/Events/International-Research-Seminar-On-site-Inspection-Assessment-of-a-Major-Tool-in-Arms-Control-Verification>.
- IFSH (2001). OSCE Yearbook 2001: Yearbook on the Organization for Security and Co-operation in Europe (OSCE). *OSCE Yearbook* 7. Retrieved from <http://ifsh.de/1/core/publications/osce-yearbook/2001/>. Accessed: 06.02.2014.
- IFSH (2005). The Culture of Dialogue: The OSCE Acquis 30 Years after Helsinki. Retrieved from [www.osce.org/documents/16108](http://www.osce.org/documents/16108). Accessed: 06.02.2014.
- IFSH (2011). *Challenges in Cybersecurity. Risks, Strategies, and Confidence-Building*. Hamburg, Germany.
- Jakobson, L. (2010). China prepares for an ice-free Arctic. *SIPRI Insights on Peace and Security* 2010/2.

- JCG (2014). Joint Consultative Group. Retrieved from <http://www.osce.org/jcg>. Accessed 19.04.2014.
- Krupnick, C. (1998). Europe's intergovernmental NGO: The OSCE in Europe's emerging security structure. *European Security*. 7(2): 30–53.
- Lachowski, Z. & A. Rotfeld. (2001). Success or Failure?: CSBMs in the Post-Cold War Environment. In *OSCE Yearbook 2001. Yearbook on the Organization for Security and Co-operation in Europe (OSCE)* (pp. 315-329). Baden-Baden.
- Larrabee, F. & Stobbe, D. (1983). *Confidence-building measures in Europe*. New York: Institute for East-West Security Studies.
- Levite, A. & E. Landau (1997). Confidence and security building measures in the Middle East. *Journal of Strategic Studies*. 20(1): 143–71.
- Levy, J. and Thompson, W. (2010). *Causes of war*. Chichester [u.a.]: Wiley-Blackwell.
- Lund, M. (2007). Conflict Prevention: Theory in Pursuit of Policy and Practice. In Bercovitch, J., V. Kremenyuk & Zartman, I. (eds.), *Handbook of Conflict Resolution*. (pp. 287-321). London [u.a.]: SAGE.
- Marsh, W. & Kaufman, M. (2013). *Physical geography. Great Systems and Global Environments*. Cambridge, New York: Cambridge University Press.
- Mitzen, J. & R. Schweller (2011). Knowing the Unknown Unknowns: Misplaced Certainty and the Onset of War. *Security Studies*. 20(1): 2–35.
- Nathan, L. (1994). “With open arms”: Confidence- and security-building measures in Southern Africa. *South African Journal of International Affairs*. 1(2): 110–26.
- Niemtzow, E. (1996). The OSCE's Security Model: Conceptual confusion and competing visions. *Helsinki Monitor*. 7(3): 41–51.
- OSCC (2014). Open Skies Consultative Commission. Retrieved from <http://www.osce.org/oscc>. Accessed 18.04.2014.
- OSCE - CPC (2012). OSCE Guide on Non-military Confidence-Building Measures (CBMs). Retrieved from [www.osce.org/2F91082&ei=Nar4UsrcEKWm4AThmIHgBA&usg=AFQjCNGkqhhqlxVB99HTNYHVKqsl2Ep9vQ&bvm=bv.60983673,d.bGE&cad=rja](http://www.osce.org/2F91082&ei=Nar4UsrcEKWm4AThmIHgBA&usg=AFQjCNGkqhhqlxVB99HTNYHVKqsl2Ep9vQ&bvm=bv.60983673,d.bGE&cad=rja). Accessed 10.02.2014.
- OSCE (2011). What is the Forum for Security Co-operation?: Factsheet. Retrieved from [www.osce.org/fsc/77535?download=true](http://www.osce.org/fsc/77535?download=true). Accessed 20.04.2014.
- OSCE (2014). Different forms of OSCE engagement with Ukraine. Retrieved from <http://www.osce.org/node/116922>. Accessed 10.05.2014.
- Powell, R. (2006). War as a Commitment Problem. *International Organization*. 60(1): 169–203.
- Prawitz, J. (2011). The Arctic: Top of the World to be Nuclear-Weapon-free. In *Nuclear-weapon-free zones*. Geneva (27–37).
- Reiter, D. (2003). Exploring the Bargaining Model of War. *Perspectives on Politics*. 1(1): 27–43.

- RIA Novosti (2013). Russia Needs Naval Buildup in Arctic – Deputy Premier. *RIA Novosti*.
- Rittberger, V., M. Efinger & M. Mendler (1990). Toward an East-West Security Regime: The Case of Confidence- and Security-Building Measures. *Journal of Peace Research*. 27(1): 55–74.
- Robinson, J. (2010). The Role of Transparency and Confidence-Building Measures in Advancing Space Security. *ESPI Report* 28.
- Schmidt, H.-J. (2004). *Der Wandel in der konventionellen Rüstungskontrolle 1989-1996*. Frankfurt am Main, New York: Campus.
- Schmidt, H.-J. (2013). Verified Transparency: New conceptual ideas for conventional arms control in Europe. *PRIF report* 119.
- Self, B. & Tatsumi, Y. (2000). Confidence-Building Measures and Security Issues in Northeast Asia.
- Spitzer, H. (2009). News from Open Skies: A co-operative treaty maintaining military transparency. *VERTIC Brief* 8.
- SUCBAS (2014). SUCBAS Main Objectives. Retrieved from <http://sucbas.org/objectives/>. Accessed 11.05.2014.
- UN DOALOS (2013). Submissions, through the Secretary-General of the United Nations, to the Commission on the Limits of the Continental Shelf: Pursuant to article 76, paragraph 8, of the United Nations Convention on the Law of the Sea of 10 December 1982. Online: [http://www.un.org/Depts/los/clcs\\_new/commission\\_submissions.htm](http://www.un.org/Depts/los/clcs_new/commission_submissions.htm). Retrieved from Accessed 28.12.2013.
- Urgell, J. (2005). Confidence and Security-Building Measures in the Mediterranean: A Practical Proposal for the Tenth Anniversary of the Barcelona Process. In *Ten Years of the Barcelona Process. Results and New Aims*. (pp. 179-191). Barcelona.
- Wallensteen, P. & Möller, F. (2003). Conflict prevention: Methodology for knowing the unknown. *Uppsala peace research papers* no. 7. Retrieved from [www.pcr.uu.se/digitalAssets/22/22941\\_PREVENTION\\_Knowing\\_the\\_unknown.pdf&ei=c6v2Ur-9Eufd4QT-4oDQDQ&usg=AFQjCNHMMWLBT5dcl8IyoSImaiMju00EZQ&bvm=bv.60983673,d.bGE&cad=rja](http://www.pcr.uu.se/digitalAssets/22/22941_PREVENTION_Knowing_the_unknown.pdf&ei=c6v2Ur-9Eufd4QT-4oDQDQ&usg=AFQjCNHMMWLBT5dcl8IyoSImaiMju00EZQ&bvm=bv.60983673,d.bGE&cad=rja). Accessed 08.02.2014.
- Wezeman, S. (2012). Military Capabilities in the Arctic. *SIPRI Background Paper*.
- Wittman, D. (1979). How a War Ends: A Rational Model Approach. *The Journal of Conflict Resolution*. 23(4): 743–63.
- Xing, L. & Bertelsen, R. (2013). The Drivers of Chinese Arctic Interests: Political Stability and Energy and Transportation Security. In L. Heininen, H-E. Pirot & J. Plouffe (eds.). *Arctic Yearbook 2013*. Akureyri, Iceland: Northern Research Forum.

**List of Acronyms**

ASW	<b>Anti-Submarine Warfare</b>
CAC	<b>Conventional Arms Control</b>
CBMs	<b>Confidence-Building Measures</b>
CFE Treaty	Treaty on <b>Conventional Armed Forces in Europe</b>
CPC	<b>Conflict Prevention Centre</b>
CSBMs	<b>Confidence- and Security-Building Measures</b>
FSC	<b>Forum for Security Co-operation</b>
GEMI	<b>Global Exchange of Military Information</b>
IFSH	<b>Institut für Friedensforschung und Sicherheitspolitik an der Universität Hamburg</b>
JCG	<b>Joint Consultative Group</b>
NATO	<b>North Atlantic Treaty Organization</b>
NWFZ	<b>Nuclear-Weapon-Free Zone</b>
OS	Treaty on <b>Open Skies</b>
OSCC	<b>Open Skies Consultative Commission</b>
OSCE	<b>Organization on Security and Co-operation in Europe</b>
SAR	<b>Search and Rescue</b>
SIPRI	<b>Stockholm International Peace Research Institute</b>
SUCBAS	<b>Sea Surveillance Cooperation Baltic Sea</b>
UN DOALOS	<b>United Nations Division for Ocean Affairs and the Law of the Sea</b>
VD or VD'11	<b>Vienna Document</b>
ZoA	<b>Zone of Application</b>

## **Section II**

# **Commentaries**

## Commentary

# A TRIBUTE TO ANTON VASILIEV & SENIOR ARCTIC OFFICIALS

Else Berit Eikeland

The Arctic Council is the only government-level, circumpolar body for political cooperation. In recent years the Council's international influence and importance has grown considerably. The Arctic Council provides a forum for discussion between the Arctic states and representatives of indigenous peoples on issues of common interest. In this respect, the Arctic Council is unique. There are currently several international arenas in which issues related to the Arctic region are discussed. Only the Arctic Council, however, brings together all the Arctic states and representatives of the indigenous peoples.

The Arctic Council is unique in other areas too. Last year the magazine, «the Economist» had an article about the Arctic Council as an example of a successful circumpolar cooperation. The article was illustrated by a photo of the Senior Arctic Officials (SAOs – high level representatives from the eight Arctic states) hugging and laughing and holding the flags of the Arctic States at the North Pole. May be the world needs more Arctic Council ? – was the question raised in the article. The magazine noted that this seemed to be an international cooperation where officials liked each other and had fun. We all know that international or circumpolar cooperation does not depend on the likes or dislikes of officials, but it surely helps if there is good chemistry between representatives.

As a new Norwegian SAO in the Arctic Council two years ago, what really struck me was this combination between a formal decision making structure and the informal way the meeting was conducted, and the possibilities for the SAOs to reach consensus in a an informal way. The Russian SAO at that time, Anton Vasiliev, was my role model and mentor. He was very pragmatic and flexible, but clear when Russia could not support a position. Unlike many other international organisations a SAO who is consensus oriented is regarded as a strong in the Arctic

Council. In all his years as Russian SAO, Anton contributed to strengthen the Council and raise awareness about the circumpolar cooperation. Thank you, Anton.

What more is special about the Arctic Council? So far, I have not experienced any clear divisions among SAOs based on the traditional political directions. Geography, location and whether the respective country has political and economic interests in the Arctic are the most important factors for the decision making process.

In addition to Anton, I want to thank two more great SAO Chairs who both have contributed to strengthening the Arctic Council, Gustaf Lind during the Swedish Chairmanship and Patrick Borbey during the Canadian Chairmanship.

## Commentary

# THE OLYMPIC FLAME VISITS THE NORTH POLE

Lassi Heininen

The Sochi 2014 Olympic Torch Relay, which was carried by the Russian icebreaker “50 Years of the Victory”, reached the North Pole on the 19<sup>th</sup> of October 2013 at 2:37 pm. The Olympic flame was lit in the cauldron at the North Pole during the same day.

An international delegation of the Arctic states brought the Olympic flame to the North Pole as part of the Torch Relay for the XXII Olympic Winter Games and the XI Paralympic Winter Games of 2014 in the City of Sochi. The delegation was led by Arthur Chilingarov, a famous Russian polar explorer and the Special Envoy of President Putin to the Arctic and the Antarctic. It consisted of members who represented scientific communities of the Arctic states, with many of them active in international scientific higher educational cooperation. Among other honorary torchbearers were Professor Elena Kudryashova, Rector of the Northern Arctic Federal University (NArFU), Russia; Dr. Christian Marcussen from Denmark; Dr. Jan-Gunnar Winther, Director of the Norwegian Polar Institute; and Professor Lassi Heininen from the University of Lapland, the chairman of the Northern Research Forum Steering Committee; as well as two Olympic medallists, Pat Pitney from USA and Steve Podborski from Canada. I was invited by the Northern (Arctic) Federal University, NArFU – “...from the list of people who are well-known for their contribution to the development and exploration of the Arctic region”, and the Organizing Committee of the Sochi 2014 Winter Olympic Torch Relay to become a honorary torchbearer, and the representative of my country, of the Torch Relay to the North Pole (see my personal notes in that capacity: <http://www.arcticinfo.eu/en/features/90-the-olympic-flame-visited-the-north-pole>).



The Russian atomic icebreaker “50 Years of the Victory” has reached the North Pole (Organizing Committee of Sochi 2014)



Dr. Lassi Heininen receives the Olympic Flames (Photo:Organizing committee of Sochi 2014)



The Olympic Flame burns at the North Pole (Organizing committee of Sochi 2014) 21st of October 2013.

The voyage of the Olympic Torch Relay to the North Pole in October 2013 had a few highlights, and potential political impacts and findings as conclusions. Each of them gives a ground for further discussion and follow-ups, as well as speculations:

First, the October North Pole voyage was one of the four special legs of the Sochi 2014 Olympic Torch Relay – the flame was also brought to outer space, to the top of a high Siberian mountain and to the bottom of the Lake of Baikal – and for the first time the Olympic flame was brought to the North Pole. In international media (e.g. The New York Times on the 19<sup>th</sup> of December 2013) the Sochi 2014 Olympic Torch Relay has raised speculations of misuses, that the Olympic flame has been relit, or emphasising the nationalistic character of the Russian President and government. Indeed, the Sochi Torch Relay is the largest in the history of Olympic Games with its 14,000 legs and thousands of torchbearers. Also the state territory of the Russian Federation is the largest one in the world. And, the Olympic Games are said to be a universal, and indeed global, festival for the people and nations. Based on my personal experiences I am able to state that the Torch Relay to the North Pole was done according to the spirit and rules of the Olympic Games, and there were neither misuses with the flame nor flags.



Arctic States' flags at the North Pole (Organizing committee of Sochi 2014)

Second, the Torch Relay to the North Pole had a strong representation of the Arctic states. There was an honour torchbearer from each Arctic state with an equal mandate and her/his own flag. The Russian Olympic Committee could, however, have done this part of the Torch Relay nationally by having only Russian torchbearers, with the Russian flag, as was the case with other three special legs of the Torch Relay. Yet, Russians used the October 2013 voyage to the North Pole as an opportunity to showcase the international cooperation between, and common interests of, the eight Arctic states. This was manifested by the colourful flag show, or flag 'planting', on the (sea ice of the) North Pole as the grand finale of the Torch Relay. Indeed, with this strong representation of the international community the voyage was also a showcase of the importance of international Arctic cooperation.

Is there a lesson to be learned from the Russian expedition to the (bottom of the) North Pole in August 2007 to retrieve sample sediments, as well as to plant the Russian flag on the sea bottom?

Thus, it would be wiser to re-manifest the dominance on, or even 'ownership' of, the North Pole by having an international delegation on board. Or, is this simply due to the fact that the current Arctic cooperation is both international and institutionalized, but in a new state due to globalization? Whatever the case, the acceptance of several major powers from Asia as observers of the Arctic Council has created a new geopolitical situation, as well as challenges, for the Arctic states, particularly the littoral states. Followed from this they consciously know that they share interests, would like to agree (as much as possible) on Arctic issues, management and governance, and would like to show that there are common ['house rules'](#) in the Arctic, as well as the Arctic Council, which newcomers should also respect. Here the Russian Federation is an important actor, and thus the October 2013 voyage to the North Pole can be interpreted to play an important role in the cooperation.

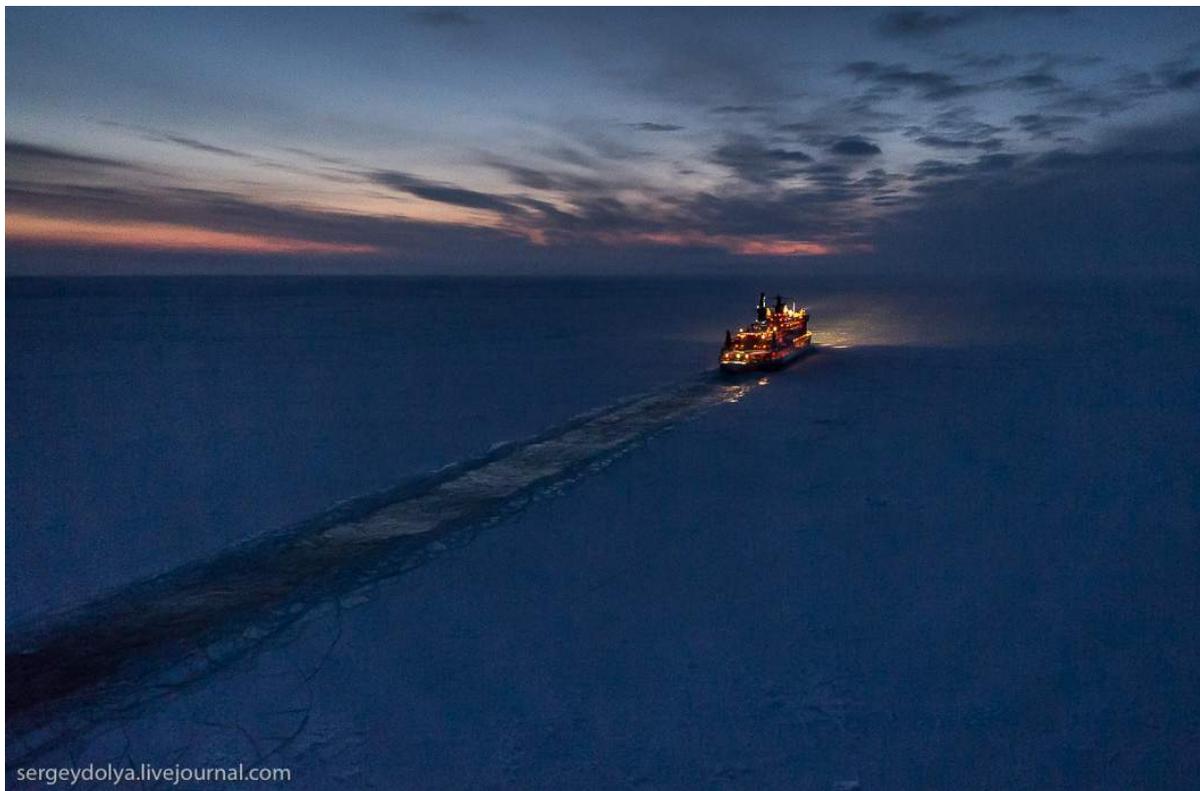
Third, the North Pole Torch Relay was even more: the strong representation of the international Arctic science community strongly shows, even manifests, the interplay between science, (higher) education and sports. This was supported by the series of lectures on the Arctic covering several fields, such as international maritime law, climate change, geopolitics, oceanography by the torchbearers (as a human interest, I was honoured to be the first political scientist having a lecture on geopolitics at the North Pole). This has not been the case earlier with Olympic torch relays. It is more a post-modern than traditional or national approach which reminds me about the niche of the Northern Research Forum and the main design of its Open Assemblies. This is the direction where international, multilateral cooperation in the globalized Arctic is going, or should go, into.

Fourth, this was the first time that the North Pole has been reached in darkness during the long Polar Night, and it is said to be done in a record time. This fact was shared with us in the beginning of the voyage. It was repeated in the end of the voyage by emphasizing the importance of being able to reach the North Pole in darkness. Russia is technically able, unlike any other Arctic state, to navigate in the Arctic Ocean, and now in darkness, and has a rich tradition in that. Behind that are strong Russian national (economic) interests to increase the mass-scale utilization of natural resources in the Russian Arctic Zone and beyond, as well as to promote the infrastructure there. This interest was already clearly indicated by the 2008 Russian state policy and strengthened by the 2013 state policy on the Arctic. This is shown, even manifested, by the just started commercial off-shore oil drilling at the Prirazlomnaya oil field on the continental shelf of the Pechora Sea, south of Novaya Zemlja. I had a chance to visit, together with Russian experts and authorities and a few other foreign academics, on the Prirazlomnaya Off-Shore Oil Platform and the Varandey Oil Export Terminal in August 2014 as a part of the program of the IV International Meeting of High-Level Representatives of the Arctic Council Member States, organized by the Russian Federation Security Board, in Naryan-Mar, Nenets Autonomous Okrug, Russia.

In this context, the voyage to the North Pole can be taken as a manifestation of Russia's technical capability to be present in, and utilize (off-shore) resources of, the Arctic Ocean area, which makes the Russian position even stronger. It is, however, good to remember that other Arctic states have also prioritized their national interests and have put economic interests on the top of them, as it was discussed in the [2012 Arctic Yearbook](#). Thus, despite the previous commitments to environmental protection and sustainable development by the Arctic states, and

the first legally binding agreement under the auspices of the Arctic Council on cooperation in Aeronautical and Maritime Search and Rescue, which requires better readiness and safer navigation in the Arctic Ocean, (geo)economics and economic interests seem to have taken over (geo)politics and science, as well as environmental protection.

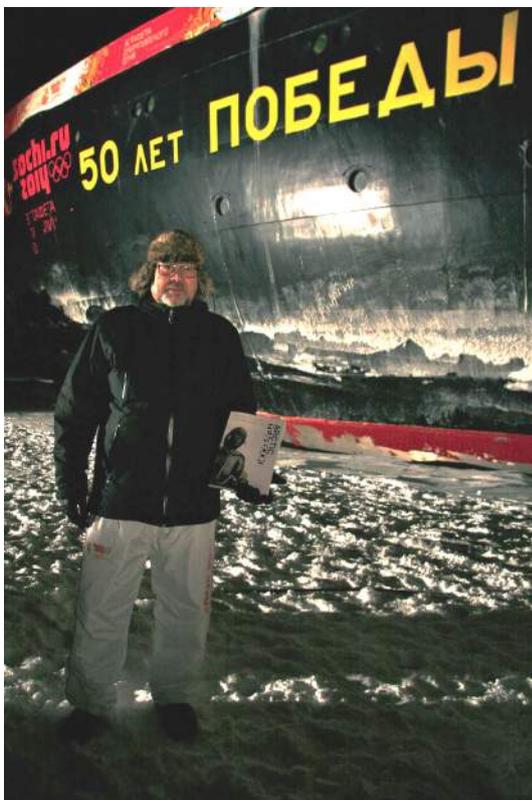
Finally, the voyage showed, and its record speed manifested, the fact that the sea ice of the Arctic Ocean is melting and becoming thinner. If the sea ice is going to melt this fast, there might be no solid multi-year sea ice in near future for activities in a summer time. Then we, the people, and humankind have lost something very special, a part of the beauty of nature. From this point of view the Olympic Torch Relay voyage to the North Pole with its nice pictures and videos can be seen either as a picturesque and extreme excursion; or as an experimental endeavour with international participation and in a new global context; or an ultimate presentation on behalf of the snowy and icy marine Arctic ecosystem.



Sailing to the North Pole (Photo: Organizing committee of Sochi 2014)



Sea Ice, October 2013 (Photo: Organizing Committee of Sochi 2014)



Dr. Lassi Heininen carrying a copy of the Arctic Yearbook 2013 at the North Pole, October 2013.

## Commentary

# ASIAN-ARCTIC COOPERATION: A BRIEFING ON THE CHINA-NORDIC ARCTIC RESEARCH CENTER (CNARC)

Deng Beixi & Yang Jian

In May 2013, China, together with five other states, was granted observer status in the Arctic Council. By December that year, with joint efforts by Nordic and Chinese research institutes, the China-Nordic Arctic Research Center (CANARC) was established and has evolved from a nascent and immature conception to now a reality and functioning entity that is to eventually develop into a full-fledged platform for academic exchanges between China and Nordic countries. The initiative and development of CNARC has aroused attention from other Arctic and non-Arctic states, marking a highlight of international cooperation on Arctic issues.

Committed to increasing an in-depth and comprehensive awareness, understanding and knowledge of the Arctic and its global impacts and to promoting cooperation for sustainable development of Nordic Arctic and coherent development of China in a global context, CNARC is currently composed of 11 member institutes, 6 from Nordic states and 5 from China, all leading think-tanks and institutes in Arctic studies in their respective country and endowed with capacities to influence, coordinate and initiate Arctic research in their professional fields. CNARC is structured with an Assembly of Member Institutes, a Director and a Secretariat. The Assembly, formed by representatives from each member institute, convenes annually and operates by consensus. The Director and Secretariat are currently hosted at the Polar Research Institute of China, responsible for the routine operations of CNARC and carrying out advice for development from the Assembly.

CNARC facilitates China-Nordic cooperation in the following forms: 1) carrying out joint research projects in accordance with research themes in respect of Arctic climate change, Arctic resources, shipping and economy, as well as Arctic policy-making and legislation; 2) developing

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Arctic research networks and frontiers by providing opportunities for Chinese and Nordic scholars to conduct Arctic research through fellowship programs; 3) convening regularly the China-Nordic Arctic Cooperation Symposium and other workshops; 4) facilitating information sharing and cultural exchanges between China and Nordic countries in Arctic context.

As we may say, the Arctic is a region unique and vulnerable to global climate change and increasing human activities; the trans-regional nature of some Arctic issues, especially in terms of addressing climate change and exploiting shipping routes, requires joint endeavors and broader engagement of both Arctic and Non-arctic states. The Nordic Arctic, as an emerging Arctic geopolitical player, is also home to innovative theories on global governance and sophisticated technologies in ship-building, fishery, eco-energy and offshore oil engineering, leads globally in scientific research and social science studies with regard to the Arctic. China on the other hand, despite a relatively late start and lack of knowledge in the field of Arctic research, possesses advantages in capitals, markets and labor forces, which together lay the foundation for the future China-Nordic cooperation.

Given those circumstance, there is a need for a platform of academic cooperation between China and Nordic countries such as CNARC with the purpose of “building the bridge” and “filling in gaps of knowledge” so that the two parties would have an enhanced understanding of each other. From China’s perspectives, the establishment of CNARC will be helpful to China to understand major issues with regards to the Arctic governance, to figure out main concerns of the Arctic states, to make up for lack in knowledge, as well as to attempt to construct an innovative cooperative model between Arctic and non-Arctic states.

Smooth and fruitful progress has been achieved in the past few months. On one hand, the establishment of CNARC has accelerated and intensified frequent exchanges between China and Nordic countries, as well as among member institutes. For example, the international symposium “Asian Countries and the Arctic Future” held in Shanghai in April 2014, jointly organized by Shanghai Institutes of International Studies and Fridtjof Nansen Institute with the support of CNARC, addressed the topics of Arctic governance and the engagement of Asian stakeholders in the Arctic trans-regional cooperation. Representatives from Japan, Korea, India and Singapore were invited to join the debate.

On the other hand, concrete activities are underway. In early June this year, the 2nd China-Nordic Arctic Cooperation Symposium took place in Akureyri, Iceland, gathering nearly 50 scholars and researchers from China and Nordic countries, along with government officials and business representatives, to address the topics of Arctic policies and governance, economy and maritime cooperation. With deliberate elaboration, CNARC launched its first fellowship program in May and upon prudent selection, two Nordic and two Chinese fellow candidates were granted the fellowship to advance their own research project that falls on CNARC’s research priorities for a one-month period in an institute within CNARC’s network.

There might be concerns over the openness and inclusiveness of the CNARC’s cooperative framework. In fact this framework is bound to be inclusive and comprehensive, as the experiences of China-Nordic Arctic cooperation will inevitably make a model for cooperation between China and other Arctic states. In the future, CNARC will serve as a platform for various actors in addition to China and Nordic states to promote international cooperation on Arctic governance.

## Commentary

# BARENTS COOPERATION IN WINDS OF CHANGE

Thomas Nilsen

The head of the Barents Regional Council, Arkhangelsk Governor Igor Orlov, told his Oblast government in September 2014 that complicated geopolitics should not affect Barents Cooperation. This cooperation is beyond big politics, Orlov argued.

Traveling the Barents Region after Moscow's annexation of the Crimea Peninsula in March, and meeting the different official players, the organizations and people in the Russian north, it is easy to see that the Arkhangelsk Governor has a good argument. More than 20 years of people-to-people relations across borders can't be torn down overnight. Despite a way colder political climate between the trio of Stockholm, Helsinki and Oslo towards Kremlin's rule of Putin in Moscow, the contacts between regional capitals like Murmansk, Rovaniemi, Tromsø and Luleå goes on. So do the non-governmental networks.

In Europe, Brussels has encouraged regional cross-border (CBC) programs not to be affected by sanctions. In Norway, the Government says the importance of regional and civil society interactions with Russia in the north will continue to be supported. The Barents cooperation serves as an open door in times of challenging geopolitical troubles. Normal peoples' travel and contacts will never cause any harm; rather it serves to facilitate dialogue and minimize potential misunderstandings between countries.

Established in 1993, the Barents Euro-Arctic Council (BEAC) was built in a Post-Soviet period full of confidence with a common belief that promoting people-to-people contacts would contribute to economic, cultural, social and peaceful development in the northernmost part of Europe. Today, no doubt, the Barents cooperation itself has proven to be one of the most successful cross-border cooperation areas in any Russian border region. A generation of friendly

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relations between citizens, organizations and institutions on both sides of the former iron-curtain has been created. Hundreds of thousands of people annually cross over the formerly nearly closed borders between the Murmansk region and neighbouring Finnmark and Lapland. Working groups in areas like infrastructure, education, ecology, indigenous peoples and culture build bridges and official channels. The Norwegian Barents Secretariat has provided grants to several thousand cross-border interlinked projects based on equal participation. Trust, will and transparency are the three keywords making this possible.

Russia's Prime Minister, Dmitry Medvedev, told the audience at the Barents Summit in Kirkenes in June 2013 that Moscow sees the Arctic as an area with good opportunities to implement joint programs and initiatives. However, he also underlined a geopolitical phrase increasingly voiced by the Kremlin; any expansion of NATO to include Sweden and Finland would upset the balance of power and force Russia to respond.

Increased global attention towards potential Arctic resources is too often followed by media headlines speculating great potential for conflicts because the top of the world is incorrectly believed to be an ungoverned region where oil and gas is waiting to be picked up by the one who gets there first. Regional fora like the Barents Euro-Arctic Council or circumpolar fora like the Arctic Council do not provide a platform for hard security policy discussions, but are superb arenas for building soft-security relations. However you see the world, from east or west, such soft-security corridors and doors should never be closed.

It was therefore sad to see how Dmitri Medvedev used the stage at the Barents Summit to warn Sweden and Finland against NATO.

Russia's first Post-Soviet Foreign Minister, Andrey Kozyrev, said when he signed the Kirkenes-declaration in 1993 that the Barents cooperation is a structure that could become a window for Russia towards Europe, aimed at establishing close links with northern Europe and the rest of the continent. Kozyrev's statement is in rather sharp contrast to the wording of Russia's 2014 Foreign Minister, Sergey Lavrov, who fuels arguments such as that Europe is aiming to undermine Russia as a global partner.

By talking down cooperation with Europe, the troika of Putin, Lavrov and Medvedev are sawing off the main pillar in regional Barents cooperation: people-to-people initiatives growing up from trust, will and transparency.

During 2014, Russia has seen a massive state crackdown on NGOs cooperating with foreigners. A Moscow systematically talking up mistrust against the West does not exactly boost the interest among people in Barents Russia to establish cross-border partnerships. Limiting media freedom and turning journalism into propagandism builds bad stereotypes and is only helping those who are afraid the truth could come out. Erecting a new, partly double wire fence towards the border with Norway, 25 years after the fall of the Berlin Wall, is normally not what friendly neighbours do to each other. And last, but not least, Russia's re-arming of the Kola Peninsula and the Arctic raises the question about Moscow's intentions in basing so much military hardware in a region of low tension?

Fortunately, the Barents cooperation is still standing upright in winds of change.

## Commentary

# ENTERING ICY WATERS: THE ARCTIC AGENDA AT A CROSSROADS

H.E. Thordur Aegir Oskarsson

The considerably successful work of the Arctic Council since its launch in 1996 has increasingly been characterized by the pragmatic cooperation among the eight Arctic state members in various fields.

The Arctic Council has enjoyed a solid political tailwind for almost two decades, resulting in a robust institution that has moved away from being exclusively a policy shaping body into the territory of pragmatic policy making reflected in two [Arctic-wide agreements](#) on search and rescue and prevention of oil spills.

However, currently the Council is facing increasing challenges, not only rising from its agenda, but more acutely from challenges stemming from events external to the Arctic region. Juha Käpylä and Harri Mikkola, in a previously published briefing paper, have [argued](#) that “should an interstate conflict surface in the Arctic, the source is most likely to be related to a complex global dynamics that may spill over to the region and which cannot be addressed with existing Arctic governance mechanisms.” The crisis in the Ukraine is a testament to this argument. Last September the United States and the European Union introduced economic sanctions against Russia that directly affect offshore hydrocarbon resource development in the Arctic. These sanctions are not high on the political and economic risk scale, but they confirm that the Arctic region is not absolutely immune from external events.

Apart from external effects on Arctic cooperation, it is irresponsible to disregard the possibility of emerging tensions arising among the member states of the Arctic Council on Arctic specific

issues. History teaches us that the scale of foreseen Arctic commercialization and resource development will likely create security challenges that the present arrangements for Arctic governance will not be able to handle. Adding to this is the accelerating climate change and its many unknown consequence that will make the future challenges even more complicated.

Indeed, there are already signs of fragmentation surfacing in the region. The five Arctic “coastal” states have carved out the fisheries in the Arctic as an exclusive subject matter for them to discuss. This seems to contravene the cooperative spirit of the Arctic Council and undermine its role and legitimacy. Iceland has been working on securing its place as a partner in such arrangements due to its location in the High North to no avail.

All Arctic Council members have strong national interests in the development of the region related to territorial claims and ultimately, resource exploitation. There are of course international mechanisms in place that can aid the Arctic Council members in tackling these challenges and possible disputes such as the 1982 United Nations Convention on the Law of the Sea (UNCLOS) for solving outstanding territorial claims.

There is however one missing piece in the whole cooperative puzzle of the High North, and that is the traditional security dimension, which is not part of the Arctic Council agenda. All the participating states have strong security and safety interests when it comes to this expansive region. Efforts have been made to define the traditional security dimension or “hard security” as irrelevant to the general Arctic dialogue while emphasizing the importance of the security dimension of other Arctic issues, such as environment, shipping etc.<sup>1</sup> The fact is that there is a lot of residual and active military power in the Arctic that has a role to play in the traditional sense and also very possibly when it comes to threats affecting other issue areas of the Arctic agenda, be it the environment, resource development, shipping, tourism or human security.

This is reflected in various ways in the domestic security policies of the Arctic states. The Foreign Minister of Iceland, Gunnar Bragi Sveinsson, has emphasized the importance of ensuring Iceland's broad security interests in the Arctic and has defined security issues as one of the main challenges for Iceland's [Arctic policy](#). Sveinsson has further stated that the increased international importance of the Arctic region has firmly linked it with security development in other parts of the world. Iceland, a NATO member, has for a long time emphasized the necessity of “situational awareness” in the High North as an important aspect of NATO's role as security provider.

To introduce the issue of “hard” security dialogue in the Arctic Council is premature, but that does not mean that this important topic should or can be disregarded. The academic literature on the Arctic is awash with discussion on the Arctic military security. The military of the Arctic states has already taken the issue on in regular meetings of the top military leaders of the eight Arctic Council states, the Northern Chiefs of Defense Forum, and in meetings of the Arctic Security Forces Roundtable, a more obscure military group of 11-12 states whose role is to discuss the future of security operations in the Arctic. In the past Russia has been attending these 2 forums.

Those who handle policy- and decision-making in the field of traditional security have been conspicuously absent from any discussion on military security. It is an absolute necessity to prevent military and academic representatives to “monopolize” traditional security discussions

about the High North. It is high time that military security needs and concerns are addressed as an integral and legitimate part of the Arctic agenda.

There are different means to reach this objective, and under present conditions an *ad hoc* method is preferable to an attempt to put it directly on the Arctic Council agenda. The establishment of an informal forum of the senior officials from those ministries that handle security policy in the Arctic Council member states could be an important first step.

In the spirit of Arctic cooperation and trust, the first task of such a senior officials forum should be the comprehensive examination of security military issues above the Arctic Circle. A first substantive step might be to evaluate the feasibility of introducing politically binding confidence and security-building mechanisms (CSBMs) into the region. All the Arctic states are also members of the [Organization for Security and Cooperation in Europe](#) (OSCE), and as such are committed to sophisticated CSBMs measures that even cover their Arctic areas. Arctic specific measures should be contemplated for the broad and very unique Arctic security environment.

These are not new ideas but the need to introduce this security dialogue into the Arctic agenda has gained urgency with rapid international and regional geopolitical change. Last but not least it is arguable that the smaller Arctic partners have most to gain from stronger institutional capacity and expanded political agenda for the Arctic, so the initiative should perhaps be theirs.

## Notes

1. David A. Welch. (2013, December). The Arctic and Geopolitics. *CIGI paper*. 6.

## Commentary

# REGIONAL INTERNATIONAL COOPERATION IN THE ARCTIC & SUBARCTIC ZONE: A VIEW FROM KARELIA

Igor Shevchuk

The Republic of Karelia is a cross-border region of the Russian Federation, which has an approximately 800 kilometer long border with a European Union country – Finland. A cross-border location has had a great impact on the development of international cooperation in the Republic of Karelia since the Soviet period, where in the mid-1960s, twin-city relations appeared. Later, in the 1980s and 1990s, twin-city relations transformed into active contacts among authorities, governmental and non-governmental organizations. The first interregional agreement was signed in 1989 with Vermont State in the USA.

Interstate economic cooperation with neighboring Finland was already reflected in the 1980s in such projects as the construction of the Kostomuksha Mining and Concentrating Complex and Kostomuksha town itself, as well as in the establishment of a wood processing complex in Pyaozerski village in the northern part of the Republic. Later, at the end of the 1990s and at the turn of the 21<sup>st</sup> century, together with Finnish partners, quite a number of joint projects were implemented. The projects were aimed at the establishment of modern manufacturing in the field of in-car electronics; border inspection posts were established alongside with visit-centers in national parks of the Republic; treatment plants were reconstructed; regular bus service was launched, and more. The interstate agreement on cooperation between Russia and Finland, concluded in 1992, had a significant influence on the character of regional cooperation between the two countries. Finland's accession to the European Union in 1995 gave the Republic of Karelia an opportunity to participate in such EU programs as TESIS, INTERREG, European Neighborhood Policy programs, and others. Scientific and technological cooperation as well as

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This commentary was prepared by Igor Shevchuk from the Karelian Research Center in Petrozavodsk, Russia. It is based on an interview Shevchuk conducted in September 2014 with the Deputy Minister of Economic Development of Karelia, Mr. Dmitry Kislov. This commentary should not be quoted as an

humanitarian ties being implemented through research, educational, non-commercial and public organizations have always been crucial for international integration of the Republic of Karelia.

Among the regions of the European Arctic and subarctic zone, the main partners of Karelia are: the Norwegian county of Tromsø; the Swedish county of Västerbotten; and several Finnish unions of communes that concluded a range of cooperation agreements with the Republic. Bilateral forms of cooperation are well-balanced with multilateral ones like, for example, under the framework of the Barents Euro-Arctic region (BEAR), where the Republic has actively participated since its establishment in 1993. The unique nature of the Barents cooperation is justified by cooperation between central and regional levels. Karelia as well as other regions of BEAR seeks to get a maximum benefit from combining bilateral cooperation with participation in multilateral structures of BEAR adjusting its actions, if necessary and useful, with national governments.

The Republic of Karelia is not an Arctic region in its pure form. However, Karelia has specific characteristics which are inherent in most of the Arctic regions: severe climate, vulnerable environment, inaccessibility of the territory and underdeveloped transport infrastructure, low density of population, high operating costs and expenses on infrastructure. But at the same time there are new emerging opportunities due to the Arctic and growth of its role in everyday life of humanity. For instance, a high transport potential of the region: the region can function as a transit corridor to different dimension including the Arctic. At the moment the following projects are at the stage of preparation to implementation: a project to connect the Northern Sea Route to inner waters of Russia through Karelia; a project on development of land transport corridors between Ural and Europe; latitudinal transport-logistic projects and more.

Proceeding from this, institutional support of program and project activities under the framework of such structures as BEAR is extremely important for Karelia. A good example of this process is a harmonized combination of the established structures and forms of cooperation with the tools providing their functioning that was achieved within Euroregion Karelia. Euroregion Karelia was established in 2000 as an international platform aimed at improvement of cross-border ties and living standards of population. These ideas are implemented by means of the cross-border cooperation program ENPI 'Karelia'. For the BEAR it would be useful to have its own source of financing as adjustment of the position of the regions is coming through their participation in the Barents Regional Council and profile working groups. That is why Russia, which will preside over in the Council of the BEAR for the next two years, promotes a necessity of establishment of financing tools for BEAR projects as one of its priorities. Precisely in this way the designed BEAR agenda will be able to get suitable financial support and fulfill plenty of useful and mutually beneficial initiatives with specific content.

Cooperation in the North requires also synergy of programs and projects. For example, cooperation under the framework of the BEAR can be supported by the instruments of Northern Dimension, programs of the EU, initiatives of the Nordic Council of Ministers and others. It is impossible to underestimate the experience of Karelia on this issue. For instance, JSC 'Russian Communal Services', The government of the Republic of Karelia, Petrozavodsk city administration, the Finnish Ministry of Environment, Nordic Environment Finance Corporation (NEFCO), Nordic Investment Bank and Northern Dimension Environmental Partnership Support Fund have joined their efforts for the implementation of the project on

reconstruction of the water treatment plant in Petrozavodsk. This project will be launched quite soon. And one more hotspot, which was elaborated under the framework of environmental dimension of Barents cooperation in the 1990s, will disappear from the map of BEAR. We witness that the stronger institutions of cooperation are, the more topical and practically oriented the agenda of different cooperation forms is, more effective implementation of the project is and more sustainable the results are.

In the North, quality and development of human capital is a matter of high concern. That is why most of the programs and projects of cooperation among Northern regions have humanitarian nature. The results of work under the framework of the BEAR, Northern dimension, the EU programs are self-explanatory. We can give thousands of examples of successful cooperation in the field of ecology, culture, education, social support, public health service. Complex and cross-disciplinary approach for the implementation of these projects is especially important. Many programs have horizontal priorities in the form of youth support or support of indigenous people of the North, secure continuity at different stages of their implementation; involve a wide range of various representatives of civil society.

Evaluating the perspectives of further development of Barents cooperation, cross-border cooperation through the EU-Russia programs and other forms of cooperation in the Arctic and subarctic zones of Europe, it is important to mention that these models can gain momentum in other regions, for example in Canada. It is clear that direct copying is not acceptable. However, the strong sides of gained experience on international cooperation, for instance in Karelia, are its flexibility and backstop on different structures and forms of cooperation, effective search of instruments for their financing, combination of national and regional levels of cooperation and the most important – openness to the world and next-door neighbors.

In the current unstable political situation in international relations, the results of longstanding work made by thousands and thousands of people are being sacrificed in favor of temporary political interests. But as history has shown, cross-border cooperation is a stabilizing factor: it brings us hope for the future.

As the Governor of Arkhangelsk region, Igor Orlov – who currently chairs the Barents Regional Council – said to his regional government on Tuesday September 10, 2014, developing the good interaction between people in the Barents Region is beyond big politics. “Our chairmanship of the Regional Council comes in a rather complicated geopolitical period, but that should not in any case affect our cooperation in solving common problems,” said Igor Orlov, according to a [press-release](#) from the Arkhangelsk government.

Hence, we can conclude that Russian regions/members of the BEAR share the common opinion and believe that it is impossible to ignore the results of humanitarian and economic cooperation achieved by states, their regions and citizens over the last years in the North. It is unreasonable to deny the gained experience and it is inadmissible to defeat hopes of people, associating the future with the North. Today while the importance of the Arctic for humanity is increasing, it is necessary to develop and apply the most successful models of regional international cooperation in different parts of the Arctic. This strategy will promote their prosperity and decrease their dependency on political turbulences. The Republic of Karelia is already leading the way, and will reinforce cooperation in the future with regional and circumpolar partners.



Source: The Official Karelia. The Republic of Karelia State Government Bodies' Official Web Portal. [http://gov.karelia.ru/gov/map\\_e.html](http://gov.karelia.ru/gov/map_e.html).

## Commentary

# THE WEST NORDIC COUNCIL AND THE ARCTIC

Unnur Bra Konradsdóttir & Egill Thor Nielsson

The global Arctic has arrived. At the Ministerial Meeting of the Arctic Council in Sweden last year it was decided to welcome new observer states, so from now on China, India, Japan, South Korea and Singapore, together with Germany, France, and the United Kingdom, are in concert with the United States, Russia and other Arctic countries in a constructive dialogue on the future of the Arctic.

The Arctic has, in economic and political terms, truly become a new frontier. Its development will increasingly have implications internationally with regard to globalization, economic progress, environmental protection, energy exploration and international security. This year alone, the historic transformation of the Arctic is discussed at conferences focused exclusively on Arctic affairs in locations as diverse as Prince George, Washington D.C., Reykjavík, Brussels, Murmansk, Shanghai and Seoul.

The Arctic is a huge region, covering more than 1/6 of the Earth's landmass and estimated to hold about 1/5 of the planet's remaining natural resources. Its inhabitants form an important Arctic identity. However, it embraces many separate areas with their own set of local priorities and issues. One such Arctic unity is the West Nordic region, consisting of Iceland, Greenland and the Faroe Islands, which has, at times, been somewhat overlooked by Arctic observers.

The West Nordic region is considerably significant in Arctic terms. Due to Greenland's vastness, it covers over 20% of the Arctic's landmass and is home to 10% of the over four million Arctic inhabitants. The three nations all have well-educated and young workforces, as well as being rich  
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in both offshore and onshore resources. Many of the economic opportunities in the West Nordic Arctic are based on tangible value-creation drawing on raw materials and expertise in industries of global relevance. Potential exists for the further expansion of sectors such as energy, mining, tourism, R&D, transportation, infrastructure, services and seafood.

Resource utilization and future societal development in the West Nordic Arctic comply with the [Arctic House Rules](#) (a term coined by H.E. Ólafur Ragnar Grímsson, President of Iceland), which provide for open dialogue, scientific knowledge and indigenous peoples' participation in the development of Arctic affairs.

Regional cooperation between the three West Nordic countries has strong roots. They are each other's closest neighbors and share many fundamentally similar historical and cultural bonds and natural and economic conditions. In the face of harsh living conditions in small and isolated communities that are highly dependent on their natural surroundings and maritime resources, they have, thanks to the resilience of their inhabitants, built modern societies with high living standards.

The West Nordic Council was established in 1985. It is among the oldest pan-Arctic multilateral cooperation mechanisms, spanning three decades of parliamentary cooperation between the Faroe Islands, Greenland and Iceland. Arctic affairs have risen to the very top of the West Nordic Council's agenda and in recent years the Council has focused on important regional issues such as search and rescue, welfare, health, gender, youth, infrastructure, transportation, hunting, tourism and natural resources, including seafood and energy. Increasingly these core issues for the West Nordic area have been coupled with a more outward-oriented vision with regards to the geostrategic importance of the West Nordic Arctic and the vast natural resources of the region.

During the last few years, concrete measures have been taken to further the West Nordic Council's Arctic agenda. These include a recommendation to the national governments to strengthen their co-operation on Arctic issues and to design a common West Nordic Strategy for the Arctic. Next year's annual theme for the Conference of the Council will be devoted to this topic. A report on Arctic economic cooperation between the three countries has also been produced and the West Nordic Council recently urged the three governments to conclude a West Nordic free trade agreement, thus creating a common economic area to strengthen the regional economy and its export capabilities to global markets.

An Arctic push is taking place and it is up to the people in the West Nordic Arctic to decide what we want to do with the vast opportunities in our own area and respond to the prospect of the region's increasing importance in an evolving world order. As the Arctic Council continues to define its own role and welcomes new partners in the Arctic region, it is of the highest importance that new and old global Arctic players respect the existing Arctic House Rules and that both opportunities and challenges are met in a cooperative and constructive manner.

The West Nordic Council has contributed to this process and will continue to do so. This includes welcoming outside partners to the region, while honoring the principle of prudent development of Arctic resources on which the livelihood of the communities depends.

## Commentary

# MAKING IT STICK – A NEW APPROACH TO IMPLEMENTING ARCTIC COUNCIL DECISIONS & RECOMMENDATIONS

Marc-André Dubois & Clive Tesar

Over the past 5 years, the Arctic Council has done a commendable job of increasingly developing implementation plans and follow-up mechanisms for its recommendations and decisions. This has been an incremental process. Landmark reports such as the 2004 Arctic Climate Impact Assessment (ACIA) fell a little flat because, despite thorough research and scholarship, the recommendations that flowed from such assessments went largely undone and unremarked. By 2009 the Arctic Marine Shipping Assessment was implemented through the Protection of the Arctic Marine Environment (PAME) plan that has been monitored, with implementation reports in 2011 and 2013.

The flaw in implementation of recommendations flowing from Arctic Council reports is that the only entities that truly take on the recommendations from Arctic Council working groups are...Arctic Council working groups. What these working groups can do is limited. They can develop further research, they can convene symposiums, and they can make recommendations. They cannot compel the activities that would make the biggest difference: implementation at a national and international level. We are not suggesting that should change. The Arctic Council is unlikely to ever have the authority to compel member states to undertake activities on a national level. However, as the recommendations are decided by a process of negotiation by those member states together with permanent participants, we believe it is not too much to ask that

those same states decide how they will implement recommendations, and account for the implementation of the recommendations.

Such an initiative could be led by the incoming chair. The U.S. has already signaled that a focal area of its chairmanship will be strengthening the Council as an institution. What could strengthen it more than giving real national expression to the recommendations arrived at by the Council, and accepted by ministers? Arctic Council assessments and the related policy recommendations are financed by public money, and governments should start using them to implement their own work and provide results and benefits for their citizens. Ultimately, accelerating action for conservation achievements will lead to true delivery on the mandate of the Arctic Council.

WWF recommends that the United States lead a process to ensure that recommendations flowing from agreed recommendations are implemented at a national (and where necessary, international) level, and that the level of implementation is monitored by each state, and reported back to the Council every two years. Such a process would include the development of implementation plans for all policy recommendations outlining specific methodologies, processes, timelines, milestones and approaches for implementation of the many working group recommendations. Member states and working groups should agree to present, around each Ministerial meeting, rigorous implementation progress reports, which should be based on a similar agreed-upon format.

The implementation of the recent recommendations of the CAFF (Conservation of Arctic Flora and Fauna working group) Arctic Biodiversity Assessment could be a litmus test for integrating national implementation with Arctic Council-specific implementation. The coming [Arctic Biodiversity Congress](#) in Trondheim is an opportunity for states to foreshadow a commitment to follow up with national implementation plans, which could be cemented by the Iqaluit Ministerial meeting in April 2015. This should include not just commitments to research, but putting into action some of the already well-researched recommendations of the ABA – such as advancing the protection of large areas of ecologically important marine, terrestrial and freshwater habitats, taking into account resilience in a changing climate. This could be done through outlining the national components of a plan to complete a network of Arctic conservation management areas, then working collectively to ensure the necessary connectivity.

Declarations and voluntary adoption of policies by countries alone are not enough and Arctic Ministers and leaders need to follow through with new domestic laws and regulations as good intentions will not be enough to translate words into deeds.

The creation of an Arctic Council process for ensuring Arctic Council-specific actions are coupled with bold and concrete national actions to bolster implementation will provide Arctic governments with a more complete response to Arctic challenges. Ensuring that there are monitoring, implementation, and reporting requirements will provide the Council with a solid basis to inform future policy development. A focus on actionable goals and deliverables will add credibility to the Arctic Council's desire to be seen as a sufficient steward of the Arctic.

## Commentary

# **“STRATEGIC ASSESSMENT OF DEVELOPMENT OF THE ARCTIC: ASSESSMENT CONDUCTED FOR THE EUROPEAN UNION” –THE EU-ARCTIC NEXUS AND A MORE BALANCED PICTURE OF ARCTIC DEVELOPMENTS FOR THE EUROPEAN AUDIENCES**

Adam Stepien

The 2014 issue of the Arctic Yearbook focuses on human capital in the North, and thus, on local capacities and human development. This resonates well with a number of assessment projects currently carried out in the region. By the end of 2014, the Arctic Human Development Report II is scheduled to be published. Within the Arctic Council, projects such as the large scale Adaptation Actions for a Changing Arctic assessment or smaller activities dedicated for example to gender equality, take up a number of issues crucial for human capital in the North.

The “Strategic Assessment of Development of the Arctic” report – published in September 2014 – fits well to this increased attention to the human dimension. It is these human-centred aspects of the assessment that are here highlighted. The readers of this year’s Arctic Yearbook may find the “Strategic Assessment” chapters dedicated to mining, land use activities and socio-cultural changes particularly interesting.

The report focuses on the European Arctic (including Greenland and northwest Russia) and analyses development trends in the region, drivers and impacts of Arctic changes, and does so taking into account environmental, social, economic and political dimensions. Against this

background the implications of the Arctic changes for the European Union and the role of the EU in shaping these changes are discussed.

The assessment was carried out for the European Commission as part of the preparatory action testing the feasibility of the EU Arctic Information Centre initiative (see <http://www.arcticinfo.eu/en/brouchure>). The project was implemented by a network of 19 diverse European research, communication and information institutions under the lead of Arctic Centre (University of Lapland) in Rovaniemi. The authors of the report hope that it highlights the human dimension of Arctic change as well as paints for European audiences a less dramatic and more balanced picture of Arctic realities. The task was supported well by a broad engagement of stakeholders, who have greatly contributed to strengthening the message of moderate pace and scope of developments in the region.

This picture of a moderate outlook for economic developments departs from the hopes and fears associated with the vision of “Arctic boom”. Although these hopes and fears generated global interest in the Arctic, they cannot be considered good foundations for the much needed sustained, long-term policy responses. Clearly, the EU and any other actor present in the region should act appropriately to actual reality rather than imagined dramatic narratives. And the latter are still too often heard in Brussels.

The report shows that while it is clear that Arctic environmental and socio-economic changes are driven primarily by the demand for Arctic resources and climate change, the crucial role of regulatory frameworks and policy choices should not be overlooked. For instance, it is often forgotten that current hydrocarbon exploration is not a result of retreating sea ice but of administrative and political decisions. Similarly, the perceived mining “boom” in Fennoscandia, while primarily driven by global demand for minerals, is facilitated to a great extent by industry-friendly and stable regulatory and political environment that Nordic national and local governments wish to create. These developments need to be seen against a variety of social trends in the North, including the interconnections of growing Arctic cities and thinning-out rural areas, gender and age imbalances, increasing tensions between various activities taking place in the Arctic landscape as well as environmental impacts.

Despite the often stated claims, it is far from certain that opportunities connected with climate change – in terms of maritime transport, fisheries or resource extraction – will balance out or even outweigh the climate impacts and risks. While climate change already adversely impacts Arctic environment and landscape, it has a restricted role in triggering Arctic economic developments.

The report accentuates that EU policies and actions play a major role in the Arctic, particularly in the European Arctic. It is often forgotten that the scope of the Arctic-relevant EU policies goes well beyond much discussed EU Arctic policy documents and includes both external and internal dimensions. EU regulatory framework is applicable to Finland and Sweden, but also partly to Norway and Iceland owing to the European Economic Area Agreement. Some Arctic actors seem to overlook the fact that the overwhelming influence the EU exercises in the European Arctic and the broad scope of Arctic-relevant internal policies makes its position in the region very different from that of powers such as China or India. Moreover, to appreciate fully the EU’s standing in the region, one needs to take into account numerous EU cooperation and research programmes, policies which shape the EU’s Arctic environmental and economic

footprint as well as the EU's influence on international processes of relevance for the Arctic (for example the Polar Code or CITES).

One must keep in mind that there is a comparatively limited interest in the Arctic affairs within the EU. Taking into account the EU's role in the region, sustaining an ongoing long-term commitment of the EU to the Arctic affairs and sensitizing the EU policy-makers to Arctic particularities is in fact in the interest of Arctic communities, nations and stakeholders and should be encouraged rather than discouraged.

Building on ideas coming from stakeholders, the report offers a number of recommendations for the EU policy-makers. Many of these recommendations touch upon human dimension in regional development and enhancing human capital in the European North. For instance, the EU is urged to develop instruments specifically addressing the needs of Arctic cities. Although relatively small in size, northern towns play a role similar to that of major population centres in central Europe. The policy-makers should also continue to facilitate entrepreneurship and innovation (including social innovations) in the region, but with increasing focus on women and dynamic indigenous youth. A greater attention to intra-regional connectivity rather than only North-South links is needed, as it contributes to building northern knowledge- and entrepreneurship-based economies.

A separate chapter in the report analyses various activities relevant for the land use in the European Arctic, highlighting cumulative impacts as well as both tensions and synergies between developments. In the light of these tensions, properly designed mechanisms for resolving conflicts are crucial, as the social capital is founded primarily on trust both within and between communities. Improved and integrated impact assessments, especially if they include a strong social dimension, as well as participatory mechanisms are among the key suggested responses.

The EU policy-makers need to take into account diversity within the Arctic region and pay special attention to the European Arctic, where the EU has the greatest leverage. It seems inevitable that the EU policy-makers will have to keep balance between the internal and external aspects and look for golden mean between the extremes of artificial coherence and failure to properly coordinate between numerous branches of EU Arctic policy. However, what is also important is that the EU communicates clearly – as it is not always the case in the EU policy documents – when its actions refer to EU's internal or external affairs and to the European Arctic or circumpolar level.

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## Commentary

# MOVING FORWARD IN A RESILIENT NORTH

Anja Jeffrey, Adam Fiser & Stefan Fournier

The Canadian North has become a focal point for debates about our national sovereignty, security, and economic prosperity. But far more than a frontier for resource development and border disputes, the North is a homeland for many Aboriginal peoples. Across three coasts, it encompasses a diversity of First Nation, Métis, and Inuit communities. While there is growing national interest in transforming the North through economic development, science, and high technology, many Northerners continue to pursue traditional lifestyles alongside the wage economy. This blending of traditional and modern is both a source of conflicts, and a driver of some remarkable innovations.

Our work has sought to understand how Northerners best cope with and capitalize on their opportunities and challenges. What we have found is that one of the most important conditions for a prosperous North is the presence of healthy and resilient communities. Resilient, healthy communities are capable of addressing local level goals and needs, and are vital to our nation's sovereignty, security, and economic prosperity.

This vision of a secure, prosperous, and resilient North is one that emphasizes an active policy role for capable Northern communities. We believe that Northern communities are much more than endpoints for service delivery and policy programming. At their best, they are sources of personal and collective resilience – places where local community governments, businesses, and civil society, are actively engaged in supporting their members' well-being, and in steering the major projects that are realizing Canada's Northern economic potential. It is this kind of community presence that bolsters our Arctic sovereignty.

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In emphasizing the importance of resilience for Northern communities, we stand in good company. Among circumpolar nations, and increasingly across the globe, community resilience projects have introduced a new and more encompassing policy perspective on effective community governance, emergency management and risk reduction.

In emergency management and risk reduction fields, resilience refers to a community's ability to not only survive and absorb a disruption, such as a severe weather event, but also to anticipate adversity and creatively adapt to potential changes and losses. This latter aspect of resilience, the ability to anticipate and adapt to adversity, is critical to our understanding of effective Northern policy.

It can be difficult for small, remote communities to deliver effective public policy. Our research shows that resilience-based strategies can help leverage community government and local resources to better serve the needs of members.

Building Northern resilience requires a comprehensive approach. The goal is to attend to root causes before they become immediate crises. To this end, resilience initiatives should be horizontal and inclusive of the roles that non-governmental actors can play. From a policy practice standpoint, resilience-based strategies help to align the scarce resources of federal and regional programs with the resources, intelligence and understanding of decision-makers who are operating on the frontlines of Northern development. This comprehensive, whole-of-society approach is what best enables Northern decision-makers, workers, entrepreneurs, families, Elders, and youth to work together in solving common problems.

A comprehensive approach to community resilience must also encompass preventive measures that can positively and cumulatively impact long-term development. One major facet of our research has been the health and wellness of Northern Aboriginal children and youth. Early childhood interventions for example, can demonstrably increase personal resilience. Such interventions include family planning and activities that foster protective factors such as a healthy diet, regular exercise, positive and culturally enriching early childhood education experiences, nurturing family and community relations, cultural continuity, and academic achievements. Then, as the child matures, more and different opportunities need to be available to strengthen the resilience of youth; including, in particular, social empowerments that encourage personal responsibility, self-efficacy, and civic engagement. Our work has explored how these capabilities can develop through youth leadership forums, land-based camps, organized sports, and volunteering opportunities.

These initiatives are preventive and holistic in that they seek to strengthen the child's chances of becoming a healthy, happy, and productive adult who will pass on his or her strengths to the next generation. In essence, the resilient child is better prepared for the challenges of youth. The resilient youth is better prepared to take on the greater responsibilities and challenges of adulthood.

The North is breathtaking and replete with opportunity. Yet it can also be a harsh and demanding place in which to live. Ensuring that communities can seize opportunities as well as survive and adapt to economic, environmental, and social challenges will help them prosper and grow. This, in turn, will solidify Canada's Arctic sovereignty and allow us to move forward as an Arctic nation.

## Commentary

# DEVOLUTION IN THE NORTHWEST TERRITORIES: PROGRESS OR POISON?

Anthony Speca

*When the Northwest Territories achieved devolution of lands and resources from Ottawa in April, it was a historic moment in Canada's political evolution. But a key test of devolution's nation-building potential will be how well it supports real aboriginal-government partnership. On that score, there is cause for concern.*

On the first day of April, the citizens of Canada's Northwest Territories (NWT) [collectively took control](#) over the land beneath their feet for the first time in their nearly 150-year history. Previously, federal ministers in Ottawa had the final say on land use and resource development there. Now territorial ministers in Yellowknife do. No less important, the NWT now shares with Ottawa the considerable royalties yielded by its natural wealth—oil, diamonds, rare earths, tungsten, base metals and more.

With this ['devolution' of control](#), the NWT took a historic step in its political evolution within Canada. Although still a territory created and limited by federal statute, the NWT assumed powers typically reserved for provinces, which share in the Canadian Crown. As significant as it was locally, NWT devolution was also a nation-building event – and a [sequel to](#) Yukon devolution in 2003.

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In practice, nation building in the Canadian North has meant building a durable system of shared governance with aboriginal peoples – in the NWT, the Gwich'in, Inuvialuit, NWT Métis and Akaitcho, Dehcho, Sahtu and Tlicho Dene. This contrasts with the constitutional development of much of southern Canada, which long preceded Supreme Court decisions confirming aboriginal rights and title. For this reason, NWT devolution can be fully understood only against a backdrop of decades of [modern treaty making](#), by which aboriginal peoples have been recognised as co-governors of their traditional lands.

Through their treaties, the NWT's aboriginal governments are guaranteed a share of the regulatory powers that the 'public government' of the NWT (GNWT) now exercises through devolution. The GNWT and aboriginal governments have also [agreed to share](#) some resource revenues. In this context, devolution will fulfil its nation-building promise only if it [fosters collaborative partnership](#) between aboriginal and public government.

But there is already cause for concern, on three counts. First, the Akaitcho and Dehcho have not finished negotiating treaties. With devolution, the GNWT now sits across the table in Ottawa's place. Moreover, the GNWT now derives political and fiscal power from the very land and resources the Akaitcho and Dehcho claim. The GNWT may well prove more able than Ottawa at sharing governance, but treaty making is complex and sensitive. The Akaitcho and Dehcho [worry about the risk](#), and they have so far refused to accept a share of resource revenues from the GNWT [lest it prejudice](#) negotiations.

Second, after the devolution agreement-in-principle was unveiled in 2011, the Gwich'in [loudly criticised](#) the GNWT for selling the territory's natural wealth too cheaply. The GNWT had accepted not only a 50-50 split of resource royalties with Ottawa, but also a cap on the total take. The Gwich'in complained that both split and cap were too low – and that large excess royalties would flow to Ottawa were the resource industry to grow strongly.

As I have [argued elsewhere](#), the cap does seem particularly unfair, and sets an unwelcome precedent for resource-revenue sharing in the Canadian North. Defined as a small percentage of a hypothetical and dubious figure that Ottawa uses to represent the GNWT's budgetary need, and [lacking any connection](#) to a clear vision or fiscal plan for the territory's future development, the cap appears to reflect nothing more than Ottawa's interest in limiting its own costs.

Indeed, the GNWT responded to its critics that, after several years of negotiating, no better deal could be had. Reluctant to reopen its hard-won agreement, the GNWT insisted that aboriginal governments would have to [take or leave it](#). In the end, the Inuvialuit, NWT Métis, Sahtu, Tlicho and – after electing new leadership – [even the Gwich'in](#) had decided it would be better to be counted in than left out. But if in coming years Ottawa siphons off comparatively large royalties from the territory, aboriginal discontent will surely rekindle.

Third - and perhaps most serious – the NWT devolution bill presented to Parliament introduced an unpleasant surprise. Expected were the legalities necessary to transfer Ottawa's control of lands and resources to the GNWT. Unexpected was a proposal for [sweeping changes](#) to the regulatory system the GNWT would inherit, and which gave practical effect to the shared governance enshrined in aboriginal treaties.

Concerned that the NWT's regulatory system was [too complex to attract investment](#), Ottawa proposed to abolish most treaty-based local land-management boards in favour of a centralised

'superboard'. With fewer local members, the superboard potentially implied diminished aboriginal powers. Unaware that this proposal would be bundled with devolution until the bill was read in Parliament in January, most of the NWT's aboriginal governments [were incensed](#) by what they saw as Ottawa's last-minute and unilateral move.

Ottawa responded coolly, claiming simply to be acting on a [long-standing recommendation](#) to rationalise the NWT's regulatory system. For its part, the GNWT [disavowed the superboard](#) - but perhaps tellingly it also [disavowed responsibility](#) for informing its aboriginal partners that Ottawa would link the superboard to devolution, despite knowing Ottawa's intention months before. Indignant at taking one step forward with devolution, only to be pushed two steps back with an unwanted superboard, aboriginal governments called on Parliament to separate the two.

Put to a vote, [a motion to divide the bill failed](#), and both devolution and superboard passed together. The Sahtu and Tlicho have [retaliated with lawsuits](#) accusing Ottawa of infringing on treaty rights. If the courts rule against them, it may merely set the stage for [grassroots resistance](#) to resource development on their traditional lands. No one who shepherded the NWT down the long path to devolution would have wished for such an outcome.

Instead, what they presumably wanted was meaningful progress towards the political maturity of the NWT - and of Canadian Confederation. And [seen as a whole](#), devolution is without doubt a great political achievement. The control and royalties the NWT has won are unlikely ever to be rescinded. But devolution's legacy - its nation-building promise - depends fundamentally on how well aboriginal peoples and government now cooperate to overcome the new risks to their partnership. What seems political progress today could turn political poison tomorrow.

## Commentary

# NUNAVUMMIUT SPEAK OUT TO THEIR FAMILIES

### ‘Feeding My Family’ Organizers

Three years ago, communities across Nunavut joined together to speak out against the shockingly high food prices in the north, protesting in front of local grocery stores. This was the first time such actions had been organized in the remote, fly-in communities of Canada’s northernmost territory; Feeding My Family (FMF) is the movement that grew out of these protests. The Facebook site quickly grew to over 20,000 members, and FMF has provided a forum for Nunavummiut to come together to share personal struggles and expose the impacts of hunger in the north. Members have been posting photos of the exorbitant food costs in the north, showing prices as high as [\\$28 for a head of cabbage and \\$99 for a whole fish](#).

Nunavut is the home of the Inuit, and its small population has survived from hunting, fishing, and gathering. Traditional practices are strong and hunting for sustenance remains an important part of life, but a legacy of colonization (such as the permanent settlements and residential schools) is that Inuit cannot eat as their ancestors did. Many hunters cannot afford the cost of hunting equipment, and country foods harvested from the land must now be supplemented with store-bought foods. There are many statistics on hunger in Nunavut, including estimates that [70% of households](#) are food insecure. But beyond statistics, FMF aims to bring out the voices behind these numbers, serving as a space for Nunavummiut to speak out about how hunger is affecting their families.

One member posted, “...saw three kids eating at the dump. [I] told them not to eat at the dump that there going to get sick. [O]ne kid said... price too high mom can’t really buy good food too much. Told the kids hop on my honda we’re going my place I will cook something for you to eat proper food not outdated food from the dump... my heart broke to pieces when I saw them eating at the dump...”.

Many describe their struggles to buy healthy food, children going to bed hungry and not attending school, and poor quality food (often past the expiry date) and limited variety in stores. A recent survey found that food prices in Nunavut are on average [140% higher](#) than the rest of Canada, and the average cost to feed a family of four can reach almost [\\$2,000 per month](#). With the extremely high costs of living in the north, many have to choose between buying food and paying bills. Members are concerned about the limited employment opportunities, overcrowded housing, and high costs of freight, airfare, and internet service. Nunavut's median annual income is [\\$28,500](#), with almost [40% of the population receiving social assistance](#). There are few food banks set up in the territory and, although food sharing networks are strong, many describe the stress of having to provide for or depend on their extended family for food.

Another member posted, "I had to go over to Social Services and ask for some food too. I go hungry so my kids can eat too, yes we all have family to help but they also have kids, right? I try my best not to ask from my siblings only when we badly need help that's when I seek help..."

FMF members are calling on governments and retailers to do more to address hunger in Nunavut. Much of the criticism has focused on Nutrition North Canada (NNC), the federal freight subsidy program that replaced the Food Mail program in 2011. Food Mail used to subsidize northern residents directly, but NNC now subsidizes the retailers, rationalizing that it will trickle down to customers. Two food retailers have a virtual monopoly in Nunavut (Northwest Company and Arctic Cooperatives), and they stand to profit greatly. FMF members contend that NNC is not actually lowering food costs in the communities, and the photos of food prices posted on Facebook are serving as a form of price monitoring. There have been [accusations](#) that NNC is selectively reporting food costs based on unverified price information, and the Auditor General of Canada is currently auditing NNC.

FMF is about uniting Northerners as a collective voice and has been a catalyst for community-based solutions, facilitating other spin-off groups to address hunger in the north. Protesting is not something Inuit traditionally do, but adapting and working together has been the way Inuit have always survived the harsh Arctic environment. Hunger had been fought by their ancestors and it is fought again today using different techniques.

The food protests two years ago drew worldwide attention to the reality of hunger in Canada's north, and FMF works to continue bringing awareness to the rest of Canada and the world. You can support FMF by visiting the [website](#), joining the [Facebook group](#) and sharing it widely in your community, and contacting your Member of Parliament in Canada.

## Commentary

# CAN RESOURCE DEVELOPMENT BE GOOD FOR ARCTIC COMMUNITIES? THE RESOURCE AND SUSTAINABLE DEVELOPMENT IN THE ARCTIC (RESDA) PROJECT

Chris Southcott

As the world economy continues to expand, demand for energy and other natural resources is increasing. Reserves of some resources are becoming more difficult to replace. Natural resource industries are increasingly interested in new sources of supply in non-traditional yet politically stable regions such as the Arctic. This is not necessarily good news for Arctic communities. Past experience has showed that many Arctic communities have benefited little from resource exploitation. Indeed, a large number of northern communities have experienced enormous social, economic, and environmental challenges over the past half century and these challenges can be closely linked to impacts of past resource exploitation. Communities are disrupted to serve the interests of a type of resource development where few jobs go to local peoples and the arrival and departure of migrant workers creates great social problems. Resource dependence is seen as one of the most important challenges facing the region.

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Yet there is some hope that this can change. There is some indication that the worst aspects of the resource dependence can be countered through the introduction of new policies and models of development that increase local control of development and ensure a higher share of resource rents and other benefits are passed on to northern communities. In certain areas of the Arctic new land claims agreements, impact-benefit agreements, and co-management boards offer the potential for the development of natural resources in a manner that increases the benefits of these developments for local communities and helps ensure that development is done in an environmental sound manner. New relationships between governments, communities, and industry are increasing the possibility that more benefits from resource development can be passed on to communities – including in the areas of human capital and increased capacity.

Finding answers to these questions is the reason behind the formation of the Resources and Sustainable Development in the Arctic (ReSDA) project. Funded from 2011 to 2018 by the Social Sciences and Humanities Research Council of Canada as a Major Collaborative Research Initiative, ReSDA is a partnership of Arctic communities and over 50 researchers from 29 institutions and all eight circumpolar nations. As the Arctic is increasingly the site of extractive industry interest, the ReSDA network is looking for ways to increase the benefits of extractive industry developments to communities and to mitigate negative impacts.

The initial research conducted by ReSDA is contained in a series of 14 gap analyses reports (available at [www.resda.ca](http://www.resda.ca)) covering a number of areas where the potential exists for natural resource developments to increase the capacity of Arctic communities. These include the increased ability of communities to adequately measure and thereby control impacts, new impact benefit arrangements between communities and industries, new regulations that allow communities the ability ensure more sustainable environmental and social development, new fiscal mechanisms to increase revenues flowing to communities, new education and training programs that provide more long-term capacity building, new mitigation tools, and increased integration of traditional knowledge into development and monitoring programs.

These gap analyses have led to a new series of research subprojects where ReSDA researchers are currently trying to answer such questions as:

- how can we develop better, community controlled, indicators of change linked to resource development;
- how can we maximize the amount of money that stays in a region;
- what are the various ways that funding is distributed within communities and what are the impacts of these;
- what are the best ways to mitigate the main social impacts of resource development on communities;
- what are the best options for Arctic communities in dealing with long distance commuting;
- how can we deal with the differing gender impacts of resource development;
- what are the best ways to deal with negative impacts arising from current Impact Benefit Agreements;
- what can be done to ensure that resource development does not negatively impact the subsistence economy of northern communities;

- what are the best examples of employment, training, and education programs associated with resource development in the north;
- what are the best examples of the use of traditional knowledge in the planning and monitoring of resource development;
- and what are the best practices in developing relationships between industry and communities and how do these relationships influence success.

## Commentary

# MINING IN GREENLAND – CURRENT STATE & PLANS FOR THE FUTURE

Birger Poppel

In February 2014 Naalakkersuisut, the Government of Greenland published Greenland's Oil and Mineral Strategy 2014 – 2018. The 'Summary' of the strategy states that:

The Government of Greenland's goal with the mineral resources sector is clear. It wants to promote prosperity and welfare by creating new income and employment opportunities in the area of mineral resources activities. More specifically, the Government of Greenland's long-term goal is to further the chances of making a commercially viable oil find – and that there are always five to ten active mines in Greenland in the long term. Mining activities of this scale will provide tax revenues of more than DKK 30bn over the next 15 years. The potential of an oil find may be much larger. Based on the current assumptions, the establishment of two oil fields – a 500m barrel field from 2020 and a 2bn barrel field from 2025 – would generate more than DKK 435bn to the Mineral Resources Fund until 2060 (Naalakkersuisoq, 2014: 8).

This optimistic approach might be supported by the number of exploration licenses for mining activities that increased from 2002 until 2011 (followed by a decrease) and that exploration expenses from 2007 to 2012 on average amounted to roughly DKK 500 mill. Furthermore seven exclusive oil and gas exploration and exploitation licenses were granted in 2010 to seven blocks in the Greenlandic part of Baffin Bay.

However, this approach is not supported by the hard facts of the Greenlandic situation according to opinions by most industry experts and researchers [see for instance: The Economic

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Council of Greenland (2013) and The Committee for Greenlandic Mineral Resources to the Benefit of Society (2014)] – including the actual activities and known future plans of the major industrial stakeholders. Rather, the overly optimistic view substantiate skepticism:

- At the time of writing there are no active mines in Greenland. The last mine in operation, the Nalunaq goldmine near Nanortalik in South Greenland, was shut down October 31, 2013 and the remaining equipment and waste was carried away in August 2014 (Nyvold, 2014). Two projects, an iron ore project (London Mining's Isukasia project) in the Nuuk Fiord and a gemstone project (True North Gem's ruby project) at Qeqertarsuatsiat south of Nuuk, have exploitation licenses and both projects are in the process of raising capital. The iron ore project is a so-called 'large scale project' with estimated total construction costs of DKK 13 billion. The expectations for the impacts on employment and the Greenlandic economy have been significant but – supposedly not least because of decreasing world market prices – London Mining has not been successful in raising capital.
- Apart from seismic surveys in North East Greenland no oil exploration has been carried out in Greenland since 2010 and 2011. Cairn Energy, the most active company so far, has declared a break in their exploration activities and has closed their Greenland office in Nuuk; StatOil is focusing their activities north of Norway and ExxonMobil did not give a bid for the northeastern coast of Greenland offshore licenses and no exploration activities are announced. The strikes and exploitation of shale gas in USA and potential finds in Europe definitely contributed to the decreasing interest in more costly and environmentally risky exploration activities in Arctic – including Greenlandic – waters.

Even if mining activities have not yet significantly impacted the Greenlandic society, the public debate has raised awareness on a variety of aspects of mineral extraction and has fueled a number of civil society activities and NGO initiatives. An overall driver uniting most of the political landscape has been the vision of being able to become economically self-sufficient and obtain political independency from Denmark. Furthermore a number of themes have been part of the mineral resource discourse including aspects of:

- Sustainable development: including the social, economic, environmental and cultural approaches;
- Democracy: for instance public participation and informed consent, transparency in the administrative procedures as well as the planning processes of the companies;
- Economic development: how much and under which legislative conditions and tax regimes will Greenland and its people benefit from the activities of extractive industries – and is there a risk that Greenland might be caught in the 'resource curse'?
- Labour market concerns: including necessary skills, education, mobility and the potential use of immigrant labour and risk of 'social dumping';
- Environmental protection of a pristine and vulnerable nature and living resources;
- Uranium mining: the political parties had for several years agreed upon a zero-tolerance on uranium mining – including mining activities were uranium was a by-product. The ban on uranium mining was lifted in the Fall 2013 with a one-vote-majority in Inatsisartut, the Greenland Parliament;

- Rights issues of indigenous peoples and of specific groups, not least hunters and fishermen;
- International relations: strategic resources like rare earth elements and uranium as well as the potential influence of, for instance, Chinese investments.

A number of the, now mature, mining projects were developed in a period of increasing world market prices on minerals. Facing decreasing world market prices and subsequently, a reluctance among investors to provide capital might inspire political decision makers, other stakeholders and the general public to 'reinvent' a more diverse and multifaceted economic development strategy including mining activities. Greenland's export of shellfish (especially prawns) and fish (especially Greenland halibut) still make up roughly 90 percent of Greenland's total export. It thus seems obvious to ground an economic development strategy also on renewable resources – including to a larger degree processing and refining marine products. It might furthermore be advantageous to focus on areas and products where Greenland indisputably has comparative advantages and the possibility to develop niche products – for instance within tourism, the cultural sector and potentially a growing agricultural sector. Last but not least, the energy potential, primarily hydropower, might offer a potential in the Greenland economic development strategy (Poppel, forthcoming).

## References

- Committee for Greenlandic Mineral Resources to the Benefit of Society (2014). *To the Benefit of Greenland*. [http://news.ku.dk/greenlandnaturalresources/rapportandbackgroundpapers/To\\_the\\_benefit\\_of\\_Greenland.pdf](http://news.ku.dk/greenlandnaturalresources/rapportandbackgroundpapers/To_the_benefit_of_Greenland.pdf) retrieved September 7, 2014.
- Economic Council of Greenland (2013): *The Economy of Greenland 2013*. Nuuk. <http://naalakkersuisut.gl/~media/Nanoq/Files/Attached%20Files/Finans/DK/Oekonomisk%20raad/Rapport%202013FINAL2%20GR%20ENG%203.pdf> retrieved September 7, 2014.
- Naalakkersuisut, Government of Greenland (2014): *Greenland's Oil and Mineral Strategy 2014-2018*. [http://www.govmin.gl/images/stories/about\\_bmp/publications/Greenland\\_oil\\_and\\_mineral\\_strategy\\_2014-2018\\_ENG.pdf](http://www.govmin.gl/images/stories/about_bmp/publications/Greenland_oil_and_mineral_strategy_2014-2018_ENG.pdf) retrieved September 7, 2014.
- Nyvold, M. (2014). *Færdig med at rydde op efter mineprojekt*. Sermitsiaq 36:11.
- Poppel, B. (forthcoming). Les défis économiques du Groenland (The Economic challenges of Greenland). In: Masson-Delmotte, V., Gauthier, É., Gremillet, D., Huctin, J.-M. and Swingedouw, D. (Eds.): *Groenland*. CNRS Éditions.

## Commentary

# MAINE'S ROLE IN THE NORTH ATLANTIC FUTURE

Dana B. Eidsness

With direct container service to North Atlantic destinations through the Port of Portland and bulk capacity through its ports in Eastport and Searsport, Maine is in a position to capitalize on emerging shipping lanes in the Arctic Sea, which could see the state become a hub of international trade in the Northeast U.S. The Maine Port Authority is preparing for this, putting port and rail improvements in place to facilitate increased throughput.

Located in the Northeast, USA and bordering the Canadian provinces of New Brunswick and Quebec with 5633 km of Atlantic coastline, Maine is well-positioned as a hub for North Atlantic shipping and supply chain activity - with comparable (ocean) shipping fees to domestic and European destinations. With the opening of the Northwest Passage, Maine will be able to offer effective shipping solutions to Canada, Europe and Asia through its ports.

2014 was a pivotal year in Maine's development of North Atlantic relations. With the advent of Eimskip, Iceland's largest shipping line moving its U.S. headquarters to Portland Maine in 2013 and the subsequent visit to Maine of The Honorable Ólafur Ragnar Grímsson, President of Iceland, the State opened the Maine North Atlantic Development Office (MENADO) in 2014, to develop increased trade and investment activity between Maine and the North Atlantic Region and organized a number of events and outreach activities to launch this effort.

The passages over the High North are opening and Maine's ports are ideally situated to play a large role in the future of global trade - Maine needs to participate in Arctic conversations and build relationships throughout the region. This will require a coordinated effort, which MENADO can help lead. Climate change in the Arctic provides both promise and peril and Maine, and the country must prepare for the new opportunities and for the new risks that we will face.

- Senator Angus King

Maine hosted two, major North Atlantic-themed events in Bangor, Maine in 2014. Maine International Trade Day: 'The New North', with business intelligence presentations from the Greenlandic and Canadian Governments, as well as panel discussions including businesses and tourism officials from Maine, Atlantic Canada and Iceland. The audience consisted of over 300 of Maine's most internationally-active businesses with a keen interest to increase trade activity with the region.

At a second event, the Maine National Guard, University of Maine's School of Policy and International Affairs and the United States Coast Guard collaborated to present "Leadership in the High North; A political, military, economic and environmental symposium of the Arctic Opening." General Charles Jacoby, Commander of North American Aerospace Defense Command and U.S. Northern Command headed up an international collection of experts to discuss issues related to trade, changing environmental conditions, and the strategic geopolitical situation in the Arctic. Major General Christopher Coates, Deputy Commander Continental Canadian Joint Operations Command discussed issues specific to the Canadian military and their ongoing operations in the High North. The Maine Port Authority and Iceland's Eimskip Shipping Line presented current trends and possibilities in trade among North Atlantic nations. The University of Maine's Dr. Paul Mayweski and Rear Admiral Jonathan White, Oceanographer and Navigator of the Navy, and Director of Task Force Climate Change discussed changing environmental conditions in the High North. Representatives from all of the New England states, New York, Alaska, New Brunswick, Quebec, Iceland and Denmark participated in the symposium.

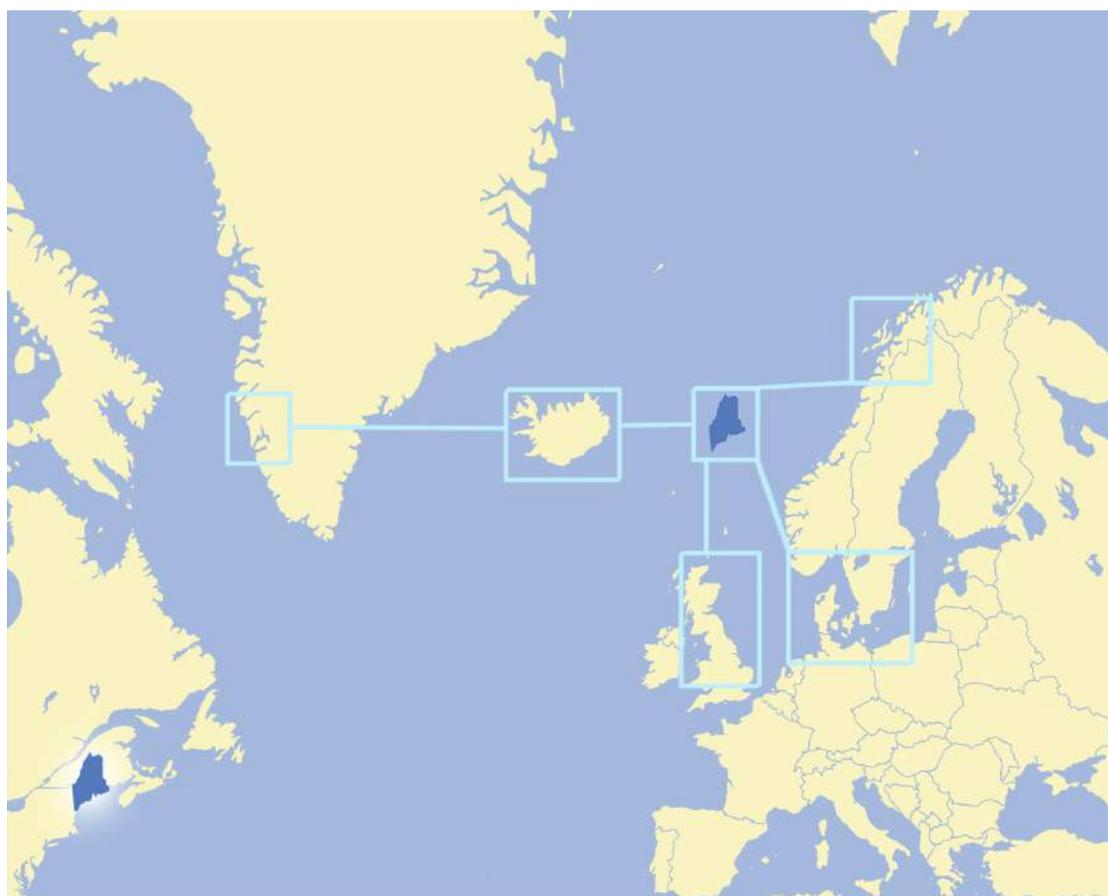
These two events preceded a successful State of Maine trade mission and outreach to Iceland, the UK and Greenland, resulting in projected sales in these markets, as well as the connection of Maine business resources with proposed mining and infrastructure projects in Greenland.

A study released over the summer of 2014 reported that the Gulf of Maine is warming faster than 99% of the world's oceans.<sup>1</sup> This warming is contributing to rising seas, already noticeable along Maine's coastline and rising sea temperatures are having an effect on Maine's fisheries. Long established species are heading for colder waters, and species that are unusual for the Gulf of Maine are becoming prolific.

Abrupt climate change, initiated by Arctic ice-melt is impacting the State of Maine and our scientific community has long contributed to the study of Arctic change and is now at the forefront of helping the world understand the impacts this change will bring. Notably, University of Maine's Climate Change Institute has made major scientific contributions to the understanding of climate science, including research on the role of marine ice sheets and ice streams in rapid deglaciation and sea-level rise, recent change in Antarctica and Greenland, and is now analyzing the global implications of abrupt climate change to climate prediction. The Gulf

of Maine Research Institute, University of Maine, Bigelow Laboratory for Ocean Sciences and University of New England's Marine Science program are all contributing ocean science to record and analyze the impacts of climate change.

Maine has contributions to make to the future of the North Atlantic region, and they will be diverse. We will contribute economic development expertise and competitive logistics solutions, business partnerships, scientific collaborations—and will facilitate Maine-North Atlantic exchanges in the Arts, culture and tourism. Maine's role in the North Atlantic future is active and growing.



**Figure 1:** Cost Based Geography: Map shows the proximity of Maine to arctic nations from a freight cost perspective with Icelandic Steamship Company Eimskip.

## Notes

1. Reference: GMRI, Andrew Pershing and Nick Record  
[http://www.seascapemodeling.org/seascape\\_projects/2014/01/the-gulf-of-maine-is-warming-fast.html](http://www.seascapemodeling.org/seascape_projects/2014/01/the-gulf-of-maine-is-warming-fast.html) and  
[http://www.seascapemodeling.org/seascape\\_projects/2014/03/another-warming-maine-map.html](http://www.seascapemodeling.org/seascape_projects/2014/03/another-warming-maine-map.html)

## Commentary

# THE DEVELOPING INTERNATIONAL MARITIME ORGANIZATION POLAR CODE

Lawson W. Brigham

Most professionals in the polar and maritime communities are well aware that the International Maritime Organization (IMO) is developing a mandatory or binding Polar Code for ships operating in polar waters. Others outside the marine world may have heard of this significant international effort although much of the work is quite technical and remains under negotiation by the maritime states. This comment steps back from the Polar Code's technical details and presents the broad themes and issues that are being addressed in this historic effort.

The Polar Code at its core addresses marine safety and environmental challenges for ships operating in remote, sometimes extreme, conditions where marine infrastructure is limited or non-existent. It is important to also note that the Code is directly related to the future protection of Arctic people, especially Arctic coastal communities and their traditional lifestyles. The IMO is seeking a uniform, nondiscriminatory set of rules and regulations for polar ships, which in the maritime industry will hopefully result in a level playing field for all marine operators. Importantly, the Code is a set of amendments to existing IMO safety and environmental protection instruments - the current maritime conventions are being amended to adapt and enhance ship systems for operations in both

Arctic and Antarctic waters. Boundaries have been delineated in the Arctic (north of 60 degrees North in the Bering Sea with adjustments further north in the North Atlantic) and Antarctic (south of 60 degrees South) where the mandatory Polar Code will be applicable. A set of ship types have evolved in the negotiations where certain operating conditions require more extensive ship requirements. The new Code will likely require that commercial carriers and passenger ships

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more than 500 tons be certificated (all will be required to obtain a Polar Ship Certificate from the flag state) and also carry a Polar Operations Operating Manual that is unique to a given ship.

The history of the development of a polar code extends back to the end of the Soviet Union and initiatives by several nations including Germany and Canada. An IMO Outside Working Group (OWG) was established in 1993 and this experts group, led by Canada, drafted the framework for an initial Polar Code during a five-year period. Key strategies of the OWG included: building on existing IMO ship rules and standards for safety, environmental protection, and training (rather than replacement or duplication); focusing equally on the safety of human life and protection of the marine environment; and, using the United Nations Convention on the Law of the Sea (UNCLOS) as the legal framework for the polar oceans while also considering the extensive knowledge and experience of the ice navigation regulatory regimes in Russia, Canada and the Baltic states (the Swedish-Finnish shipping rules for seasonal sea ice). Early in the OWG process, the IMO endorsed a set of Polar Code harmonization principles that included:

- Ships are to have suitable ice strengthening for their intended voyages.
- No oil shall be carried against the outer hull.
- All crew members must be properly trained in the operations of polar vessels.
- Appropriate navigational equipment shall be carried by all polar vessels.
- Suitable survival equipment shall be carried for each person.
- There will be a set of unified classes for polar ships operating in ice.
- Consideration must be given to vessel installed power and endurance.

The IMO accepted the draft Polar Code from the OWG but decided as an alternative strategy to develop a set of guidelines titled *IMO Guidelines for Ships Operating in Arctic Ice-Covered Waters*. Approved in 2002 these Guidelines were voluntary, or recommendatory, and focused solely on the Arctic. During 2004-2009 the Arctic Council conducted the Arctic Marine Shipping Assessment (AMSA), which in a key recommendation called for the mandatory application of relevant parts of the Guidelines and augmentation of global IMO ship safety and pollution prevention conventions. The Arctic states using AMSA as their policy framework, on which they had reached consensus and approval, voiced their strong view that mandatory IMO rules and regulations of Arctic shipping were required. Overlapping with the work of AMSA, the International Association of Classification Societies (IASC) during 2006-08 developed and adopted a set of unified requirements for Polar Class ships. Also in 2009 the IMO made a significant change to the Guidelines revising them to include ships operating in the Antarctic and changing the nature of the rules to address the more general region 'polar waters' rather than ice-covered waters (with the IMO title *Guidelines for Ships Operating in Polar Waters*). This change was recognition by IMO that many ships, particularly passenger vessels, are operating in polar waters in summer that are not necessarily ice-covered. Also, any future instrument would have bi-polar application as many polar ships operate at both ends of the world. These developments set the stage for establishment in 2010 of an IMO working group on addressing the need for mandatory requirements including crew competency and training.

The ongoing work at IMO on a mandatory Polar Code has been mainly conducted since 2010 by IMO's Sub-Committee on Ship Design and Construction and has covered a broad range of themes including: ship's design and construction; required marine safety and lifesaving equipment; operational training, manning and experience of the polar mariners; and environmental protection challenges. The IMO Marine Safety Committee (MSC) has been considering amendments to the International Convention for the Safety of Life at Sea (SOLAS). The proposed draft amendments to the International Convention for the Prevention of Pollution from Ships (MARPOL) are being considered by the Marine Environmental Protection Committee (MEPC). MEPC is negotiating the mandatory application of the Polar Code for MARPOL Annexes I (prevention of pollution by oil); Annex II (prevention of pollution by noxious liquids); Annex IV (prevention of pollution by sewage); and Annex V (prevention of pollution by garbage). IMO's Sub-Committee on Human Element Training and Watchkeeping (HTW) is currently reviewing the critical training and manning requirements for polar operators.

Several practical elements of the proposed Polar Code have already been communicated by the IMO. A proposed Polar Ship Certificate would classify a ship for operation in polar waters as one of three types:

- **Category A** - Ships designed for operation in polar waters in at least medium first-year ice which may include old ice inclusions (these ships correspond to IASC Polar Classes PC 1 through PC 5).
- **Category B** - Ships designed for operation in polar waters in at least thin first-year ice which may include old ice inclusions (these ships correspond to IASC Polar Classes PC 6 & PC 7).
- **Category C** - Ships designed to operate in open water or in ice conditions less severe than those included in Categories A and B.

These categories provide key flexibility since not all ships are intended for operation in the same ice conditions and importantly, the same polar navigation season. For example, a non-ice strengthened passenger vessel (which normally operates in open water) on a voyage in polar waters during summer would be classified as a Category C ship. The Polar Ship certificate would be approved by the flag state and would include information on polar ship category and ice class; operational limitations; and, required additional safety, communications and navigation equipment. Another practical requirement proposed is the Polar Waters Operational Manual, which will include ship specific information, such as operational capabilities and limitations, for the owners and operators of ships voyaging in polar waters.

The IMO anticipates that the MSC will adopt the SOLAS Polar Code amendments in November 2014. The MEPC should adopt the MARPOL Polar Code amendments by April 2015. It is important to note that the Polar Code is anticipated to have both mandatory and recommendatory (non-mandatory) provisions for safety and pollution prevention. Implementation of the Polar Code should begin in May 2015.

The IMO mandatory Polar Code will be a seminal and historic international governance regime for the polar seas. During the implementation phase of the Code from 2015-17, it is hoped the United States, as chair of the Arctic Council, will lead the Arctic states in advocacy for the Code within the global maritime community and to a global audience.

The ratification of a new Polar Code hopefully by 2017 will set binding and enhanced international standards for new and existing commercial ships operating in Arctic and Antarctic waters. Ratification of these measures will herald a new era of protecting Arctic people and the marine environment.

## Commentary

# FEDNAV PIONEERS THE USE OF DRONES IN POLAR SHIPPING

Pascale Bourbonnais

In March 2014, Fednav became the first shipping company to employ drones, or Unmanned Air Vehicles (UAV), for ice reconnaissance on a commercial voyage. The Umiak I, one of Fednav's three powerful icebreaking bulk carriers, used a variety of video-equipped drones to scout ahead of the vessel in the ice-covered waters of the Labrador Coast. The goal was to provide the captain and officers with detailed real-time visual information on the local ice conditions.

Fednav Limited is a Montreal-based international shipping company. Its principal activities include the transport of bulk and general cargo worldwide. Since the Company's very early days, the Arctic has played a vital role in Fednav's success. Fednav in turn, has played a pivotal role in the development of innovative transportation solutions for the harsh Arctic conditions. As such, the company is widely recognized in Canada and internationally as a pioneer in Polar shipping.

Enfotec, a Fednav subsidiary and industry leader, has for more than 20 years specialized in providing advanced ice imagery and analysis to vessels operating in difficult ice conditions. Enfotec is also the developer and distributor of IceNav™, a shipboard navigation system used by many types of vessels

operating in ice-covered waters worldwide. This system allows mariners to access and use satellite imagery and up-to-date ice and weather information. It also incorporates enhanced marine-based radar for the detection of sea ice.

In collaboration with Dizifilms, a Canadian leader in the commercial UAVs industry based in Beloeil, Quebec, Enfotec seeks to improve ice information available to the ship's crew in order to optimize the vessel's routing. With advances in recent years in the quality of information derived from satellite and radar images and conventional ice charts, the use of unmanned air vehicles for ice detection allows for the immediate capture of subtle ice features such as ridges, leads, and fractures. The UAVs deliver critical high-quality, short-range visual observations in real-time, allowing navigators to see beyond the normal horizon for strategic navigation. As a result, the crew has access to additional tools to help them make decisions for safer and optimal routing through the ice.

The backdrop for the application of this emerging technology was the Labrador Coast. The coast experiences heavy winter conditions very similar to those experienced in the Canadian Arctic - thick first-year ice that is heavily deformed under wind-induced pressure and remnants of multi-year and glacial ice embedded in the ice cover - which pose great challenges for navigation. Avoiding zones of severely deformed or pressured ice can save thousands of litres of fuel, thereby contributing to a reduction in greenhouse gas emissions and decreasing the operational cost of the voyage.

In the near future, Fednav and Enfotec plan to take this project further by having drones onboard the Nunavik through the Northwest Passage, in September 2014, as well as in the Hudson Strait during a winter voyage in 2015. In the long-term, Enfotec seeks to develop a methodology for the integration of drone imagery into regular route planning for winter voyages in heavy ice conditions.

Video: <http://vimeo.com/fednav/fednav-drones>

## **Section III**

# **Briefing Notes**

## Briefing Note

# THE ARCTIC: A NEW INTERNET HIGHWAY?

Michael Delaunay

The Arctic Ocean is one of the last oceans of the planet, along with the Southern Ocean, not to be crisscrossed with fiber optical cable, information highways that carry the lion's share of global communications. These cables are the spinal cord of the Internet and are a critical link with the rest of the world, increasingly so in our global village where instantaneous communication is expected. Today, there are nearly 300 submarine optical fiber cables on the ocean floor which carry, according to Alan Mauldin, research director at Telegeopgraphy, 99% of global communications (CNN, 2014). The remaining communications are via satellite for areas not yet connected to the global cable network. This is notably the case in the Canadian Arctic,<sup>1</sup> where transmission is much more expensive and bandwidth much more limited as compared to optical fiber cable. In the coming years, with the melting of the polar ice and thanks to Canadian and Russian projects, Arctic residents may soon be linked to the global network and thus benefit from high-speed Internet connections. This offers great promise to northerners, especially in terms of education, health and economic development. These projects do face challenging weather conditions and require significant investment: cost estimates range from \$650 million (USD) to nearly \$1.9 billion.

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## Melting Ice Opens Northern Waters

Today, no submarine optical fiber cables lie on the Arctic Ocean floor, despite this being the shortest way to link Asia, the United States, and Europe by water, a distance of some 16,000 km. To date, ice and icebergs have sufficiently hampered navigation to make cable laying a dangerous prospect. However, the accelerated melting of the polar ice cap opens new prospects, not for raw materials or new maritime routes for commercial shipping, but for telecommunications companies to open the Northwest (NWP) and Northern Sea Route (NSR). The latter route is as much as 7000 km shorter than the NWP, which means not only less cables to lay, but also a shorter latency for communications. This latency gain is of high interest to financial institutions (Clayton, 2012), particularly those involved in high frequency trading (Morand, 2012). Russian and Canadian projects are promising latency reductions of 30%, which represents a gain of 62 milliseconds, going from the current 230 milliseconds to 168 milliseconds.<sup>2</sup> Given that milliseconds can mean the loss or gain of millions of dollars (Anthony, 2012), there is little wonder that the new plans for Arctic cable have attracted the interest of traders.

The Arctic route has other advantages as well. Since the region has yet to be developed, there is for the moment little commercial shipping or fishing, which reduces the risk of damage to cables from anchors or fishing lines, as was the case off the coast of Egypt (Saffo, 2013). The Arctic route also avoids high-risk security areas such as the Suez Canal or the Strait of Malacca.

The Arctic is seen as a stable area for development. Indeed, despite a few (managed) border disagreements between Canada and the US, and Canada and Denmark, and despite the Russian-Canadian diplomatic tensions in the context of the Ukrainian crisis in 2014, nothing today points to an armed conflict or a military crisis in the Arctic.<sup>3</sup>

## Three Major Optical Fiber Submarine Cable Projects

### *Polarnet*

In the early 2000s, Polarnet, a Russian company, was created to lay a 15,000 km fiber optic cable along the NSR. This project, named R.O.T.A.C.S. (Russian Optical Trans-Arctic Submarine Cable System) would link Tokyo to London via Terberka, Anadyr and Vladivostok.

The first phase of work is evaluated at \$860 million and would connect London and Tokyo via the NSR. The second phase, evaluated at \$500 million would connect Russian Arctic regions to the cable. A final phase, also evaluated at \$500 million, undertaken in partnership with the Russian oil company Transneft, would develop terrestrial connections to the cable in Russia. This brings the project total to \$1.9 billion. According to Interfax, the R.O.T.A.C.S. is financed by the Russian oligarch Oleg Kim, already present in many sectors of the Russian economy. However, despite receiving approval from the Russian Intergovernmental Commission for Information and Communications Technologies in October 2011, and receiving financial support from the Ministry of Telecommunications in January 2013, no information is available about the status of the project (Telegeography, 2013). According to the think tank Telegeography (2014a), the cable will be in service in late 2016.

### *Arctic Fibre*

Arctic Fibre is a Canadian project that aims to lay a cable under the NWP. The implementing company, also called Arctic Fibre, is based in Toronto. The cost of the project is estimated at \$650 million (Cunningham, 2014). The cable will cover 15,700 km, linking London, Tokyo and Seattle. The cable should be laid in summer 2015, using the southern NWP, and linking seven communities in Nunavut (Canada) as well as seven more in Alaska (USA). In the Canadian North, the communities targeted are Cambridge Bay<sup>4</sup>, Gjoa Haven, Taloyoak, Igloolik, Hall Beach, Cape Dorset and Iqaluit, representing 52% of Nunavut's population. Thanks to a partnership with US-based Quintillion, of Anchorage, Alaska, Arctic Fibre will link in the Alaskan communities of Prudhoe Bay, Barrow, Wainwright, Nome, Point Hope, Kotzebue and Shemya (Dischner, 2014).



**Figure 1:** Arctic Fibre, in red with future extensions in yellow and orange. Image: M. Cunningham (2014)

The system is scheduled to be operational by January 2016, for the Arctic segment, with the complete cable network operational by November of that year (Cunningham, 2014). The main objective is to link Asia, the United States, and Europe. Linking to Canada's Arctic communities is a secondary objective, with only a few thousand households to be connected; certainly not worthy of an individual investment. For this reason, Arctic Fibre has requested a subsidy from Industry Canada to lay a supplementary cable that would link 17 additional communities in Nunavut and Nunavik, an additional investment of \$237 million (CAN). With this addition, 98% of Nunavut and Nunavik communities will be connected (Arctic Fibre, 2013). Most of the financing for this project is however from the private sector, with financial institutions and international telecommunications companies playing a leading role. No public financing has been announced to date.

Arctic Fibre's President, Douglas Cunningham, regularly advocates for his company's cable link that would offer, according to him, reliable, rapid communications with virtually unlimited bandwidth availability at a much more attractive price for northern communities than the Telesat Canada's satellite service in Nunavut and Nunavik. For the moment, satellite is the only alternative for Internet there. Moreover, in August 2014, Industry Canada confirmed that it will

extend Telesat's broadband subsidies through 2021, pledging \$50 million to prevent Arctic internet services from collapsing (Nunatsiaqonline, 2014).

Later that month, Prime Minister Harper announced that it would upgrade Internet connectivity in Nunavut and Nunavik as part of Ottawa's \$305 million dollars 'Connecting Canadians' program (Prime Minister of Canada Stephen Harper, 2014). While these investments are necessary to insure continued communications services in the North, Arctic Fibre's president Douglas Cunningham is concerned. If the Harper Government continues to prefer satellite communications, his Internet services are jeopardized. In his view, if Ottawa refuses to utilize his submarine broadband services, it is impossible to make his project economically viable since without any public financial support there will be no significant client to sustain such services (Press, 2014).

### *Ivaluk Network*

The Ivaluk Network project was announced in January 2014, designed and to be implemented by the Canadian company Nuvitik Communication. Led by a former federal civil servant, the cable project is different from the two previously described, as it aims only to serve the needs of Northern Canadians, with a focus on Nunavut and Nunavik, and a planned extension towards the Northwest Territories (Nuvitik Communications, 2014). This future cable plans to connect 26 communities in Nunavut and 14 in Nunavik. The cable should be laid in the coming years, forming a loop of 8000 km, linking James Bay, Ungava Bay, Hudson Bay, Hudson Strait, Baffin Bay, Davis Strait and part of the NWP. They offer high-speed Internet connections at



competitive rates compared to satellites.

**Figure 2:** Ivaluk Network (Telegeography, 2014b)

The total estimated cost for the project is approximately \$800 million (CAN). Discussions are apparently underway between federal authorities and Nuvitik to provide public funds for the

project. The project does not lend itself to private financing, given the small client base envisaged. Nunavut has only 35,600 inhabitants (Statistiques Canada, 2013) and Nunavik 11,000 (Statistiques Canada, 2007). Public funds would be a *sine qua non* condition for the project to go through.

## A Catalyst to Initiate Northern Development?

Arctic regions, including the Far North of Canada, have limited infrastructure, making economic development challenging at best, and always costly. Transport costs are higher than elsewhere and reliable communications do not exist due to meteorological conditions. Internet connectivity could give these regions the boost they need to kick-start development, attracting investors and initiating broader development.

Table 1: Summary of submarine fiber optic cables for the Arctic

PROJECT NAME	CONNECTIONS	ESTIMATED COSTS	IMPLEMENTATION
<b>R.O.T.A.C.S.</b>	Japan, England & Russia via Terberka, Anadyr & Vladivostok; including regions of the Russian Arctic	\$1.9 billion US	End of 2016
<b>Arctic Fibre</b>	Japan, USA (7 native communities of Alaska; also Seattle); Canada (7 northern communities in Nunavut); Ireland & England	\$650 million US	January 2015 for the cable in the Arctic; & November 2016 for the completed project
<b>Ivaluk Network</b>	The 26 northern communities of Nunavut & the 14 communities of Nunavik in northern Québec; including an extension in the Northwest Territories	\$800 million CAN	Exact timeline to be announced

Several recent examples from circumpolar states show that this hypothesis bears out over time. High-speed connectivity can be a critical factor for development, given that they have other assets to attract investors already. Iceland is a good example, with the reconversion of the former NATO base in Reykjanesbaern to a data center for Verne Global and Colt (Pialot, 2012). Hydraulic and geothermal power<sup>5</sup> provide renewable energy, the Arctic climate provides fresh air and a high-speed connection via several submarine optical fiber cables. The upcoming Emerald Express cable (end of 2014) will enhance Iceland's connectivity since it will be directly connected to North America via New York, and to Europe via Ireland.<sup>6</sup> These competitive advantages may attract other companies, especially when one considers that Iceland has a lower cost of power per megawatt/hour than in Europe, at 38 euros versus 42 euros in France (Godeluck, 2012). Finland offers yet another example with Google's investments, where the internet giant set up servers in an old factory. Facebook has chosen to invest in Sweden with a similar server site, a total surface area of 84,000m<sup>2</sup> (Clairet, 2012).

The combination of a cold climate (requiring less air conditioning for servers) and quasi-infinite renewable energy, as well as submarine optical fibers cables, has been crucial to incite large business to set up shop in the north. However, the Arctic regions in Canada, Alaska and Russia do not offer the same potential for renewable energy. They do have large hydrocarbon reserves, which may serve as an initial replacement for green energy.

## **Conclusion**

Despite the success of laying a cable in the famed Iceberg Alley between Greenland and Canada in 2009, there is still some uncertainty about the feasibility of projects crossing the entire Arctic. While cables have been laid since the early 20th century in both Atlantic and Pacific Oceans, such an endeavor has never been accomplished in the icy waters of the Arctic where the actual ice and the short window of operations to install (or maintain) the cables are obvious challenges. The climate may be a serious obstacle, both for laying and repairs. For now, the Arctic is only ice-free three months a year, in the summer. Even during this period, ice can block ships from entering and/or transiting the NWP, as was the case in 2013 when the ice pack did not recede as expected (in late summer 2014 the opening of the NSR in Russia was delayed due to ice conditions which affected all economic activities in the region). It does appear that existing projects have incorporated such variability risks. If current planning holds, 2016 will be a crucial year, with three new optical fiber cables being inaugurated in the NSR and NWP. They will link the three continents of the Northern hemisphere (America, Europe and Asia) but also the indigenous communities of Nunavut and Nunavik in Canada, and others in Russia and Alaska (USA). These populations will have better access to vital services such as tele-health and tele-education, improving their quality of life and possibly opening up greater economic possibilities. With technological advancements and the arrival of high-speed Internet, future Arctic shipping routes could even one take advantage of these submarine cables to establish a network of various reliable on-land communication services.

As a result of climate change and thawing sea-ice, “the last frontier” appears attractive and increasingly open to innovative projects like the ones mentioned above. These projects are major drivers that will continue to further the Arctic into globalization. An emerging Internet highway through the Arctic waters is definitely a clear example of this new reality.

## **Notes**

1. Iceland, Greenland, Alaska, and the Svalbard Archipelago are connected to the Internet via submarine optical fiber cables.
2. According to Mike Cunningham, Chief Operating Officer at Arctic Fibre.
3. Despite tensions stemming from the Ukrainian crisis, cooperation within the Arctic Council between Canadian and Russian experts seems to proceed without impediment.
4. Cambridge Bay has a radar station as part of the old DEW line, now North Warning System.
5. These renewable energies are less susceptible to price fluctuations than traditional sources such as oil and gas.

6. Emerald Networks. Accessed via: <http://www.emeraldnetworks.com/about-us/>

## References

- Anthony, S. (2012). \$1.5 billion: The cost of cutting London-Tokyo latency by 60ms. *ExtremTech*. Retrieved from: <http://www.extremetech.com/extreme/122989-1-5-billion-the-cost-of-cutting-london-toyko-latency-by-60ms>.
- Arctic Fibre. (2013). *Nunavut Briefings August 2013*. Retrieved from: <http://arcticfibre.com/wp-content/uploads/2013/08/Nunavut-Briefings.pdf>.
- Clayton, N. (2012). Retreating Sea Ice Could Benefit High-Frequency Trading. *The Wall Street Journal*. Retrieved from: <http://blogs.wsj.com/tech-europe/2012/03/22/retreating-sea-ice-could-benefit-high-frequency-trading/>.
- Clairet, S. (2012, 21 October). Arctique : projets de câbles et desseins géopolitiques. *Blog GeoSophie – Paysages géopolitiques*. Retrieved from: <http://geosophie.eu/2012/10/21/arctique-projets-de-cables-et-desseins-geopolitiques/>.
- CNN (2014). This is what the Internet actually looks like: the undersea cables wiring the Earth. Retrieved from: <http://edition.cnn.com/2014/03/04/tech/gallery/internet-undersea-cables/index.html>.
- Cunningham, M. (personal communication via email correspondence, 11 February 2014).
- Dischner, M. (2014, 29 May), Quintillion preps for \$60M in 2014 work connecting Arctic. *Alaska Journal of Commerce*. Retrieved from: <http://www.alaskajournal.com/Alaska-Journal-of-Commerce/June-Issue-1-2014/Quintillion-preps-for-60M-in-2014-work-connecting-Arctic/>.
- Godelcuk, S. (2012, 13 February). L'Islande inaugure le premier data center « propre ». *Les Echos*. Retrieved from: <http://www.lesechos.fr/13/02/2012/LesEchos/21122-124-ECH-1-islande-inaugure-le-premier-data-center---propre--.htm>.
- Morand, J-L. (2012). *Trading Haute Fréquence : le câble qui valait 1 milliard ! Locita*. Retrieved from: <http://fr.locita.com/societe/trading-haute-frequence-le-cable-qui-valait-1-milliard-67492/#sthash.yHRjtxLV.dpbs>.
- Nunatsiaq Online. (2014, 26 August). Ottawa confirms five-year broadband subsidy extension for Nunavut, Nunavik. Retrieved from: [http://www.nunatsiaqonline.ca/stories/article/65674ottawa\\_confirms\\_five-year\\_broadband\\_subsidy\\_extension\\_for\\_nunavut\\_nuna/](http://www.nunatsiaqonline.ca/stories/article/65674ottawa_confirms_five-year_broadband_subsidy_extension_for_nunavut_nuna/).
- Nuvitik Communications. (2014). The Ivaluk Network. Retrieved from: [http://www.nuvitik.ca/wp/wp-content/uploads/2014/03/newflyer\\_email.pdf](http://www.nuvitik.ca/wp/wp-content/uploads/2014/03/newflyer_email.pdf).
- Pialot, D. (2012, 12 February). L'Islande déroule le tapis rouge aux "data centers." *La Tribune*. Retrieved from: <http://www.latribune.fr/green-business/l-actualite/20120212trib000682792/l-islande-deroule-le-tapis-rouge-aux-data-centers.html>.

- Press, J. (2014, 1 September). Federal government balks at backing Arctic Internet project. *Ottawa Citizen*. Retrieved from: <http://ottawacitizen.com/news/national/federal-government-balks-at-backing-arctic-internet-project>.
- Prime Minister of Canada Stephen Harper. (2014, 25 August). PM announces important investment to boost high-speed Internet in Nunavut and Nunavik. Retrieved from: <http://pm.gc.ca/eng/news/2014/08/25/pm-announces-important-investment-boost-high-speed-internet-nunavut-and-nunavik#sthash.IDi11y7N.dpuf>.
- Saffo, P. (2013). Disrupting Undersea Cables: Cyberspace's Hidden Vulnerability. *Atlantic Council Blog*. Retrieved from: <http://www.atlanticcouncil.org/en/blogs/new-atlanticist/disrupting-undersea-cables-cyberspaces-hidden-vulnerability>.
- Statistique Canada. (2013). Population par année, par province et territoire. Retrieved from: <http://www.statcan.gc.ca/tables-tableaux/sum-som/102/cst01/demo02a-fra.htm>.
- Statistique Canada. (2007). Profil de la population autochtone. *Recensement de 2006* (produit n° 92-594-XWF). Ottawa. Retrieved from: <http://www12.statcan.gc.ca/census-recensement/2006/dp-pd/prof/92-594/details/page.cfm?Lang=F&Geo1=BAND&Code1=24640002&Geo2=PR&Code2=24&Data=Count&SearchText=Nunavik&SearchType=Begins&SearchPR=01&B1=All&GeoLevel=PR&GeoCode=24640002>.
- Telegeography. (2013). *Is dormant Polarnet project back on the agenda?* *TeleGeography*. Retrieved from: <http://www.telegeography.com/products/commsupdate/articles/2013/01/28/is-dormant-polarnet-project-back-on-the-agenda/>.
- Telegeography. (2014a). Submarine Cable Map, Russian Optical Trans-Arctic Cable System (ROTACS). Retrieved from: <http://www.submarinecablemap.com/#/submarine-cable/russian-optical-trans-arctic-cable-system-rotacs>.
- Telegeography. (2014b). Submarine Cable Map. *Ivaluk Network*. Retrieved from: <http://www.submarinecablemap.com/#/submarine-cable/ivaluk-network>.

## Briefing Note

# TOURISM SAFETY AND SECURITY: FINDINGS FROM TOURISM INTENSIVE FINNISH LAPLAND

Niko Niemisalo

*The briefing note "Tourism Safety and Security: Findings from Tourism Intensive Finnish Lapland" describes the topic of tourism safety and security and then presents successful best practices that were developed in Finnish Lapland to tackle the challenges of tourism safety and security systems, describing the main actors on the regional, national and international levels.*

*The published briefing note is a deliverable of the European Dimension on Tourism Safety and Security project (ESF, 2012-2014) and has been co-created with partners in the project as well as the regional, national and international network of Tourism Safety and Security System in Lapland.*

*"The tourism safety and security network model, developed in Finland, is utilised in developing safety and security throughout the whole of the Arctic region"*

- Arctic Strategy of Finland 2013 (50), translated from Finnish

## Introduction

For Finnish Lapland, tourism is a strategically important livelihood. Its development as a business requires innovation, faith in one's own skills, hard work, a creative approach and an understanding of parallel global and regional dynamics. Furthermore, all actors must understand the dynamics of the postmodern service economy with respect to the more traditional industrial

economy. Safety and security management in the tourism industry requires novel approaches that are not within the spheres of traditional organisation safety and security management. The actors in the Tourism Safety and Security System in Finnish Lapland have noticed that new developments in safety and security take place within networks and value chains that require new methods and tools.

The purpose of this briefing note is to describe and disseminate the approaches, activities and actors of Tourism Safety and Security System in Lapland and, in so doing, raise awareness of this regional innovation, following the guidelines of the *Finnish Arctic Strategy* (2013) referred to above. The aim of this dissemination is to enhance safety and security operations in sparsely populated areas through the more effective use of existing resources.

Finland has long been a pioneer in providing a broader understanding of safety and security, for example, within the initiatives of the Organization for Security and Co-operation in Europe, the Northern Dimension, the Rovaniemi Process and the Helsinki Process. Furthermore, developing safety in tourism fits well with the general national image of Finland.<sup>1</sup> This briefing note is a deliverable of the *European Dimension on Tourism Safety and Security* project (ESF, 2012-2014). It explicates the best practices of Tourism Safety and Security System in Lapland and international network building (ESF 2012-2014). The consortium acknowledges the support of the European Union and is grateful for the input of all partners, who made this project possible – the Tourism Safety and Security System in Lapland and the corresponding work within the international Tourism Safety Network.

### **Theory: Safety and Security as Concepts**

As concepts, safety and security have many meanings. In everyday speech they have several connotations. They refer to the subjective experiences of individuals as well as social relations. Safety and security can be understood as the absence of a threatening factor (van Steen 1996) or, for example, the presence of a negligent state of mind (e.g. Laitinen 1999). According to state-centric and traditional safety and security understanding, the sovereignty and sanctity of a state are crucial. This realist and neo-realist approach understands safety and security as “given” from state structures in which the important actors in modern society include military organisations, the police and, for example, border guards (for safety and security as “given” see Waltz 1979 and for a critique see Wendt 1999.)

Gradually safety and security have changed from a state-owned and state-defined virtue to a societal value and aim. The growth of interdependency, globalisation, environmental and climate change, cross-border interaction and the network society have challenged the traditional state-centric approach. New approaches to safety and security require the extension of our understanding of safety and security. This refers to the discussion on the transnational, idealistic and constructivist approaches that focus on social and civilian safety and security. The approach widens the agenda of the discussion by bringing the environment and economics into the discussion on safety and security (see e.g. Buzan et al. 1998). Environmental questions have appeared as security issues in questions related to environmental disasters and sustainability (see e.g. Dalby 2002). The economic approach highlights themes such as managing an economic crisis and the just allocation of financial resources within society and global systems (Hall et al. 2009).

According to its broader understanding, safety and security is based on human beings and is constructed “bottom-up” (see Kerr 2010) by being based on grass-roots level basic needs. The social security system, health care and other welfare services and associations represent this agenda as producers of safety and security. According to Campbell (1998), we live in societies where safety and security are the utmost virtues. However, these virtues are always, at least, partly out of reach. No individual or state can reach absolute safety and security. This poses a challenge to all in the safety and security research and development community due to the high demands for safety and security in modern society – with its multiple risks and uncertainty. In the sparsely populated Arctic region this issue is even more challenging, though positive developments are taking place (see e.g. Heininen 2005).

As a concept, tourism safety and security is broad and it combines state-centric, traditional security with more individual-focused, softer safety theories. In the tourism safety definition, process-thinking takes into account the safety and security needs of the customer, company and operative environment. According to the broader thinking on the issue, safety and security is formulated bottom-up – from people and local community needs and the grass-roots level. Social groups, such as ethnic minorities, define their safety and security needs between the individual and state and also across state borders. Similar to this broader thinking on safety and security, social security, health care systems and other well-being services and associations also represent safety and security policies.

Actor that defines safety and security	Main safety and security questions	Producers of safety and security
1. State	Security of state, national security	Military organisation, police force
2. Group	Communal security-safety, environmental safety and security	Associations, 3 <sup>rd</sup> sector
3. Individual	Personal safety and security, work related (safety)	Local community, municipality

**Figure 1:** Typology of safety and security frameworks (source: Iivari & Niemisalo 2013).

Together with the several scholars that we have cooperated with on this theme, we have noticed that research on tourism safety and security requires broader safety and security thinking. Furthermore, it is multidisciplinary work. Several initiatives to proceed with the topic have been made already (see e.g. Botterill & Jones 2010; Mansfield & Pizam 2006). The initiative developed in Finnish Lapland, i.e. Tourism Safety and Security System in Lapland, builds a holistic approach based on the previous work and research that has been already implemented. Our home organisation, the Multidimensional Tourism Institute, provides an excellent environment for this development as it combines academic education and research (University of Lapland), applied science (Lapland University of Applied Sciences) and vocational education (Lapland Tourism College) on tourism studies into a unique combination of research, education and innovation (see: <http://matkailu.luc.fi/Hankkeet/Turvallisuus/en/Home>).

## Practice: Tourism Safety and Security System in Lapland as an Operative Model

Tourism Safety and Security System in Lapland is an innovative approach developed by various actors in a regional, national and international partnership, combining theory and practice. It has been co-financed by the European Union (ERDF, ESF) and it binds together the theoretical approach on the wider understanding of safety and security with practical level activities in sparsely populated Finnish Lapland. The activities are not coincidental as, on a national level, hospitality and voluntary activities designed for international tourists have a long tradition in Finland, for example, the Voluntary Road Service at the Helsinki Olympic Games in 1952.



**Figure 2.** Tourism Safety and Security System in Lapland: main activities and main actors

Therefore, Tourism Safety and Security System in Lapland is not without predecessors or parallel activities. On the contrary, innovation in the activities can be seen as resulting from strong cooperation with previous and existing parallel activities as well as the understanding of the contexts in which they are implemented. Tourism Safety and Security System in Lapland was implemented in practice as a network that has regional, national and international level members. It provides safety and security education for tourism destinations, tools for crisis communication, safety and risk management and foresight as well as quality. The approach has been identified as a national (Diamond Act 2010) and European (EPSA 2013) best practice. The network includes private companies, public authorities and associations. The activities are especially planned for Small and Medium-sized Enterprises (SMEs). It is an operative model that is possible to tailor to other operative environments based on our customers' needs. This idea has gained support from regional level strategies, from the *Finnish Arctic Strategy* (2013) and also from the EU (for more information, see: [www.luc.fi/matkailu/turvallisuus/en](http://www.luc.fi/matkailu/turvallisuus/en)).

As an operative model the tourism safety and security development activities have existed since 2009. The activities have taken place in 14 tourism destinations within sparsely populated Finnish Lapland and have included hundreds of educational events, drills and company sparrings for tourism companies and SMEs, non-tourism companies, public authorities, associations and other actors. The participating tourism destinations are Enontekiö, Utsjoki, Levi, Ylläs, Saariselkä, Pyhä-Luosto, Kemijärvi, Posio, Rovaniemi, Meri-Lappi (Kemi and Tornio regions), Salla, Muonio, Pello, Ylitornio. Other actors in the Tourism Safety and Security System in Lapland are presented on our web-site.<sup>2</sup>

The education and training events have taken place in tourism destinations in Finnish Lapland. The key idea behind the training has been to enhance the safety skills of the enterprises, public authorities and local populations of the municipalities that operate in and around tourism destination environments. The key problems they tackle are long distances and a lack of safety and security resources combined with a significant increase of the international population during tourism seasons. This results in risks that would cause immediate economic losses and indirectly do major harm to the regional and national image if they occurred. Our core idea has been to create sustainability by committing the local population, public authorities, associations and other actors to safety and security skills and education. The cornerstones of our activities are:

- Listening closely to customer needs (safety and security end-users, tourism enterprises, associations and other third sector organisations, citizens in municipalities close to tourism destinations)
- Active network building: regional, national, international
- Creating practical tools for companies and SMEs
- International cooperation and maintaining our expertise by continually implementing multidisciplinary research into the topic

(Source: *Qualitative interviews of the tourism safety experts in Finnish Lapland*, April-June 2014)

The approach has gained recognition due to its innovative and cost-efficient approach. The National Diamond Act award it received is the highest national recognition for safety and security innovations. This recognition has supported our international network building, indicated by European EPSA2013 award given to the network in November 2013. The significance of these awards is they were awarded after independent peer review and recognition. The internationalisation process serves all actors in the network, especially the tourism industry and SMEs. This briefing note is a co-creation of a particular internationalisation project (*European Dimension on Tourism Safety and Security*, ESF 2012-2014). The project lead partner is the Multidimensional Tourism Institute, which is a key initiator in the network building and has chosen tourism safety and security as its spearhead theme in RDI. This strategic choice is supported by Lapland University of Applied Sciences, which has chosen safety and security as a strategic priority.<sup>3</sup> Other partners are Lapland State Administrative Agency and Lapland Hospital District, who both play crucial roles in tourism intensive Finnish Lapland.

## Conclusion

The purpose of this briefing note has been to disseminate the theoretical and practical approaches that have created the presented best practice for developing tourism safety and security: the Tourism Safety and Security System in Lapland. The briefing note is also a material package enabling the dissemination of information about our best practices in this field. This is one way for us to be able to respond to the request made by the *Arctic Strategy of Finland* (2013), encouraging us to spread information about our regional innovation (best practice) to all Arctic countries. Safety and security are at the core of all responsible business, and a tourism destination that is not interested in safety and security will lose its competitive advantage sooner or later.

The briefing note introduced the topic and then presented the theoretical starting points on the concepts of safety and security research, demonstrating it to be a wide and multidisciplinary research field. Next, the practical operative model, main activities and internationalisation of the Tourism Safety and Security System in Lapland approach were presented. The activities are based on combining theory and practice. This combination is challenging but crucial for successful research and development activities. We believe that when researchers enter into *dialogue* with practitioners, they gain essential data for generalising the actual problems faced, making it possible to support the process of presenting these problems to a wider audiences as well as decision-makers, thus helping to solve these problems. When tourism practitioners can talk with research actors, it makes it possible for them to develop a broader understanding of the causes behind the problems, empowering them to find solutions from the correct sources. We welcome all countries in the Arctic in joining our common endeavour – contact us!



## Notes

1. In the Finnish Ministry for Foreign Affairs there is a separate formal committee on safe travelling, see: <http://formin.finland.fi/public/default.aspx?contentid=50470> (in Finnish only). See also: <http://matkusturvallisuus.fi/>. The Tourism Safety and Security in Lapland initiative presented in this briefing note is a unique regional innovation (*best practice*) for all tourism actors, especially for SMEs. We have strong cooperation with the Finnish Ministry for Foreign Affairs in developing our activities and networking internationally.
2. Tourism Safety and Security: <http://matkailu.luc.fi/Hankkeet/Turvallisuus/en/Tourism-Safety-and-Security>.
3. Lapland UAS Strategy: <http://www.lapinamk.fi/en/Who-we-are/Lapland-UAS-Strategy>.

## References

- Arctic Strategy of Finland* (2013, in Finnish only). Government of Finland. Retrieved from [http://valtioneuvosto.fi/tiedostot/julkinen/arktinen\\_strategia/Suomen\\_arktinen\\_strategia.fi.pdf](http://valtioneuvosto.fi/tiedostot/julkinen/arktinen_strategia/Suomen_arktinen_strategia.fi.pdf). Accessed 19.6.2014.
- Botterill, D. & Jones, T. (2010). *Tourism and Crime: Key Themes*. Oxford: Goodfellow Publishers.
- Buzan, B., O. Waever, J. de Wilde. (1998). *Security: A New Framework for Analysis*. London: Lynne Rienner Publishers.
- Campbell, D. (1998). *Writing Security: United States Foreign Policy and the Politics of Identity*. Minneapolis, MN: University of Minnesota Press.
- Dalby, S. (2002). *Environmental Security*. (Borderlines Series #20). Minneapolis: University of Minnesota Press.
- EPSA 2013, press release on winners in annual EPSA2013 public innovation Competition. Retrieved from [http://www.epsa2013.eu/files/Press%20Release\\_Winners%20November%202013.pdf](http://www.epsa2013.eu/files/Press%20Release_Winners%20November%202013.pdf). Accessed 23.6.2014.
- Finnish Ministry for Foreign Affairs. Committee on Safe Travelling (in Finnish only). Retrieved from: <http://formin.finland.fi/public/default.aspx?contentid=50470>. Accessed 23.6.2014.
- Hall, M. C., Dallen, T. J. & D.T. Duval (2009). Security and Tourism: Towards a New Understanding? In Hall, M. C., Dallen T.J. & Timothy, D. Duval, T. (eds.) *Safety and Security in Tourism: relationships, Management and Marketing* (pp. 1–18). New York: Haworth Hospitality Press.
- Heininen, L. (2005). Impacts of Globalization, and the Circumpolar North in World Politics. *Polar Geography*. 29(2, April-June): 91–102.
- Iivari, P. & Niemisalo, N. (2013, in Finnish only, Safety and Security Planning in Tourism Company): Matkailuyrityksen turvallisuussuunnittelu. In Veijola, Soile (ed.). *Reader in Tourism Research* (Matkailututkimuksen lukukirja) (pp. 129-143). Rovaniemi: Lapin yliopistokustannus.
- Kerr, P. (2010). Human Security. In A. Collins. (ed.). *Contemporary Security Studies* (2<sup>nd</sup> ed.) (pp. 121–135). Oxford: Oxford University Press
- Laitinen, K. (1999, in Finnish only). *Turvallisuuden todellisuus ja problematiikka: tulkintoja uusista turvallisuudesta kylmän sodan jälkeen* (Reality and Problematics of Security: Interpretations of New Securities After the Cold War). Tampere: Tampereen yliopisto.
- Mansfeld Y. & Pizam, J. (2006). Towards a theory of tourism security. In Y. Mansfeld & A. Pizam. (ed.) *Tourism Security and Safety – From Theory to Practice* (pp. 1–28). Oxford: Elsevier Butterworth-Heinemann.
- Voluntary Road Service. History of Voluntary road service. Retrieved from [http://www.autoliitto.fi/in\\_english/road\\_service/voluntary-road-service/](http://www.autoliitto.fi/in_english/road_service/voluntary-road-service/). Accessed 23.6.2014.

Waltz, K. N. (1979). *Theory of International Politics*. New York: McGraw-Hill.

Wendt, A. (1999). *Social Theory of International Politics*. Cambridge: Cambridge University Press.

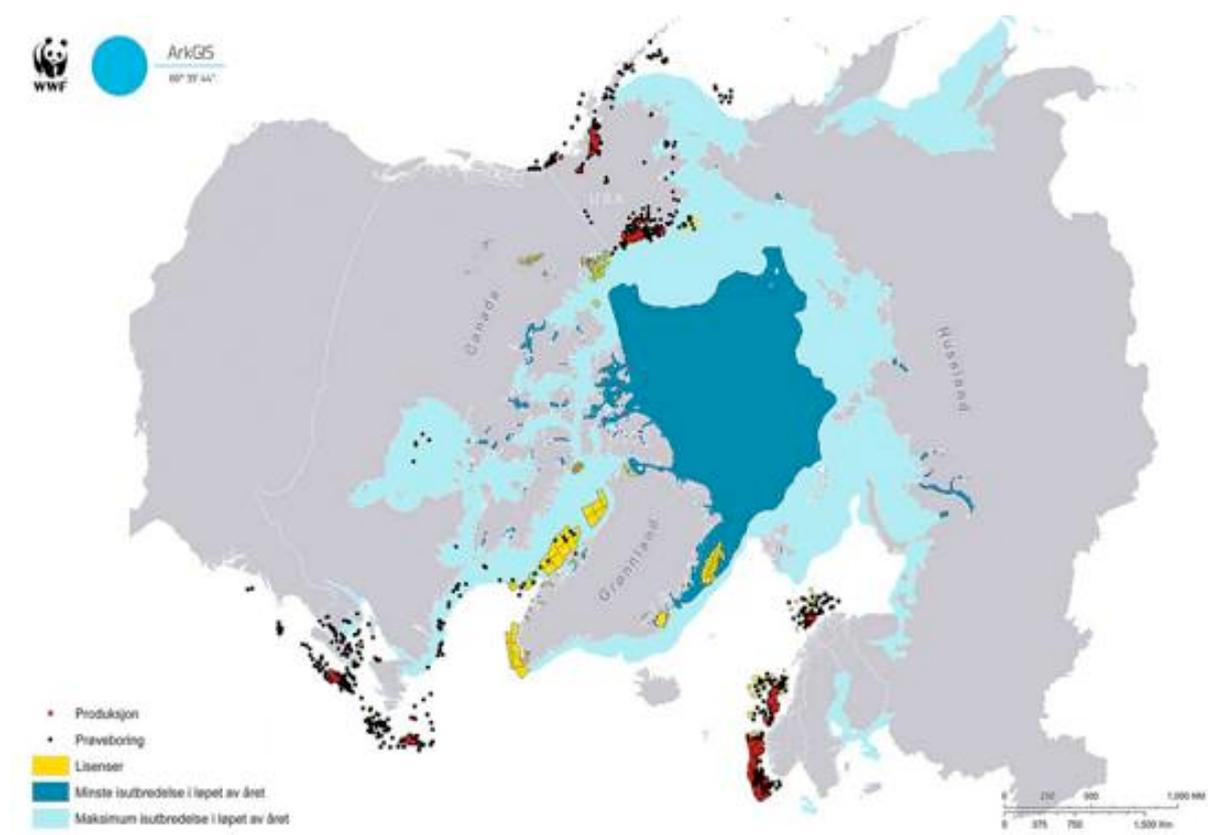
## Briefing Note

# OIL DRILLING & ECOSYSTEM MANAGEMENT PLANNING OF THE BARENTS SEA

Allan Sande

### Introduction

Biodiversity conservation in the Arctic is on the international agenda at the United Nations (UN). Greenpeace International calls upon the UN and governments for an immediate moratorium to save the Arctic Ocean from industrial development. The Arctic Ocean has historically been covered by sea ice, which has today suffered a significant reduction due to climate change. According to Greenpeace, the long term solution is an inter-governmental agreement to a permanent, equitable and overarching treaty or multi-lateral agreement that protects the Arctic Ocean's environment and ecosystems and the peoples who depend on them (<http://www.greenpeace.org/international/en/>). The International Association of Oil and Gas Producers (IOGP) is working on a Joint Industry Programme (JIP) for technological innovations in oil drilling in Polar Oceans to develop new technology for the emergency planning and management of large oil-spill disasters in ice conditions (Øvrebekk Lewis, 2013). This article presents the Norwegian solution to the oil and gas exploitation and biodiversity conservation of large sea areas in the Barents Sea, which is a part of the Arctic Ocean (Figure 1). In accordance with international UN agreements, the Norwegian state has implemented an ecosystem based management plan for large areas in the Barents Sea (Ministry of Environment, White paper nr.8, 2005-2006). This initiative is linked to the international conventions of biodiversity conservation and the Malawi convention of ecosystems (Sandstrøm, 2008). These international guidelines are based on user management at the lowest democratic level, the conservation of a large ecosystem and the use of local knowledge and natural science in the governance of nature.

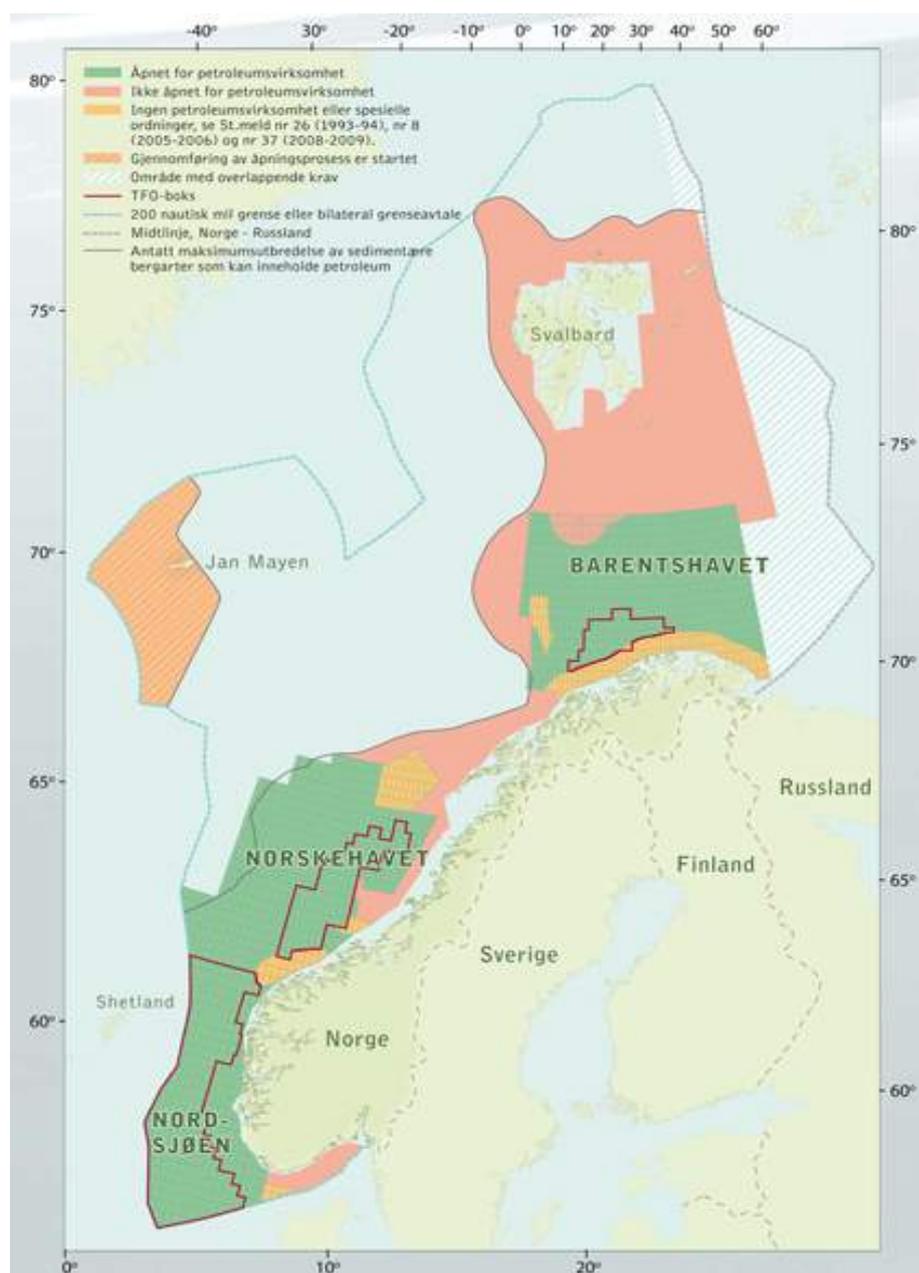


**Figure 1:** WWF map of oil drilling in the Arctic Ocean. Red dots: Production of oil and gas. Black dots: Oil drilling for exploration. Yellow dots: Oil blocks with licences. Dark blue area: Permanently ice in summertime. Light blue: Ice-front maximum in winter time. Source: WWF ArkGIS.

The Norwegian state owns and governs the search for new petroleum on the continental shelf as far as 200 km off the coastline. The sea areas in the North Sea, the Norwegian Sea and the Barents Sea, are *seven times larger* than the onshore area of Norway (2 140 000 km<sup>2</sup> of sea areas) (Figure 2).

According to international figures, 25% of the world's undiscovered petroleum resources are located in the Arctic Ocean (Walsh, 2012). The Barents Sea is a part of the Arctic Ocean with a sea area of 1 300 000 km<sup>2</sup> and is the most promising area for exploration by the international oil industry. Because of global climate change and rising temperatures, the sea ice is receding and the Arctic Ocean is now open for petroleum research and production. However, these marine areas have very important functions in the structure of the ecosystem of the Barents Sea because the important species of fish, birds and whales use these sea areas as spawning grounds in the spring and summertime. According to scientists at *The Institute for Marine Research*, these biological processes in the coastal zones and at the ice-front have key functions in the structure of the ecosystems in the Norwegian Sea and the Barents Sea (*The Institute for Marine Research*, 2010: 1a and 2013: 3). The search for new oilfields in the Arctic Ocean is potentially dangerous because large oil spills kill fish, birds and young mammals in particular. In the Arctic, with low sea temperatures and ice conditions, large oil spills have a greater capability of damaging large ecosystems for long periods (Fall, Miraglia, Simeone, Utermohle and Wolfe, 2001; Ott, 2005). Today the ecosystem of the Barents Sea holds the world's largest populations of cod, herring and sea birds (Sundby: *The Institute for Marine Research*, 2013: 3). Large scale commercial fisheries of

pelagic species provide 3 million tons of commercial fishery resources which provide the livelihood for fishermen and are the most important industry in rural communities in the North Atlantic region (Jentoft, 1998; Holm, 2001; Sundby, 2013). Industrial fisheries in the Arctic provide large export incomes and the basic conditions for human settlement in Norway and the Barents region of Russia. The new petroleum activity provides opportunities as well as a great challenge to other human activities such as fisheries, tourism, shipping and outdoor recreation (*The Institute for Marine Research*, 2010: 1 A; Sande, 2013). These human activities and settlements onshore depend on the human exploitation of the natural resources produced in the ecosystem of the Barents Sea.



**Figure 2:** Ecosystems and management planning by the Norwegian Government: The North Sea, Norwegian Sea and the Barents Sea. Green sea areas: open for petroleum exploration. Yellow sea areas: Temporarily closed for oil drilling. White diagonal striped areas: New area in the Barents Sea for oil drilling in 2013. Red sea areas: Temporary closed for oil-drilling because of ice-conditions or biodiversity reasons. Source: The Norwegian Ministry of Oil and Energy, White Paper nr. 28 2011-2012).

The empirical qualitative material used in this study is from the democratic decision-making in Norwegian society regarding the development and implementation of the management of the ecosystem in the Barents Sea (see Figure 2). Key areas at sea are at stake for lots of different stakeholders, local communities and interest groups in the Norwegian society. In regard to international collaboration between the national states in the Arctic region, petroleum and fish are treated as common resources divided between the national states of Russia, Denmark, Iceland and Norway. The national states' sovereignty over sea areas and the property rights over natural resources depend on international and bilateral recognition of borders at sea between national states.

The Norwegian state policy of gaining legitimacy in the international community consists of using international agreements regarding managing sea areas, ecosystem management and the world heritage in the Barents Sea. This political process of decision-making has resulted in a national controversy within local communities, the government and parliament regarding conflicts between the development of petroleum, the fisheries and the world heritage status (Kristoffersen, 2011, Andersen, 2011, Sande, 2013). This briefing report is an attempt to analyze the democratic decision-making regarding the use of the key areas for large scale ecosystem planning. The question then is as follows: Does government based ecosystem management planning provide an institutional framework for solving the conflicting interests between oil drilling and the conservation of large areas of the Arctic Ocean?

National states govern large ecosystems, governing all human use of natural resources (Berkes, Colding & Folke, 2003: 75). The challenge for national governance is to integrate and coordinate international, national, regional and local interest groups in decision-making and implementing environmental policy (Jentoft, 1998, Carlsson, 2008). National governments have the political task of making decisions amongst conflicting human interests in regard to the exploitation of natural resources, creating a balance between different political goals, and finding solutions to social problems and conflicts of interests. The task of developing an environmental policy is a national obligation as a consequence of the ratification of international agreements, such as the Rio Declaration and UNESCO agreements (Ulstein, 2001; Hovi & Underdal, 2008; Sande, 2013). The methods used in this study are based on participant observation in national decision-making and a qualitative study of public documents (Sande, 2013).

## **National Government and Holistic Ecosystem Management of the Barents Sea**

In 1980 the Norwegian Parliament opened the Barents Sea for oil drilling and exploitation. The sea area is south of 74 degrees north, which is now the limit of sea ice in wintertime. The Norwegian government has given 53 permits for oil drilling and exploitation in the Barents Sea. International oil companies have drilled 86 wells and discovered several fields for the production of oil and gas (Ministry of Oil and Energy, White Paper nr. 28, 2010-2011: 104). According to the Directorate of Oil, international oil companies have plans for 15 new wells in the Barents Sea in 2014. Due to the risk of large oil spills and the total destruction of the ecosystem in the Arctic Ocean, the Norwegian Parliament made a decision in 2002 to create a totally new system of management of large sea areas (Ministry of Environment, White Paper nr. 12.2001/2002; Knol, 2010; Arbo & Hersoug, 2010, Sande, 2013). The Ministry of Environment was given this task

and developed a new system of *“holistic governmental planning for large sea areas”*. The Ministry of Environment invited the natural science research institutes and directorates responsible for managing natural resources onshore and offshore to take part in this development. In the process, 150 natural science researchers at 27 different research institutes and directorates used 500 million Norwegian crowns (100 million US dollars) in research and the development of a natural science-based management system of sea areas and large-scale ecosystems. This new policy was presented to the Norwegian parliament in 2005 and accepted as a new offshore policy (Ministry of Environment, White Paper nr.12, 2005-2006). The new management system is based on governing all human use of natural resources and the conservation of all parts of the ecosystem structure and functions (Knol, 2010). The decision in the Parliament related to research and planning and required revision periods of 5 years. Only the government and parliament have the opportunity to make decisions regarding the governance of all human activities at sea. The decision-making is institutionalized at the level of national Government and the decision uses only natural scientific knowledge as it is presented to them to make political decisions governing all human usage of the ocean. In March 2011 the Norwegian government finally announced its decision under its new revised management plan for the Barents Sea (Ministry of Environment, White Paper, nr. 10, 2010-2011). The national policy closed the sea area outside the Lofoten and Vesterålen Islands to petroleum activities and the area within 50 km of the ice-front, defined as the limit of 40% ice-cover in wintertime over the latest 10 years. As a political compensation, the Parliament opened, in 2013, 40 000 km<sup>2</sup> of new coastal areas for petroleum activity in the Barents Sea along the border with Russia. These new concession blocks for petroleum activity are situated 35 km off the coast of Norway in the Barents Sea and south of 74 degrees north parallel. The political compromise within the government opened new areas for petroleum activity in the Barents Sea. The new conservative government of Erna Solberg supported in 2013 this policy of closing new areas in the Norwegian Sea, the Barents Sea and Coastal zone of Norway for oil drilling for four years (Governmental declaration, Sundvolden, 2013-2017).

### **Political Government and Social Experiences**

The analytical question is: is government based ecosystem management planning the institutional framework for solving the conflicting interests between conservation and oil drilling in the Barents Sea? This briefing report has presented a case study of national decision-making related to the development of large-scale ecosystem management in the Barents Sea. The issue concerned is the making of political decisions within government regarding conserving maritime biodiversity for the future and developing oil drilling and petroleum exploitation in the Polar Ocean. The national decision is based on national state implementation of different international agreements on the conservation of the Arctic Ocean and maritime biodiversity at the UN. The process of national implementation has produced national conflicts between petroleum stakeholders on the one hand and stakeholders of fishery and maritime conservation on the other. Politically, it is impossible to obtain a decision within the Norwegian government to secure the permanent conservation of key areas of the ecosystem. The key areas are the most important sea areas for the fisheries and for tourism in Norway, the Lofoten and Vesterålen Islands and the ice-front of the Barents Sea. The national experiment with ecosystem-based management has one outcome. The marine ecosystem based management is centralized at the

national state level as the ideal type of national government system. This model of management has become an exclusive partnership between the national government and natural science institutions. This has made the local and regional level of democracy redundant, thereby concentrating power in the national government and parliament. The Norwegian Parliament has, in 2013, opened 40 000 km<sup>2</sup> of the Barents Sea for drilling operations and petroleum exploitation while no new sea areas have been permanently made maritime reserves, national parks or world heritage. The Norwegian Government and Parliament has opened 25% of the sea areas in the Barents Sea and the Norwegian Sea for oil drilling and petroleum production while only 0.13% has been closed permanently as natural reserves, maritime reserves or national park areas.

### **Conclusions: Exploitation of the Barents Sea**

Greenpeace is working internationally for a long-term solution on a governmental agreement embodying a permanent, equitable and overarching treaty or multi-lateral agreement that protects the Arctic Ocean. The solution sought is governmental and international agreement with permanent maritime reserves in the Polar Oceans. The Norwegian policy is permanent conservation of 10% of key areas for biodiversity production which includes the Lofoten Islands and ice-front of the Barents Sea. It has not been possible to implement this policy and thus far only 0.13% of the Norwegian Polar Seas are permanently protected as maritime reserves or national parks. The implementation of ecosystem based management of the Barents Sea has instead given the Government the opportunity to open a new sea area of 40 000 km<sup>2</sup> for oil drilling, which is 3% of the Norwegian part of the Barents Sea. The innovation and implementation of ecosystem-based management has given the government and natural scientists more power at the national level. The result of the implementation of ecosystem management is the opening of 3% new areas for oil drilling and no new areas being permanently closed in regard to the natural conservation of the Arctic Ocean.

### **References**

- Andersen, G. (2011). Paper om systemøkologisk forvaltning av Barentshavet. Notat. Forskningsseminar i Kabelvåg. Bergen, Universitetet i Bergen.
- Arbo, P. & Bjørn Hersoug. (2010): *Oljevirkksomhetens inntog i nord*. Næringsutvikling, politikk og samfunn. Oslo, Gyldendal akademisk.
- Berkes, F., J. Colding & C. Folke. (2003): *Navigating Social- Ecological Systems. Building Resilience for Complexity and Change*. Cambridge, Cambridge University Press.
- Carlsson, L. (2008). Omstridd natur I teori och praktik. I: Sandstrøm, C. S. Hovik og E. I.
- Dale, B. (2011). Managing Contingency: Risks and how they are perceived. Arbeidsnotat til Forskningsseminar i Kabelvåg, 7th-9th February. Tromsø, Universitetet i Tromsø.
- Fall, J. A., R. Miraglia, W. Simeone, C. J. Utermohle & R. J. Wolfe. (2001). *Long-term consequences of the Exxon Valdez oil spill for coastal communities of South central Alaska*. Alaska Department of

- Fish and Game. Juneau.
- Havforskningsinstituttet. (2010). *Det faglige grunnlaget for oppdatering av forvaltningsplanen for Barentshavet og havområdene utenfor Lofoten*. Rapport fra Faglig forum, Overvåkningsgruppen og Risikogruppen til den interdepartementale styringsgruppen for forvaltningsplanen. Havforskningsinstituttet. Fisken og havet, særnummer 1 a-2010. Bergen.
- Hersoug, B. (2010). Fisk og/eller olje? In: Arbo, Peter and Bjørn Hersoug (red.) *Oljevirkosombetens inntog i nord*. Næringsutvikling, politikk og samfunn. Oslo, Gyldendal akademisk.
- Holm, P. (2001). *The Invisible Revolution*. The Construction of Institutional Change in the Fisheries. Norwegian College of Fishery Science. Tromsø, University of Tromsø.
- Hovi, J. & A. Underdal. (2008). *Internasjonalt samarbeid og internasjonal organisasjon*. Oslo, Universitetsforlaget.
- Jentoft, S. (1998). *Allmennings komedie. Medforvaltning i fiskeri og reindrift*. Oslo, Ad Notam, Gyldendal forlag A/S.
- Knol, M. (2011). Scientific advice in integrated ocean management: The process towards the Barents Sea Plan. *Marine Policy* 34 (2), page 252-260.
- Knol, M. (2011). *Ecosystem-based management as governance*. PhD theses at University of Tromsø, Tromsø.
- Kristoffersen, B. (2011). Actors and processes in the debate over whether to open for petroleum development in Lofoten and Vesterålen. Paper presented at Workshop in Kabelvåg, 7-9. February 2011. Tromsø, University of Tromsø.
- Miljøverndepartementet. (2005-2006). Helhetlig forvaltning av det maritime miljøet i Barentshavet og havområdene utenfor Lofoten (Forvaltningsplan) St. Melding. Nr 8.
- Miljøverndepartementet. (2011). Oppdatert forvaltningsplan for det maritime miljøet i Barentshavet og havområdene utenfor Lofoten. Stortingsmelding nr. 10. Tilråding fra Miljøverndepartementet av 11. mars og godkjent i statsråd samme dag. Regjeringen Stoltenberg II.
- Ott, R. (2005). Sound truth and corporate myth: The legacy of the Exxon Valdez oil spill. Cordova Alaska, Dragonfly Sisters Press.
- Øvrebekk Lewis, Hilde (2013). Vi kan begynne boring i Arktis nå. Stavanger Aftenblad, 16. oktober.
- Sande, A. (2013). *Slaget om Lofoten. Olje eller verdensarv?* Oslo, Akademika forlag A/S.
- Sandstrøm, C. S. Hovik og E. I. Falleth (red) (2008): *Omstridd natur. Trender och utmaningar i Nordisk naturforvaltning*. Umeå, Borea forlag.
- Sundby, S., P. Fossum, A Sandvik, F. B. Vikebø, A. Aglen, L Buhl-Mortensen, A. Folkvord, K.

- Bakkeplass, P. Buhl-Mortensen, M. Johannessen, M. S. Jørgensen, Trond Kristiansen, C. S. Landa, M. S. Myksvoll og R. Nash (2013): *Kunnskapsinnbenting i Barentshavet – Lofoten – Vesterålen*. Rapport 3, Bergen, Havforskningsinstituttet.
- Ulfstein, G. (2001). Folkeretten og norsk miljøpolitikk. Muligheter og begrensninger. I: *Mot et globalisert Norge?* Bent Sofus Tranøy og Øyvind Østerud (red). Makt og demokratiutredningen 1998-2003. Oslo, Gyldendal Akademisk.
- Walsh, B. (2012). The Truth about Oil. New breakthroughs are actually increasing global supplies. But the era of cheap oil may be gone forever. *Time*, 179 (14) April 9, 2012, page 12.

## Briefing Note

# SOCIAL LICENSE TO OPERATE FOR MINING COMPANIES IN THE RUSSIAN ARCTIC: TWO CASES IN THE MURMANSK REGION

Larissa Riabova & Vladimir Didyk

### Introduction

This paper presents research notes discussing the theme of social licensing of the mining companies in one of the mining regions in the Russian Arctic. The paper is the outcome of the authors' participation in the research project "Sustainable Mining, local communities and environmental regulation in Kolarctic area" (SUMILCERE).<sup>1</sup>

The project is funded by the Kolarctic European Neighbourhood and Partnership Instrument of Cross-Border Cooperation (ENPI CBC) Programme and is carried out by researchers from several institutions in Finland, Norway, Russia and Sweden: University of Lapland, Northern Research Institute (NORUT, Tromsø), Institute of North Industrial Ecology Problems and the Luzin Institute for Economic Studies of the Kola Science Centre of the Russian Academy of Sciences, Luleå University of Technology. The lead partner of the project is University of Lapland; the project period is 2013-2014. The research within the project is carried out through 3 thematic research sub-projects. The authors of the paper were involved in the Working Package 1 (WP 1) lead by Dr. A. Buanes from NORUT. The thematic task of the WP 1 is "Current practices on the participation and relationships between mining projects and local mining communities in order to develop the suggestions for the social licensing".

Within the SUMILCERE project the authors have conducted case study research aimed to understand whether and how the social license concept is used in Russia. This research note

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briefly presents the theoretical background for the study and discusses the results of the case study of the two mining and processing companies operating on the territories of the Kirovsk and Apatity municipalities in the Murmansk region. Data for the study have been obtained from scientific literature, statistics, media sources and through the semi-structured interviews conducted by the authors during the fieldwork in spring of 2014 with officials from the Kirovsk and Apatity municipalities, deputies of their municipal Councils, the representatives of both mining companies and ordinary people living in both municipalities.

### **Social License to Operate: Theoretical Aspects**

The emergence of the “social license to operate” (SLO) concept is connected with growing public concern in many countries during the 1990s in the results of mining activities. These concerns arose due to a series of environmental damages made by some mining projects which evoked sharp conflicts of the companies with local communities. The term “social license to operate” was suggested by Canadian mining expert James Cooney in early 1997 at the meeting with the World Bank personnel. He suggested this metaphor to explain the quality of the relationship between a mining project and its host community (Thomson, Boutilier, & Black, 2012). The concept and terminology surfaced in May 1997 in discussions at the conference on mining and the community in Quito, Ecuador, sponsored by the World Bank (Thomson & Boutilier 2011: 1779).

According to the definition given in one of the documents of the World Bank, “a social license to operate is the acquiring of free, prior and informed consent of local communities and stakeholders” (Pike, 2012). R. Pike, who cited the definition in his article, stressed that “this is part, but not the whole, of the social license. The whole consists of both the acquisition and on-going maintenance of the consent of the local stakeholders” (ibid).

The SLO concept has several conceptual roots. Among them there are sustainable development and multilevel governance concepts, as well as the concept of corporate social responsibility (Buanes 2014). A very important pillar of a social license to operate is corporate social responsibility (CSR), widely understood as “the continuing commitment by business to contribute to economic development while improving the quality of life of the workforce and their families as well as of the community and society at large” (World Business Council for Sustainable Development). According to an article of web resource for Canadian Mining Information – “the concept of “Social License to Operate” comes from the continuous study of the broader, older, and better established notion of “Corporate Social Responsibility” (Miningfacts 2012). Hence the SLO could be regarded as one of the derivatives of CSR.

In the literature, a social license is often regarded as having three normative components: legitimacy, credibility, and trust; and four levels of social license: withdrawal, acceptance, approval and identification with the project psychologically, or co-ownership level (Prno & Slocombe, 2012; Thomson & Boutilier, 2011). Meanings of the components and levels are described by Thomson & Boutilier (2011).

Defining the terms *legitimacy*, *credibility*, and *trust* Thomson and Boutilier (2011) suggested the following approach. First, they define *legitimacy* drawing on the Knoke’s approach who put legitimacy in the context of stakeholders and politics as “the acceptance by the general public and by relevant elite organizations of an association’s right to exist and to pursue its affairs in its

chosen manner” (Knoke, 1985). As to *credibility*, Thomson & Boutilier (2011) see it as the foundation of trust. “When a company is regarded as credible, it is seen as following through on promises and dealing honestly with everyone” (ibid: 1785). *Trust* is fundamental to moving through the levels, and can take two basic forms: interactional trust and institutional trust. Interactional trust is observed when there is the perception that the company and its management listens, responds, keeps promises, engages in mutual dialogue, and demonstrates reciprocity in its interactions. Institutionalised trust takes place when there is the perception that relations between the stakeholders’ institutions (e.g., the community’s representative organizations) and the project/ company are based on an enduring regard for each other’s interests (Williams & Walton, 2013: 9, based on Thomson & Boutilier, 2011).

According to Thomson and Boutilier, the levels of SLO represent “how the community treats the company” (Thomson & Boutilier, 2011: 1784). The normative components (legitimacy, credibility and trust) serve as the boundary criteria dividing the levels. The levels represent how the community views the company in connection with the company’s behavior.

The levels and normative components (the boundary criteria) are arranged in a hierarchy, which could be interpreted as phases of earning a social license. *Withdrawal* level constitutes the lowest level of the hierarchy. It is the worst-case scenario meaning rejection of the SLO for a company. In this case realization of a project could even be stopped.

*Acceptance level* is the minimal objective for any company interested in its relations with the local community. It gives a company a social license for the project to proceed. The level could be achieved when the criterion of legitimacy boundary is met – not only legal legitimacy, but also pragmatic (based on audience self-interest), moral (based on normative approval) and cognitive (based on comprehensibility and taken-for-grantedness) ones (Thomson & Boutilier, 2011: 1784).

*Approval* is the level where a community regards the project as favorable. Approval could be granted to a company for the project realization when the company established both legitimacy and credibility (foundation of trust). This level of SLO represents the absence of sociopolitical risk.

*Identification with the project psychologically* (Prno & Slocombe, 2012), or co-ownership as Thomson and Boutilier (2011) suggest, is the highest level of social license when the community sees the company as having full trust in it. In this case the community shares responsibility for the project’s success. Psychologically, both parties come to view it as a co-ownership arrangement. The level could be achieved when the full-trust boundary criterion is met – communities that have full trust in a company believe that the company will always act in the community’s best interest (Thomson & Boutilier 2011: 1784-1786).

A recent evolution of this framework models SLO as three levels comprising economic legitimacy at the base; socio-political legitimacy and interactional trust as the mid-tier; and institutionalised trust as the highest level (Boutilier & Thomson 2011; Williams & Walton, 2013). These four factors represent a continuum and are displayed in Table 1. The authors distinguish between perceptions of the company’s behaviour at the regional (socio-political) scale and perceptions of its interactions with individuals.

**Table 1.** Four factors constituting three levels of SLO (after Thomson & Boutilier 2011) (Williams & Walton, 2013: 9)

Level and Label	Description	Role in Determining SLO Levels as Described in Thomson & Boutilier Pyramid Model
1. Economic legitimacy	The perception that the project/company offers a benefit to the perceiver	If lacking, most stakeholders will withhold or withdraw the SLO. If present, many will grant an acceptance level of SLO
2a. Socio-political legitimacy	The perception that the project/company contributes to the wellbeing of the region, respects the local way of life, meets expectations about its role in society, and acts according to stakeholders' views of fairness	If lacking, approval level of SLO is less likely. If both this and interactional trust (2a & 2b) are lacking, approval level is rarely granted by any stakeholder
2b. Interactional trust	The perception that the company and its management listens, responds, keeps promises, engages in mutual dialogue, and exhibits reciprocity in its interactions	If lacking, approval level of SLO is less likely. If both this and socio-political legitimacy (2a & 2b) are lacking, approval level is rarely granted
3. Institutionalized trust	The perception that relations between the stakeholders' institutions (e.g., the community's representative organizations) and the project/ company are based on an enduring regard for each other's interests	If lacking, psychological identification is unlikely. If lacking but both socio-political legitimacy and interactional trust are present (2a & 2b), most stakeholders will grant approval level of SLO

The concept of an informal social license is “comfortably compatible with legal norms in the countries that operate under the principles of common law” (Thomson & Boutilier 2011: 1780). However, in the countries with legislatures operating under the principles of civil law (i.e. Finland, Russia, Norway, and Sweden) “the concept runs into difficulties” (ibid). The difficulties are related to the legal norms in these countries which constitute that only the official authorities can grant a license and, thus, many companies equate the license with formal permission to operate.

The SLO concept as well as different aspects of its practical use attracted high interest among scholars in many countries during the last years, especially in Australia, Canada and Finland. Beside the authors we have already referred to, see, for example, Kokko et.al. 2014; Lacey et.al.

2011; Nelsen & Scoble 2006; Thomson & Joyce 2008; Tognato 2011. For the Russian scientific discourse the concept of social licensing is quite new, and there are very few publications related to this theme.

### **Social License for the Mining Companies in the Russian Arctic: Relationships of Two Companies with the Local Communities**

For the case study research on whether and how the social license concept is used in Russia we have chosen two mining and processing companies and two municipalities. Both companies have mines located in the central part of the Kola Peninsula in the Khibiny mountains, on the territory of the Kirovsk municipality, and processing plants in the Kirovsk and Apatity municipalities of the Murmansk region – one of the oldest mining regions of Russia located in the Arctic Zone of the Russian Federation. The first one is “Apatit” Joint Stock Company, which over 80 years has been extracting and processing apatite-nepheline ore (raw material for phosphorus fertilizers). The second one is the young “North-Western Phosphorous Company” Ltd (NWPC) that in 2007 started development of two deposits of apatite-nepheline ore “Olenyi ruchei” and “Partamchorr” in the eastern part of the Khibiny mountains (Bay-Larsen et. al., 2014).

The total number of population in the Kirovsk municipality by the beginning of 2012 was 30,600 people. The administrative centre of the municipality is the town of Kirovsk, founded in the beginning of the 1930's, upon the decision of the Soviet government on the development of rich deposits of apatite-nepheline ore discovered in the 1920's. The population of the town of Kirovsk is 28,400 people, and 2200 people live in two rural settlements of the municipality – Titan and Koashva; the latter is tightly connected to mining activity, too (“Municipalities of the Murmansk region” 2012).

“Apatit” company belongs to the group of companies “PhosAgro”, one of the biggest fertilizer manufacturers in Russia and around the world. It has four open and underground mines and two processing plants, and the total number of its employees reached 11,600 in 2012. The company is the town-forming enterprise for Kirovsk, which is officially recognized as a single-industry town, being included in the special Register of the RF Ministry of regional development. The company produces more than 90% of the total volume of the town's industrial production and employs 30% of the town's workforce (6400 out of 21,000 of the working age population). One of the company's processing plants is located in Apatity – a neighboring city with a population of almost 60,000 people. About 5000 people living here are employed by the company.

Being the owner of a big part of the social infrastructure in the Soviet period and playing an essential role in social policy at the local level, “Apatit” used to be the socially responsible company not only towards its employees, but for several above mentioned local communities. Even though strategic decisions have been taken in Moscow, the company's operational decision making, including social policies, was greatly locally based and the top managerial staff used to have strong personal attachments to the local community.

The inherited Soviet-era socially responsible behavior continued in the post-soviet period. It was stated in the interview with a top-manager of the company that the main motives for the company's social activities are:

“...the desire to establish good reputation on the domestic and international business arenas, the wish to support the town which is home for the company’s employees, the wish to demonstrate good image of the company to the authorities at all levels and to the local community, and the long-lasting since the Soviet times tradition of the company’s social responsibility”.

Additionally, the company is motivated by requests from different levels of governmental or political bodies and by the international requirements for corporate codes of conduct.

The company has been doing a lot for the towns’ improvement, repairing roads and reconstructing social infrastructure – for example, it financed full reconstruction of the lakeside promenade and of the swimming pool in Kirovsk in 2008-2012 and granted 20 million RUB for the renovation of the department of intensive therapy at the city hospital in Apatity in 2013. It also used to buy equipment for the hospitals in Kirovsk and Apatity and regularly organized the contests of socially important projects “Problems of our town we resolve together” and funded the realization of these projects. Due to its long-time role of main-employer enterprise in Kirovsk and regular social activities in several local communities, “Apatit” used to enjoy strong trust among the inhabitants of these communities, and in Kirovsk even a psychological identification with the company for a major proportion of the community. For instance, a deputy of Kirovsk municipal Council stated:

“In the meetings with people in Kirovsk, especially with the older generation, I’ve many times heard that they considered their lives and destinies inseparably linked with “Apatit” company”.

In accordance with the SLO concept, such attitudes pointed to the high level of social license that for decades had been given to the company. However, lately the level of social license for “Apatit” company has decreased. Since April 2013 “Apatit” company, due to the decision of its main owner (based in Moscow managing company “Phosagro AG”), started a deep-restructuring program aimed at the reduction of operational costs and growth of labor productivity. The restructuring anticipates the dismissal of 2420 employees and the phasing out of the company’s internal servicing subdivisions towards outsourced companies (Information, 2014). As a result, the total number of the company’s employees dropped from 11,600 to 7600. people by the beginning of 2014. This has led to the decision of the special governmental commission of the RF to include Kirovsk in the list of single-industry towns with the most difficult socio-economic situation (List, 2013). In addition, during the last decade the company has been transferring all of its social objects (sport complex, palace of culture etc.) to the Kirovsk municipality. As a result, the burden for the municipal budget notably increased.

It is worth mentioning that over the last decade, first, decision-making processes in regard to the company’s activities, including its social policies, have concentrated outside of the Kirovsk municipality – in the company’s head-quarters in Moscow and other towns of central Russia. Second, gradually the top managerial staff of the company has been replaced by the newcomers from outside the community. In interviews, a gradual loss of the top-managers’ local attachment is seen as one of the reasons for the weakening of the company’s social responsibility. In one interview a top-manager of “Apatit” company stated:

“Trust is the main thing. If there is no trust between the company and people, living in the towns, nothing good will come out. It is not possible for the company to possess trust if we (the company) don’t speak about social problems and don’t solve them. It is absolutely important to have locally attached leadership of the company, the leaders who was brought up here, who love, respect and understand the place”.

These events strongly influenced public attitudes towards the company and have lowered the SLO level. During the last years it decreased, and as of today we estimate it as “approval”, or even as the lower “acceptance” level.

The second case is the new “North-Western Phosphorous Company” Ltd. It was founded in 2005 as a subsidiary company of JSC “Acron”, a large fertilizer manufacturer and consumer of apatite concentrate in Russia. “Acron” previously consumed the concentrate from “Apatit” and, due to the monopolistic position of the latter on the Russian market, had contradictions with “Apatit” concerning the prices for the concentrate. “Acron” has created the NWFC to ensure its own source of raw material. In October 2006, NWPC won a contest for acquiring the state mining permit to develop two new deposits of apatite-nepheline ore “Olenyi ruchej” and “Partamchorr”. In 2007 the construction of the mine and processing plant at “Olenyi ruchej” deposit for production of the apatite concentrate began. In 2012 their exploitation was started (Bay-Larsen et al., 2014). Today NWPC employs about 2000 people, of which more than half live in the city of Apatity.

Implementation of the new project caused serious conflicts between several interest groups. Firstly, was the conflict between “Apatit” company and the newly appeared NWPC, since they became direct competitors for the production and supply of apatite concentrate in Russia. Moreover, the new competitor has started to use the ore deposits which “Apatit” considered its own prospective reserves. Secondly, initiation of the construction of the mine and the new ore processing factory caused a conflict with environmental NGOs since the deposits and processing plant were located in close proximity to the “Khibiny” National Park, which is planned to open in 2015.

In spite of the conflicts, the implementation of the new mining project was actively supported by the government of the Murmansk region. The support was provided mainly due to large investments (around 1 billion USD) on the territory of the region and expectations for the additional tax revenues to the regional budget. It was also supposed that implementation of the project would provide benefits to the Kirovsk municipality: Additional working places for the locals (along with the weakening almost monopolistic position of the “Apatit” company as an employer in the local labour market) and good prospects for the revival of the formerly depressed rural settlement Koashva situated in the vicinity of the newly developed deposits (Bay-Larsen et al. 2014).

There are many examples of the social activities of NWPC, such as investing in the reconstruction of several municipal social objects, in particular on the territory of Koashva settlement – renovation of the house of culture and the first-aid station, establishing of the youth center, a children’s playground, and others. However, dissatisfaction with the social and environmental aspects of the new company’s behavior was one of the main themes in the interviews. As the interviews with employees of the company revealed, they are not satisfied with the social policy of the company first of all towards its own employees. As an example they mentioned the recent canceling of quarterly monetary premiums that notably decreased the level

of wages, weak concern for the creation of favorable working environments and the absence of adequate compensations for unhealthy job conditions. Such irresponsible behavior was largely explained by the extremely weak attachment of the new company's leadership to the community since the company's decision-making is taking place outside the territory where the company operates (from the head-quarters of its ultimate parent – JSC “Acrone”) and the top level managers are almost entirely from outside the municipality. A reason for the negative attitudes was also the company's conflict with environmental NGOs on the “Khibiny” National Park. The conflict reached its peak in 2012 due to the intention of the new company to build the technological road for ore transportation from the “Partamchorr” mine to the processing plant near the “Oleniy ruchej” mine. The road (about 30 km long) had to cross the area of the planned National Park. Local ecological NGOs were strongly against the road construction. To resolve the conflict the regional government initiated the creation of a commission with participation from various interested parties, including representatives of NWPC, ecological NGOs and research organizations. The conflict was actively discussed in the local media and among the members of internet communities, but public hearings, which were conducted at the planning stages of the new project in 2006, were not used this time for its resolution. After long and hard negotiations involving the RF Ministry of Natural Resources and Ecology, a compromise was found. It was decided that the company would cancel the initial plan of ore transportation through the nature reserve and organize processing directly on the “Partamchorr” mine site. The decision negated the necessity to construct the road and satisfied the demands of local environmentalists.

An example of prevailing attitudes from the representatives of the Kirovsk local community to NWPC could be found in the opinion of this municipal official:

“Almost everything what NWPC does for the Kirovsk municipality is done mainly for their selfish interests. Most of their social doings are done because it is required by the state mining permit – it prescribes to transfer annually during several years the sum equal to \$1.5 million USD to the municipality for social goals”.

The latest conflict caused by the lack of social activities on the part of the new company occurred in April 2014 when the local government of the city of Apatity filed a claim in Court in the amount of \$5.6 million USD to NWPC, requiring it to pay the debt from the execution of the company's social obligations towards the Apatity municipality. The obligations were obtained from the 2006 state mining permit to develop the “Partamchorr” deposit (NWPC, 2014). Municipal authorities accused the company of avoiding fulfilling the agreement on socio-economic partnership that was stipulated in the state mining permit, and failed to transfer the funds for the development of the city. Such agreements, which have been concluded by NWPC with the Kirovsk local government in the past, have been usually fulfilled.

The study revealed that the new company NWPC has not acquired full trust and support from the majority of the local population in the municipalities of Kirovsk and Apatity. The level of SLO given to NWPC in both municipalities we estimate as “acceptance”, however, getting closer to “withdrawal”.

## **Discussion and Conclusions**

This case study has shown that neither the officials and politicians of the Kirovsk and Apatity municipalities, nor the representatives of the two mining companies described here are familiar with the concept of social licensing. On the corporate side, obtaining and maintaining a high level of social license from the local communities has not been explicitly declared as one of the companies' goals. This is typical for companies in Russia, however, where the SLO concept is quite new even in the scientific discourse.

By contrast, the concept of corporate social responsibility (CSR) – one of the pillars for the social licensing concept – is widely used. The main motives for the mining companies' social activities include the wish to demonstrate good image of the company to the authorities at all levels (federal, regional and local) and to the local community; the desire to establish a good reputation in the domestic and international business arenas; the wish to support the town which is home for the company's employees (as the case of "Apatit" company demonstrates); and the long-lasting tradition, going back to the Soviet-era, of CSR. Furthermore, demands for CSR can also be laid down within the state mining permit (as it was in the case of the new company NWCP in our study). Additionally, the companies can be motivated by requests from different levels of governmental or political bodies and by international requirements for corporate codes of conduct. Also, an important motive, as our study has shown, is basing the company's decision-making locally and, especially, a strong personal attachment of the top managerial staff to the towns where the companies operate.

Building relations with communities on the concept of corporate social responsibility, and being motivated by internal (corporate, such as considerations of image, tradition or, in the case of strong attachment of top management to the place, a desire to support the local community) and external (institutional requirements, e.g. the state mining permit) factors, the companies do not prioritize the attitudes from the local population which, we believe, is the essence of the SLO concept. At the same time, drawing on the CSR concept, the companies possess certain levels of social license, and themes which are central to the SLO concept such as trust, acceptance, and compensation are present in the local mining discourse, though sometimes implicitly.

Institutionally in Russia, relations between the municipalities and large resource-based companies often are framed by bilateral, trilateral or multilateral agreements on socio-economic partnerships between the company, municipality and/or regional government. However, so far, as a rule, the local population plays a minor role in determining their content. The study has shown that on the community side, instruments such as public hearings were not used for decisions on the content of the agreements in any of the cases studied, a quite typical situation. Moreover, changes in federal legislation related to environmental impact assessment introduced in 2006 cancelled the norm to conduct public hearings for most of the mining projects, with an exception for projects occurring on the territories of protected areas.

Such factors as generally weak development of institutions of public participation and organizational weakness of civil society, typical for many of the post-communist societies, as well as often low levels of cross-community social capital do not allow strong local communities' participation to influence mining companies' activities.

However, even under such conditions there are instruments that make it possible to voice out and to meet the local demands for socially responsible behavior of the companies. As the case of the conflict of NWPC and local plans for the establishing the nature reserve revealed, it can be local information campaigns on the acute problems in the "company-community" relations,

establishing the multilateral commissions for conflicts of interest solving, or lawsuits from the local government against the company demanding the compensations stipulated in the state mining license.

To sum up, today the social license concept is a “white spot” in the Russian Arctic mining discourse, both theoretically and practically. However, the SLO concept can be an important and highly relevant instrument for the adoption of sustainable mining practices in the Russian Arctic. Thus, there is a need for more research in this field in the Russian Arctic context and for popularization of their results to promote the practical use of social licensing in corporate and public policies.

## Notes

1. Information on the project can be found at:  
<http://www.ulapland.fi/InEnglish/Units/Faculty-of-Law/Research/Research-Projects/SUMILCERE>.

## References

- Bay-Larsen, I. Dale, B., Skorstad, B. Didyk, V, Rasmussen, R.O., Sande, A., Magnussen, T., Dannevig, T. (2014). Collaborative Governance in Arctic Frontiers – the Case of Mining in Greenland, Russia and Norway. Paper presented at the European Consortium for Political Research, Salamanca, Spain, April 10-14<sup>th</sup>.  
<http://www.ecpr.eu/Filestore/PaperProposal/9d55fdc6-10eb-490c-8019-5f606c5f8697.pdf>. Accessed 8.05.2014.
- Buanes, A. (2014). Social License to Operate – A Relevant Concept for Northern Mining? Mining projects between legal requirements and local acceptance – with case studies from the European North. Presentation at the SUMILCERE meeting, Luleå, 11th June, 2014. Unpublished.
- Information 2014. Information on socio-economic situation in the monoprofile settlements of the Murmansk region (Kirovsk). Available at the official site of the Ministry of economic development of the Murmansk region:  
[http://minec.govmurman.ru/content/devel\\_city/sub06/sub03/](http://minec.govmurman.ru/content/devel_city/sub06/sub03/). Accessed 21.04.2014 (in Russian).
- Knoke, D. (1985). The Political Economies of Associations. In R.G. Braungart & M.M. Braungart (eds.). *Research in Political Sociology*. Greenwich, CT: JAI Press.
- Kokko, K., Oksanen, A., Hast, S., Heikkinen, H. I., Hentilä, H-L., Jokinen, M., Komu, T., Kunnari, M., Lépy, É., Soudunsaari, L., Suikkanen, A. and Suopajarvi L. (2014). *Sound Mining in the North. A Guide to Environmental Regulation and Best Practices Supporting Social Sustainability*. University of Lapland, University of Oulu and Metla.
- Lacey, J., Parsons, R., Moffat, K. (2012). *Exploring the Concept of a Social License to Operate in the Australian Mining and Minerals Industry: Results from Interviews With Industry Representatives*. CSIRO, Brisbane.

- Nelsen, J., Scoble, M. (2006). *Social License to Operate Mines: Issues of Situational Analysis and Process*. University of British Columbia, Department of Mining Engineering, Vancouver.
- List 2013. List of mono-towns with most difficult socio-economic situation. Available at [http://www.minregion.ru/uploads/attachment/documents/100913/100913\\_p\\_1.pdf](http://www.minregion.ru/uploads/attachment/documents/100913/100913_p_1.pdf). Accessed 21.04.2014 (in Russian).
- Miningfacts (2012): Available at <http://www.miningfacts.org/Communities/What-is-the-social-licence-to-operate/#sthash.CfcIfDZl.dpuf>. Accessed 7.09.2014.
- Municipalities of the Murmansk region*. (2012). Statistical Yearbook. Murmanskstat – Territorial body of the Federal Service of state statistics in Murmansk region, Murmansk, 2012. – 186 p. (in Russian).
- NWPC 2014. NWPC will be involved in social activities through the court. Available at <http://blogger51.com/2014/04/50142>. Accessed 30.04.2014 (in Russian).
- Prno, J., Slocombe, D.S. (2012). Exploring the origins of ‘social license to operate’ in the mining sector: Perspectives from governance and sustainability theories. *Resource Policy*. 37: 346-357.
- Pike, R. (2012). Social License to Operate (research paper). The Relevance of Social Licence to Operate for Mining Companies. Available at: <http://www.schroders.com/staticfiles/schroders/sites/Americas/US%20Institutional%202011/pdfs/Social-Licence-to-Operate.pdf>. Accessed 8.05.2014 (in Russian).
- Thomson, I., Boutilier, R.G. (2011). The Social License to Operate. In P. Darling (ed.). *SME Mining Engineering Handbook (1779-1790)*. Littleton, Co.
- Thomson, I., Boutilier, R.G. & Black, L. (2012). Corporate Social Responsibility – The Social Licence to Operate a Mine. Available at: [http://www.internationalresourcejournal.com/mining/mining\\_november\\_12/the\\_social\\_licence\\_to\\_operate\\_a\\_mine.html](http://www.internationalresourcejournal.com/mining/mining_november_12/the_social_licence_to_operate_a_mine.html). Accessed 15.06.2014.
- Thomson, I., Joyce, S. (2008). The Social License to Operate: What It Is and Why Does it Seem So Difficult to Obtain? In *Proceedings of PDAC Convention*. Toronto. Available at [http://oncommonground.ca/wp-content/downloads/PDAC\\_2008\\_Social\\_Licence.pdf](http://oncommonground.ca/wp-content/downloads/PDAC_2008_Social_Licence.pdf). Accessed 19.09.2014.
- Tognato, C. (2011). *Extractive Industries: Ensuring a Cultural License to Operate*. University of Adelaide. Available at [http://www.adelaide.edu.au/indo-pacific-governance/policy/Carlo\\_Tognato.pdf](http://www.adelaide.edu.au/indo-pacific-governance/policy/Carlo_Tognato.pdf). Accessed 19.09.2014.
- Williams, R. & Walton, A. (2013, March). The Social License to Operate and Coal Seam Gas Development. *A literature review report to the Gas Industry Social and Environmental Research Alliance (GISERA)*. CSIRO, Canberra. Available at [http://www.gisera.org.au/publications/tech\\_reports\\_papers/socioeco-proj-5-lit-review.pdf](http://www.gisera.org.au/publications/tech_reports_papers/socioeco-proj-5-lit-review.pdf). Accessed 4.09.2014.
- World Business Council for Sustainable Development. Corporate Social Responsibility (CSR). Available at <http://www.wbcsd.org/work-program/business-role/previous-work/corporate-social-responsibility.aspx>. Accessed 17.06.2014.

## **Briefing Note**

# **MAIN EXPECTED CHANGES IN LEGISLATIVE REGULATION OF ENVIRONMENTAL PROTECTION FOR ENVIRONMENTALLY HAZARDOUS FACILITIES IN THE RUSSIAN ARCTIC**

Tatiana Alieva

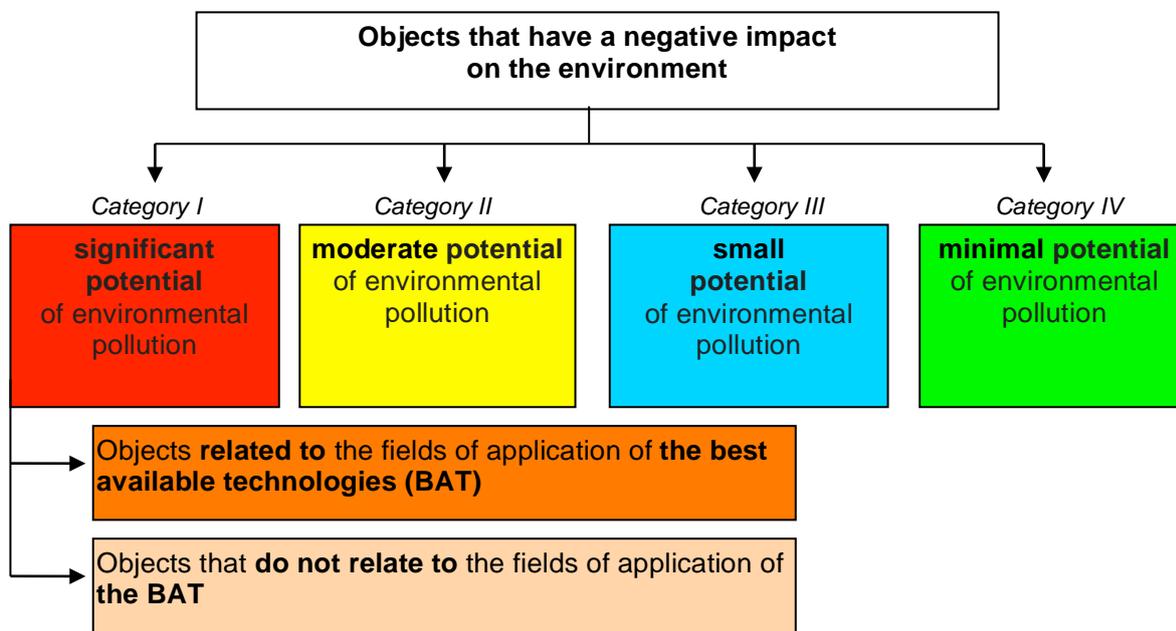
According to the main documents on Russian Arctic development, the Arctic is considered as the strategic resource base of Russia. Under the conditions of increasing economic activities and global climate changes, preservation and protection of the Arctic environment, and also elimination of ecological consequences of economic activities, are the main goals of Russian state policy in the field of ensuring environmental safety of the Arctic. For minimization of negative impact on the Arctic environment, an increase in enterprises' responsibility for environmental pollution is required. At the same time, in order to implement the state policy in the field of socio-economic development of the Russian Arctic, state support is provided to economic agents, which are carrying out their activities in the Arctic Zone, primarily in the field of development of hydrocarbon resources, other minerals and water biological resources.

### **The Main Expected Changes in Environmental Regulation**

Currently, Russia is in the process of reforming its environmental and use of nature governance. One of the objectives of the reform is to differentiate economic agents at the level of potential environmental pollution and (or) of impact on human health and to apply to them proportionate

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measures of state regulation. The differentiated approach is provided for the separation of objects that have a negative impact on the environment in four categories (Figure 1).



**Figure 1:** Differentiation of economic agents at the level of potential environmental pollution

For objects in Category IV, measures of state regulation in the field of environmental protection will not be applied. The main measures of state regulation for the other objects are shown in Table 1.

Categories of economic agents	Quantity of economic agents (objects)	Measures of state regulation
1. Agents <b>with significant potential</b> of environmental pollution ( <b>Environmentally hazardous facilities</b> - 99 % of negative impact on the Russian environment), including:	11445	- The establishment of standards for permissible emissions, discharges (the technological standards) by integrated permitting; - The implementation of the state environmental control at the federal level; - Carrying out the state ecological expertise.
- a negative impact <i>on air</i> ,	4772	
- a negative impact <i>on water bodies</i> .	6073	
2. Agents <b>with moderate potential</b> of environmental pollution	~290000	- Submission of a declaration of the planned emissions, discharges volume
3. Agents <b>with small potential</b> of environmental pollution	~700000	- Submission of a report about the volumes of actually made emissions, discharges in the notification procedure

**Table 1:** Government regulation of economic agents based on their category in the field of environmental protection

Under the technological standards there will be understood the norms (standards) of permissible emissions, discharges, wastes, water and electricity consumptions, and levels of physical impacts, which are set for the main technological processes and equipment of the best available technologies (BAT) using their technological indicators. Setting these technological indicators is assumed by normative documents after the development of information and technical reference books based on European BREF catalogs, adapted to economic and geographic Russian conditions. It should be noted that for the process of equipment reconstruction, impact on the environment which does not exceed the technological indicators of BAT, is also recognized as the implementation of BAT. Thus achieving technological standards will allow the environmentally hazardous enterprises to have the minimal pressure on the environment at the present stage of development.

For the realization of economic activities, objects with a significant potential for pollution (category I) will be required to contact a territorial agency of the federal executive authority with the application for an integrated environmental permit. The federal executive authority will approve the list of category I objects that need to get the integrated environmental permit between 01/01/2019 and 31/12/2022. This list will include up to 300 objects that have a negative impact on the environment, whose contribution to the total emissions, discharges of pollutants in the Russian Federation is not less than 60 percent. The remaining category I objects must get the integrated environmental permit before 01/01/2025.

For agents with a significant potential for environmental pollution (so-called environmentally hazardous facilities) related to the fields of application of a best available technology (BAT) there is a transition phase provided for technological standardization that creates economic incentives for modernization, including environmental ones. This will have a direct impact on the financial and economic activity of the environmentally hazardous enterprises.

The main legal act, on the basis of which there will be carried out changes in environmental regulation and management in Russia, is the Federal Law of 21 July 2014 N 219-FZ “On Amending the Federal Law ‘On environment protection’ and some legislative acts of the Russian Federation”, which comes into force on January 1, 2015, except for certain provisions (hereinafter – Federal Law N 219-FZ). This act proposes to intensify the economic sanctions on businesses exceeding limits of permissible impact due to increasing coefficients on the rates of payment for the negative impact on the environment (Table 2).

Coefficient from 01.01.2016		Types of negative impacts
before 31.12.2019	after 31.12.2019	
-	0	For emissions / discharges within technological standards after the implementation of BAT

1	1	For emissions / discharges within acceptable standards and for waste of production and consumption within the limits
0	0	For wastes to be temporary accumulated and actually used (recycled) in own production in accordance with the technological regulations or transferred for use within the prescribed period
5	25	For emissions/discharges of pollutants within the temporarily permissible emissions/discharges for the period of realization of the environment protection plan or the program to improve the eco-efficiency
5	25	For wastes placed above the established limits
25	100	For emissions / discharges of pollutants exceeding temporarily permissible emissions / discharges

**Table 2:** The change of the coefficients to the rates of payment for negative impact on the environment

Within the framework of the reform, it is expected to reduce the list of regulated pollutants, and define a list of substances banned for emissions or discharges by March 31, 2016; and at the same time increase the base rates for negative impact on the environment. It is supposed to keep the system of temporary permissible emissions/discharges for a seven-year period provided that the reduction plans of negative impact on the environment or the BAT implementation programs (eco-efficiency programs) will be carried out. In the case of failure to comply with reduction of emissions, discharges within 6 months after the due date specified in the plan or the program, the calculated payment shall be recalculated applying the coefficient 100.

So the fees for emissions/discharges of pollutants could increase up to 5 times compared with the present period.<sup>1</sup>

### **The Forms and Conditions of State Support for BAT Implementation**

State support for BAT implementation in the form of tax incentives; benefits in respect of payments for negative impact on the environment; and state capital investments is provided for in the reforms. These incentives will be given to enterprises if they realize such measures as:

- 1) Implementation of BAT;
- 2) Design, construction, reconstruction of:
  - recycling and wastewater free water supply systems;
  - centralized water disposal systems, sewer systems, local structures and equipment for wastewater treatment, including drainage water, for treatment of liquid waste and sewage sludge;
  - constructions and installations for the capture and utilization of emitted pollutants, heat treatment and cleaning of gases before their emission in the atmosphere, for the beneficial use of associated petroleum gas;
- 3) Installation of:
  - equipment to improve fuel combustion modes;

- equipment for the use, transportation, neutralization of the production and consumption waste;
- automated systems, laboratories for the control of the composition, the volume or weight of waste water;
- automated systems, laboratories (stationary and mobile) to control the composition of the pollutants and the volume or weight of their air emissions;
- automated systems, laboratories (stationary and mobile) to monitor the state of the environment, including natural environment components.

At the same time Federal laws and regional laws may establish other measures of state support, at the expense of federal and regional budgets.

Reducing sum of payments for negative impact on the environment on the sum of costs for financing the above measures can be regarded as benefit for the enterprises. It is necessary to consider that these payments affect the enterprise profit indicators, as they are included in production costs if the economic agent's impact on the environment is within the permissible standards, and when the economic agent exceeds the permitted standards, the fees are levied from the profit.

As a result of reforming the environmental standardization system and introducing incentive coefficients, fees for negative impact on the environment will be around 2% of the cost structure of environmentally hazardous enterprises.

### **Some Strategic Documents and the Main Tasks in the Field of Environmental Development**

Several strategic documents in the field of environmental development of our country were accepted in 2012 and 2014.

First of all, the Russian President approved "Basics of state policy in the field of environmental development of the Russian Federation for the period up to 2030" (hereinafter – "Basics..."). According to the "Basics..." the strategic goal of the state policy in the field of environmental development is to solve social and economic tasks, providing for an environmentally-oriented economic growth, preservation of a favorable environment, biodiversity and natural resources to meet the needs of present and future generations, their human right to a favorable environment, the strengthening of law enforcement in the field of environmental protection and environmental safety. On December 18, 2012 the Action Plan for the implementation of "Basics..." was endorsed by the order of the government of the Russian Federation № 2423-p. Among the main tasks of the state environmental policy are: providing environmentally oriented economic growth and introduction of eco-efficient innovative technologies, and also preventing and reducing the negative current impact on the environment. The mechanisms of these tasks realization are:

- Registration of absolute and specific indicators of the efficiency of natural resources and energy use and the negative impact on the environment;

- Environmental regulation based on the technological standards, under the condition of acceptable risk to the environment and human health;
- Step-by-step elimination of the practice of setting the temporary above permitted standard emissions and discharges.

Secondly, on the 15th of April, 2014, the State Program of the Russian Federation “Environment 2012 to 2020” was approved by the RF Government Decree № 326. Taking into account the priorities of the state policy in the field of environmental protection the objective of the Program is to improve environmental safety and preservation of natural systems. It includes financing for a subprogram named “Regulation of Environmental Quality” which consists of over 70 billion rubles from the federal budget.

The transition to the new state regulation system in the field of environmental protection will take about 10 years. The main tasks of the transition to this system are presented in the Table 3.

Period	Main tasks
2013-2017	<ul style="list-style-type: none"> <li>- Put all objects of economic activity on the state records;</li> <li>- Differentiation of enterprises according to the degree of impact</li> <li>- Adaptation of sectoral BREFs to the Russian conditions;</li> <li>- Enterprises must prepare the action plans to reduce the negative impact on the environment.</li> </ul>
From 2019	<ul style="list-style-type: none"> <li>- A ban on putting into operation new facilities whose emissions / discharges do not correspond to the BAT, except for those companies that received a building permit before 01.01.2019</li> <li>- Implementation of the transition to integrated environmental permits and declaring of the negative impact on the environment.</li> </ul>
From 2020	<ul style="list-style-type: none"> <li>- Increase in the coefficients to the rates of payments for emissions / discharges of harmful substances (pollutants) within the temporarily permissible emissions / discharges carried out with their excess</li> </ul>
From 2025	<ul style="list-style-type: none"> <li>- Administrative restrictions will address the existing businesses</li> </ul>

**Table 3:** Main tasks of the transition to the new system of state regulation in the field of environmental protection

In accordance with the “Plan of the Ministry of Natural Resources and Ecology of the Russian Federation for 2013 to 2018”, by the fourth quarter of 2017, the normative legal acts necessary for the implementation of the Federal Law N 219-FZ must be approved, Russian sectoral BREFs published and organizational measures for the functioning of a new system of integrated environmental permits implemented.

It is expected that not less than 30 major companies will have integrated environmental permits by the fourth quarter 2018 and will have begun to realize ecological modernization programs.

In order to provide reliable information about the level of impact on the environment, objects category I, stationary sources, the list of which is established by the Government of the Russian Federation, will have to equip their stationary sources with automated tools measuring and accounting emissions and discharges as well as technical communication to the state fund of the state environmental monitoring data.

### **The Important Environmental Protection Measures at the Current Stage**

Thus, in the context of the transition to technological standardization for environmentally hazardous facilities in the Russian Arctic, environmental protection measures such as the following become important:

- Creation and implementation of automatic control system for the composition and volume of wastewater discharges;
- Creation of automatic control systems for air pollution, equipping emission stationary sources of control devices, construction, purchase and equipment of laboratories for air pollution control;
- Construction of facilities and manufactories of raw materials production or finished products from production wastes;
- Research and project works aimed at the environmental safety of production.

Now, companies can finance the implementation of these measures within the accrued sum of payments for negative impacts on the environment, by reducing this sum on incurred expenses.

### **Conclusions**

Stricter requirements in the field of environmental protection will have a major impact on the enterprises that could potentially become significant polluters. Such companies need to use methods of strategic environmental planning to receive economic benefits from the state.

Not only environmental quality of products will be critical in the competitive struggle in the long term, but also the mode of production with use of the BAT, which combine minimal negative impact on the environment, and the rational use of nature and economic efficiency.

There is the economic possibility and practicability of using regulatory mechanisms to reduce fees for negative impact on the environment as the instrument to stimulate the transition of enterprises to the best available technologies.

### **Acknowledgements**

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## Notes

1. The History of the development and use of environmental policy instruments in the Russian Federation, including the system of payments for negative impact on the environment, is considered in detail in the publication *Environmental Policy and Regulation in Russia. The implementation challenge*. OECD. (2006) Available at <http://www.oecd.org/environment/outreach/38118149.pdf>

## Briefing Note

# THE RIGHT NOT TO BE INDIGENOUS: SEAL UTILIZATION IN NEWFOUNDLAND

Nikolas Sellheim

*The discussion surrounding the commercial seal hunt has for many decades revolved around the well-being of individual seals and claims of cruelty have long been the centrepiece of opposition towards the hunt. This opposition stands in contrast to the acceptance of Inuit or indigenous seal hunts irrespective of the numbers of seals hunted and animal welfare considerations. This is based on the high cultural and utilitarian value a seal represents in Inuit society and culture and this narrative has equally found its way into political processes and legislation, such as the recent ban on trade in seal products on the European internal market, Regulation 1007/2009 on Trade in Seal Products.*

*This Briefing Note claims that the utilization of seal stemming from commercial hunts in Newfoundland, where the largest commercial seal hunt is conducted, goes beyond the notion of commercialisation and represents a cultural, utilitarian and identity-giving means while being an important element in the social cohesion of the island's coastal communities. It claims that the discourse on seals and sealing is biased as it does not consider cultural and social elements of the hunt and the industry. Results stem from fieldwork conducted in April, May and November 2013 in the communities of Woodstock, Blaketown and South Dildo, Newfoundland.*

### Seal Utilization in EU Political Discourse

The preparatory works leading to the adoption of the EU seal products trade ban have been well documented and shall not be reproduced here (see De Ville 2012; Sellheim 2013a; Wegge 2013). The underlying motivation for the European legislative to adopt a ban on trade in seal products was to reduce the suffering of seals by decreasing demand for seal products through blocking the EU's market for products stemming from commercially hunted seals. While the Commission Proposal from 2008 still saw a potential opening of the market for products from hunts in which

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certain animal welfare standards were met (EU Commission, 2008: Recital 11), the adopted regulation, Regulation 1007/2009 on Trade in Seal Products (basic regulation), no longer provides for such derogation from the ban. Instead, all seal products that stem from commercial seal hunts are banned from the European markets, unless they are in the personal property of a traveller. Moreover, non-commercial dispersion of seal products is granted when the products stem from marine management initiatives while the trade in products from Inuit or other indigenous hunts is also not prohibited.

It is especially this so-called 'Inuit exemption' and its application in non-indigenous contexts which is the centrepiece of this note. Enshrined in art. 3 of Commission Regulation 737/2010 (implementing regulation), seal products are still allowed to be traded in when they 1) stem from hunts conducted by Inuit or other indigenous communities that have a tradition of seal hunting; 2) are at least partly used, processed and consumed in the communities; and 3) when the hunts contribute to the subsistence of the community. These three exemptions stem from the inchoate will of the European policy makers not to affect the socio-cultural integrity of Inuit communities, as expressed throughout the crafting process of the legislation and responding to the adverse effects of the 1983 Directive banning the trade in products stemming from seal pups (Council Directive 83/129/EEC or 'Seal Pups Directive') (see Wenzel, 1991).

On the other hand, socio-economic effects of a ban for commercial sealing communities or communities in which the sealing industry is located are by and large not considered (Sellheim 2013a: 422, 423). *Argumentum a contrario*, throughout the legislative process of the ban, adverse effects on commercial sealing communities are silently accepted.

### Seal Utilization in Newfoundland

I have argued elsewhere that these three characteristics are equally applicable in non-indigenous communities and therefore pose empirical problems in the exemption's applicability and feasibility beyond ethno-cultural considerations (Sellheim 2014: 8-10). In a similar manner as in the whaling context, the cultural importance of sealing and the commercial sealing industry is closely linked to ethnos although similar traits of utilization between indigenous and non-indigenous resource users exist (see Sowa, 2013). Although also discursively the utilization of seal skins for clothing is recognised, it is predominantly located in a context of 'luxury' as high-quality seal skin products such as boots, jackets or mittens are sold for very high prices on the domestic and global markets. In Newfoundland's capital St. John's at least two fur stores sell these products.

This, however, is a difficult claim to uphold as it inevitably raises the question on the limits and definition of luxury: while, for example, some claim high prices for e.g. seal skin jackets are an indication for luxury, others claim that the high prices are an indication for the life-long lasting quality of the product and should therefore be considered an investment.

Notwithstanding the debate surrounding luxury and the pricing of seal products, the following paragraphs present a snapshot of selected historical and current small-scale seal products utilization in Newfoundland which represents the identity-giving value of their production beyond the notion of luxury.

### *Historical*

Historically, and with the advent of the commercial sealing industry in the late 18<sup>th</sup> century, it was primarily the skin and the fat of the seal which were used for making clothes for the domestic and European markets as well as for rendering fat into oil as a cheap alternative to whale oil (Ryan 1994: 70). Here lies the core of the tradition of the sealing industry in Newfoundland – the commercial exploitation of the seal – around which subsistence elements have developed. Thus, it is not the resource *per se* recognized in the tradition, but the captains, vessels and events that have shaped the history and societal construct of Newfoundland’s villages and cities – best reflected in the numerous songs and poems surrounding the hunt and hunters (Ryan & Small 1978) and in the erection of the Sealers’ Memorial ‘Home from the Sea’ in Elliston, Newfoundland, in 2014. But even within the large-scale seal hunts of the 19<sup>th</sup> century, sealers and their families benefitted from the hunt on a non-monetary basis when seal flippers and carcasses were brought home as an additional food source (Ryan 1994: 239, 240).



Sealing knife in wooden sheath. Photo: Nikolas Sellheim, 2013.

But apart from the larger scale utilization, also small-scale skills developed based on the seal hunt. One, only briefly documented skill, was wooden sheath-making for sealing knives when the men were on the ice skinning the animals and which were “almost works of art” (Wright, 1984: 43). This skill, while still prevalent in the 1980s, has largely disappeared from the hunt since seals are now skinned on the boat where the knives are no longer the personal property of the individual sealers. While sheath-making was a spin-off skill of the hunt, Newfoundland’s northern tip at the Street of Belle Isle was home to the emergence of a skill relating to seal skins. Since the region’s settlement in the early 1800s a long-standing tradition of making resilient seal skin boots had developed which is believed to have merged skills from Inuit and First Nations with European boot making (Bock 1991: 19).

Permanent settlement was significantly supported by the sale of seal skin boots when the funds generated through the trade were used to establish an Anglican Mission in Flower’s Cove in 1849 and ultimately to build the St. Barnabas Anglican Church in 1920, which is also referred to as the ‘Skin Boot Church’ (ibid.: 47-54).

### *Current*

The current utilization of seal products is manifold and begins with the landing of the seal hunting vessel in its home harbour. Prior to the hunt, villagers ask the hunters to save specific seal parts, such as whole carcasses, ribs, hearts or flippers for them. Upon arrival of the vessel

from the hunt, these parts are given to those having ordered them. This occurs without monetary exchange, but payment occurs through other goods and services (Field notes April 2013).

Apart from the meat of the seals, it is especially the furs which are of interest for small-scale users in Newfoundland. As shown above, the skill to make seal boots has been historically embedded in the settlement of the Northern Peninsula where now the skill has been revived (Bock 1991: 58-63) and seal skin products can also now be ordered through the internet. But apart from the small business approach of the Northern Peninsula, also on the Avalon Peninsula, in the south-east of the island of Newfoundland, seal product processing can be found – both large-scale processing in the last processing plant in South Dildo, *Carino Processing Ltd.*, whose workers are significantly affected by anti-sealing sentiments (Sellheim, in press) and home-based handicraft.



Seal skin mittens. Photo: Nikolas Sellheim, 2014.

In the seal processing plant where waste products such as damaged and therefore unsellable skins are generated, these products do not go to waste and are used for further processing by private individuals. Hand-made hats, mittens or bags are then either sold in convenient stores in the vicinity of the plant or by private citizens who point to their products with self-made road signs. Interview partners revealed that the

skill to make these products has been in their families for generations and that the style of making mittens, for instance, is the same as three generations ago (Field notes November 2013).

Apart from the utilization of furs, seal meat is a common good to be found all over the island. While pickled or brined seal heart is a delicacy in seal hunting communities and constitutes a commodity arising out of generations-old tradition (Field notes April 2013), also other forms of seal meat for private consumption and commercial sale are commonly found in Newfoundland: Shortly after the sealing season when seal flippers are either directly given to the people waiting on shore or later on sold to the public in the central squares of the communities or in the centre of Newfoundland's capital St. John's. Seal meat, which is processed by small-scale meat processing facilities, is consumed in various forms, such as seal flipper pie, seal sausages or marinated. The interest in seal meat is also documented in Wright (1984: 82) while the traditional social and cultural significance of seal flipper preparation and consumption is highlighted by Ryan (1994: 387, 388).

## Subsistence, Market or Relay Economy?

As Ryan (1994) shows in his treatise on the emergence of the sealing economy in Newfoundland, the traditionality of the sealing economy is by and large built on commercial interests and driven by commercial factors. Yet, to dismiss the seal hunt as purely commercial, leaves out the subsistence elements described above making it rather difficult to distinguish clearly between immediate-return (subsistence) and delayed-return (market) economies (see Ingold 2011: 66; Barnard 2002: 7).

In general, the sealers on board *Steff & Tabn* - the boat which this author joined to conduct field research – considered their hunt a subsistence seal hunt as it directly generates food as well as monetary income later on. This was particularly true in 2009 when the prices of seal products were extremely low (Sellheim 2014: 11, 12), making a larger hunt unfeasible. In that year therefore a few speedboats from the community of Woodstock engaged in the ‘landsmen hunt’ - day-trips to the ice to hunt seals - generating direct supplies for the community while the pelts were sold to the market, thus turning the incentive to hunt seals to become subsistence, rather than market-based (Field notes April 2013). It needs mentioning that Greenlandic hunts are to a large extent essentially commercial, because a government-owned tannery processes and sells the same products as in Canada to the world’s markets (Government of Greenland 2012). But since Greenlanders are originally of Inuit descent, heritage protection is a common part of the discourse on seal hunting and they therefore fall under the so-called ‘Inuit exemption’ in the EU ban.

As in the whaling debate and in the International Whaling Commission (IWC) where subsistence is equivalent to aboriginal, small-scale non-aboriginal hunts for community consumption is generally not considered a subsistence hunt irrespective of the same characteristics, i.e. sharing and community processing, of these products (see for instance Freeman 2001). Leaving the ethno-cultural considerations aside, an interesting picture emerges as the economic circumstances on the market for seal products drive the degree of subsistence activities in Woodstock: with a declining market for commercial seal products, the landsman hunts gain importance and the consumption of seal products stemming from hunts conducted primarily for community consumption increases with fewer products being sold commercially. It is therefore difficult to draw a clear-cut line between commercial and subsistence drivers of the seal hunt in Woodstock as the incentives to engage in the hunt are mixed. Yet, while the industry itself is framed predominantly by commercial characteristics, changes in the markets shape the degree to which subsistence-based seal hunts are conducted. This type of economy can be termed “relay economy”, describing the increase of subsistence usage of a given resource by the same users that engage in its commercial utilization. It is thus that the driver of resource usage shifts with varying market conditions. Although sealers in Woodstock are part of the commercial sealing industry, one Woodstocker stated that “as long as we in Woodstock know how to hunt [seals] and fish, we won’t have any problems” (April 2013 Field notes), thus indicating a subsistence use in case of collapsing markets.

Through a decline in the sealing industry as well as a declining fish industry in Newfoundland in combination with other factors, outmigration is a common concern for small coastal communities (Sellheim 2013b: 3, 4). The primary constant in the times of change is the notion of the ‘sea as the provider’ for communities like Woodstock. All life is based around the sea and

community cohesion is shaped by the sea to provide while markets drive the feasibility of economic opportunity. The seal hunt as well as fisheries are the only economic opportunities in Woodstock and social ties are directly linked to the possibility to engage in these activities. Thus, increasing pressure on the exertion of the seal hunt contributes to a significant weakening of the socio-cultural fabric in seal hunting communities, thus in turn accelerating community dissolution. At the same time, also knowledge about the sea, its resources and its characteristics is no longer transmitted to the next generation putting local knowledge with regard to subsistence activities in jeopardy.

## Discussion and Conclusion

Although the seal hunt is not the only element holding the community together, it is primarily the loss of knowledge and identity that indicates the important role of seal hunting in coastal communities in Newfoundland. The stereotypical depiction of the commercial seal hunt as merely an economic activity, the recognition of the cultural role of seals and sealing in Inuit societies, and the non-consideration of any socio-cultural aspects of the hunt in the discourse surrounding the sealing industry in Newfoundland points towards a bias in the debate. This bias appears to be based on ethnic rather than activity-based considerations, best exemplified by the fact that the socio-cultural role of the sealing industry has played a significant part in shaping Newfoundland's identity, while it is discursively recognized as being of relevance for Inuit communities only. The 'Inuit exemption' in the EU seal products trade ban stands exemplary for this.

A question that must therefore be asked is: do only indigenous peoples have the right to culture, resources and traditions and can it be acceptable to neglect those of non-indigenous people? Indeed, this question must be answered negatively. As these lines have shown, also the commercial seal hunt should be located in a discourse on tradition, culture and knowledge and it seems unfitting for secular societies to grant discursive rights to one group of people while denying others the same rights.

## References

- Barnard, A. (2002). "The Foraging Mode of Thought." In A. Barnard and K. Omura (Eds.). *Self and Other-Images of Hunter Gatherers. Henry Stewart* (pp. 5-24). Osaka: National Museum of Ethnology.
- Bock, A. (1991). *Out of Necessity. The Story of Sealskin Boots in the Strait of Belle Isle*. Shoal Coast East: Great Northern Peninsula Craft Producers.
- de Ville, F. (2012). "Explaining the Genesis of a Trade Dispute: the European Union's Seal Trade Band". In: *Journal of European Integration*. 34(1): 37-53.
- EU Commission. (2008). Proposal for a Regulation of the European Parliament and of the Council Concerning Trade in Seal Products, COM/2007/0469 final. Retrieved from <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52008PC0469>.
- Freeman, M, M.R. (2001). Is Money the Root of the Problem? In R. L. Friedheim (ed.).

- Toward a Sustainable Whaling Regime* (pp.123-146). Seattle and London: University of Washington Press.
- Government of Greenland. (2012). *Management and Utilization of Seals in Greenland*. Nuuk: Ministry of Fisheries, Hunting and Agriculture. Retrieved from <http://dk.vintage.nanoq.gl/Diverse/404.aspx?ErrorPath=http%3A%2F%2Fdk.vintage.nanoq.gl%2FErrorPages%2F404.aspx%3Fsmarturlredirect%3Dtrue>.
- Ingold, T. (2011). *The Perception of the Environment – Essays on Livelihood, Dwelling and Skill*. London and New York: Routledge.
- Ryan, S. (1994). *The Ice Hunters. A History of Newfoundland Sealing to 1914*. St. John's: Breakwater Books Ltd.
- Ryan, S. & L. Small. (1978). *Haulin' Rope & Gaff. Songs and Poetry in the History of the Newfoundland Seal Fishery*. St. John's: Breakwater Books Ltd.
- Sellheim, N. (2013a). The Neglected Tradition? – The Genesis of the EU Seal Products Trade Ban and Commercial Sealing'. *The Yearbook of Polar Law*. 5: 417-450.
- Sellheim, N. (2013b). Living with 'Barbarians' – Within the Commercial Sealing Industry. In: *Northern Research Forum Open Assembly 2013 Proceedings*, Akureyri: Northern Research Forum. Retrieved from [http://www.rha.is/static/files/NRF/OpenAssemblies/AKUREYRI2013/nikolas\\_sellheim.pdf](http://www.rha.is/static/files/NRF/OpenAssemblies/AKUREYRI2013/nikolas_sellheim.pdf).
- Sellheim, N. (2014). The Goals of the EU Seal Products Trade Regulation – From Effectiveness to Consequence. *Polar Record*. FirstView Articles.
- Sellheim, N. (Forthcoming 2014). Direct and individual concern' for Newfoundland's Sealing Industry? – When a Legal Concept and Empirical Data Collide. *The Yearbook of Polar Law*. 6.
- Sowa, F. (2013). The Konstruktion von Indigenität am Beispiel des Internationalen Walfanges. Grönländische und japanische Walfänger im Streben nach Anerkennung. *Anthropos*. 108(2): 445-462.
- Wenzel, G. (1991). *Animal Rights, Human Rights. Ecology, Economy and Ideology in the Canadian Arctic*. Toronto: University of Toronto Press.
- Wegge, N. (2013). Politics between Science, Law and Sentiments: Explaining the European Union's Ban on Trade in Seal Products. *Environmental Politics*. 22(2): 255-273.
- Wright, G. (1984). *Sons & Seals. A Voyage to the Ice*. St. John's: Memorial University of Newfoundland.

## Briefing Note

# ECONOMIC DEVELOPMENT, INDIGENOUS GOVERNANCE, & ARCTIC SOVEREIGNTY

Karen Everett & Heather Nicol

*There have been differing visions for the future of Canada's north and the role of resource development in Canada's nation-building project. While for some, resource extraction is the 'magic bullet', for others there is also the fear that rather than being the solution to economic development problems, resource extraction activities may prove detrimental to the economic health of many northern communities. Beginning with the 1970s, indigenous leaders have urged the federal government to increase cooperation with local populations, especially in terms of facilitating equitable benefits of economic development, social services, education, and health, environmental protection. But there is a continuing resistance of government agencies to facilitate northern indigenous populations' control over their resources and a general failure of those who envision the future for Canadianists more generally to engage with economic development strategies. This paper assesses recent attempts towards co-management of resource development in the context of new rounds of development pressures on the Canadian North, situating part of the problem in the degree to which a scholarship in general has failed to move beyond the convenient but rather simplistic understanding of the North as 'frontier/homeland'.*

## Introduction

In 2010, the Standing Committee on Arctic Defence released its statement on Canada's Arctic Sovereignty. The Committee stated that "[e]xercising Arctic sovereignty is a pillar of the Northern Strategy and the number one priority set out in Statement on Canada's Arctic foreign policy. Canada's Arctic sovereignty is long-standing, well-established and based on historic title. Launched on August 20th 2010, the foreign policy statement is the international dimension of the Northern Strategy, and it provides the international platform from which to project our national interests in the world." So the Northern Strategy is also key to understanding that there

is an important relationship between development and foreign policy. It builds upon what then Defence Minister Gordon O'Connor stated in 2006, that:

The basic problem in these [Arctic maritime boundary] disputes is a matter of resources - who owns which resources. For instance, let's take the Beaufort Sea. We may declare that a boundary goes to the Beaufort Sea in one position and the Americans in another. If a country wanted to drill for oil in the Beaufort Sea, and there's a lot of oil and gas there, they, at the moment, if they're in this disputed area, wouldn't know who to approach, whether it's the United States in Canada to get drilling rights. So these sort of things have to get resolved (Vongdouangchanh, 2006).

The 'sorts of things' O'Connor referenced represented international challenges to Canada's historical understandings of state territory in the Arctic, particularly in the Arctic Ocean. Speaking from an international studies perspective, Palosaari (2011: 18) placed this in broader perspective, arguing that "when the state sovereignty perspective is more specifically focused on the Arctic, the impact of ice retreat on issues that concern the national interest gets highlighted."

What Palosaari referred to was what was then looming as a competitive basis for international relations in the Arctic Ocean. While much writing ensued on the North, it came largely from an International Relations scholarship where regimes, cooperation and conflict, international law and political order (see Wegge 2011; Young 2012) were the dominant issues. While some of these issues were also covered in Canadian Studies literature, what we might consider to be a Canadian Studies approach to the Canadian North still retained a distinctive interest in specific national issues and approaches, such as questions about the relationships embodied in understandings of identity, counterpoising development and environment, indigenous knowledge, and focused upon establishing sovereignty in the North. It remains somewhat distinctive from this larger approach to the North which examines relationships between state agency, environment, and geopolitics.

Grounded in a distinctive school or thought, historically, the Canadian Studies literature suggests that the North suffers from the tension of being both a frontier for resource development that defines national interests and a homeland for indigenous communities, based upon narratives of environment and development first articulated in the 1970s (see Nicol 2013; Berger 1977). It is a literature concerned with history, national history and exploration, colonization, and redemption. It was not just a region, it had a meaning. Indeed, the Arctic was even understood to be a masculine space in terms of the Victorian era, where hardy men tested their prowess against nature's worst (see Dittmer et al. 2011)

Beginning from the perspective of a foundational Canadian Studies approach to the North, this report examines the way in which the changing landscape of economic development has been explored in the region. The problem becomes one of tracing how the literature has dealt with issues of development from the perspective of indigenous involvement in expanding economic investment and opportunity. For the most part, the Canadian Studies literature has been more absorbed with identifying and critiquing enduring colonial structures in the North, with little attention paid to how and where such structures have changed. While Berger's frontier/homeland metaphor remains the bedrock of such a literature, Berger's 2003 analysis of the existing development landscape is less studied (Campbell, Fenge & Hanson 2011). It is this

dilemma, we conclude, that challenges us to undertake a more critical read of recent events, including where does the current interest in 'Arctic sovereignty' leave us with respect to resource development and local governance? Where is the Canadian Studies literature positioning this issue as economic development in the Arctic unfolds?

### **Canadian Studies Perspectives on the North**

Northern imagery is fluid, embodies Canadian identity, and represents the changes in the larger political and social contexts of both Canada and the world. While perspectives on the North have changed quite considerably over time and remain different for different groups of people, however, there are also some foundational beliefs. Canadian literature and historical analysis reflects this variety. Early literary works, for example, were largely responsible for creating and perpetuating the imagery of an empty space through representations of a landscape that could only be conquered by overcoming adversity and by conquering the harsh environment (Berger 1966; Grant 2010; Page 1986). The effects of this imagery were twofold: first, a clear distinction was made between those who lived in the North as uncivilized in comparison to European settlers. This perspective was reinforced by a scholarship which reinforced the concept of the 'other' through the lenses of modernity. Second, treks to the North eventually turned from being an adventure to a mission to protect sovereignty claims as explorers from other nations made their way into the North in the 20<sup>th</sup> century in particular (Grant 2010; Page 1986). Such perspectives fit well with the fact that well into the late twentieth century, the Canadian North was still greatly affected by structures and relationships which had their origins in an earlier era of colonialism; colonialism being defined as the "dominance over a separate group of people, who are viewed as subordinate, and their territories, which are presumed to be available for exploitation" (Said 1993: 8). While the era of colonial occupation, (at least for those Canadians of European decent), was effectively over by the mid-19<sup>th</sup> century, and more generally dismantled throughout the globe in the post-World War II era, by the late 20<sup>th</sup> century, many historical Canadian scholars, like Coates (1985) still viewed the political situation within Canada's northern territories as one of effective 'internal' colonialism, in the sense that the state had become the colonial master of its indigenous populations. The perspectives of indigenous scholars (like Alfred and Corntassel 2005 or Nadasdy 2012) were not heard at all.

The colonial relationship lasted somewhat later in Canada's North than it did elsewhere in Canada, (see Eber 1989; Grant 2010; Page 1986) for various reasons. Indeed, northern indigenous peoples still continued to be largely excluded from both land claim and decision-making processes well into the late 20th century (see Campbell, Fenge & Hanson 2011). The outcomes generated a crisis of underdevelopment and human security, which exists, both in the territorial and provincial Norths. Current efforts to settle remaining land claims and to create co-management structures respond to this historical legacy, because "the rights of First Nations to traditional territories and the natural resources therein are ill-defined by both the Canadian governments and the judiciary. The special rights of aboriginal people as guaranteed by treaty are not generally considered when resource development projects are proposed or resource management plans are prepared. Consequently, resources located on aboriginal traditional territory often become the focus for conflict between government, natural resource industries, and First Nation peoples." (Campbell 1996). Indeed, Bone (2008: 83) reminds us that by the late

20<sup>th</sup> century, the establishment of a resource economy in the North resulted in conflict over land but that even more than this, it was a conflict “between goals, preferences and values.”

### **Evolution of Land Claims**

It is now relatively normative to consider that the appropriation of indigenous land was a colonial tool used by the Canadian government through the land treaty process. Basically, agreements were formed to outline rights to land, that while on the surface were supposed to provide equal benefit to the indigenous populations and federal government, they significantly privileged the government and marginalized the indigenous groups (Usher 2003). Treaties 8 and 11, for example, concerned land in Northern Canada, although Treaty 11 covers much more land in the region that belonged to the Dene. In both cases, the Dene did not believe that signing the treaty meant that they were giving up their rights to the land; rather, they saw it as a way of building a relationship with the state (Berger 1977).

In terms of resource development, the government used Treaty 11 as a way to gain access to natural resources for development. However, many of the Dene did not fully understand the value of the resources they on the land covered by the treaties (Fumoleau 2004). The Dene worked to rectify this wrong, and in 1973 both of these treaties were voided based on the differing interpretations of the treaty and because reserve lands were never created as outlined in the treaty (Irlbacher-Fox 2009). In 1994 the Sahtu Dene and Metis reached a new agreement in the Mackenzie Valley area of the NWT.

Elsewhere in the Canadian Arctic, there were no historical treaties, and it was not until the early 20<sup>th</sup> century that the idea of comprehensive land claims developed. The territorial North was neglected in times of peace, and sovereignty asserted by few and scattered RCMP and RCMP posts (Grant 2010). Several subsequent landmark land claims, however, brought the Inuit into the land claims process: beginning with the James Bay and Northern Quebec Agreement of the 1970s, and the Inuvialuit comprehensive land claim, also negotiated in the 1970s. Furthermore, “In the James Bay and Northern Quebec Agreement in 1974, Cree and Inuit exchanged aboriginal rights to land and resources for cash, title to hunting areas, and exclusive hunting and fishing rights in some areas. The James Bay agreement created significant new political institutions and paved the way for expanding co-management elsewhere in Canada and beyond” (Caulfield 2004: 123). Although in other ways the James Bay and Northern Quebec Agreement is not seen as an unqualified success story for the Cree, Innu or Inuit – and although since that time, there have been further arrangements in the region, such as the establishment of the Nunavik regional government – the James Bay Agreement was one of the first steps towards current self-government arrangements in Canada. Followed by the Inuvialuit Settlement Agreement, Nunavut, Nunivak, the Tlicho land settlement, and a number of other new self-governance and territorial arrangements, the era of greater indigenous control and self-governance accompanied the latest rounds of resource extraction in the north. Indeed, in many ways resource development and self-governance were related to each other. In 1984, the Inuvialuit of the Mackenzie Delta, for example “signed an agreement with the federal government that exchanged aboriginal claims for a cash settlement, title to some 91,000 square kilometres of land, and mineral rights. These developments led to the division of the Northwest Territories and the creation of the new Nunavut Territory in 1999. The Nunavut Agreement,

which laid the groundwork for the new territory, was signed in 1993. The latter also provided a settlement of claims and gave Inuit a role in decision making” (ibid.: 123). Thus both Inuit and non-Inuit were involved in the process, which includes much of the Canadian Arctic, and is also well developed in the Northwest Territories. This process to resolve land claims in the 1970s was accompanied by a push for development (Stuhl 2011; Nicol 2013). Nevertheless, the reservations of environmentalists which surfaced in the 1970s, in relation to development within the North, was reinforced by those who felt that development within the Canadian North should not proceed until land claims had been settled (Berger 1977; Christensen & Grant 2007; Watkins 1977).

This was precisely the conclusion of the Berger Inquiry. In wake of the controversial proposed development of the Mackenzie Valley, for example, the Berger Commission visited 35 communities from 1974-1977 to hear the concerns of local residents. This was the first time that the aboriginal voice was really heard with regards to proposed development. The major conclusion of the report is that it challenged the prior images of the North as an empty space when Berger (1977) proclaimed that there were duelling realities in the North – “for one group it is a frontier, for the other a homeland” (xvii). Berger’s comprehensive report covered a multitude of issues, including the environment, culture, the northern economy, and social impacts. The message the report sent was that any new development efforts cannot ignore local indigenous populations because the North is their home, development will not benefit everyone equally, and local indigenous groups will be left to deal with the consequences (Berger 1977).

### **Rethinking Homeland/Frontier**

Since then, the dual perception of the Canadian North as both a resource frontier and homeland for indigenous and non-indigenous communities has been recognized by a number of scholars and practitioners. As such, a distinct Canadian Studies tradition on the North and northern development that began with Thomas Berger’s report on the Mackenzie Valley Pipeline (Berger 1977) has continued with a tradition of writing on development including the work of Coates (1985), Feit (1988) or by geographers like Bone’s *The Geography of the Canadian North* (2012) or even Petrov’s work in Tremblay and Chicoine’s (2013) *The Geographies of Canada* (2013). Such reports and approaches identify the special nature of Canada’s Arctic and sub-Arctic regions, the issues and challenges to its human populations, and the potential threat of large resource-oriented extraction projects like the proposed Mackenzie Valley pipeline in the 1970s, or the Windy Craggy Mine Proposal discussed by Bone in 1992. They recognize the vulnerabilities of the resource economy and advocate greater indigenous involvement in decision-making.

These assessments rightly identified the potential for large-scale environmental destruction and unalterable change to indigenous lifestyles in the north, counterpoising the politics of environment, in this region against the politics of resource extraction industries. Indeed, the political in the Canadian Arctic context was, until the 1990s, generally exclusive of community participation within the development and mitigation processes. In other words, the homeland/frontier dichotomy resonated in a scholarship which was focused on politics and environmental debate. It situated resource development initiatives in terms of known regional economic effects, most of which had been negative for Northerners and Northern environments. DiFrancesco (2000) echoed the comments of the Royal Commission of 1995, in its

assessment that “large non-renewable resource-based projects and heavy infrastructure development” had failed “to create a dynamic regional wage economy” in the North (ibid.: 122). DiFrancesco suggested that the “panoply of economic development initiatives which had been implemented” in places such as Canada’s Northwest Territories would not have the intended developmental results (ibid.: 122), primarily because of the existing political context in which regional development models had been conceived and implemented.

Over a decade later, large-scale resource extraction is still on the agenda in Canada’s northernmost regions, but the development context has changed. The development landscape has been supplemented by several major land claims agreements, like Nunavut and Nunatsiavut, as well as the establishment of Canada’s Northern Economic Strategy, its Northern Economic Development Agency and its roster of initiatives designed to encourage just such investment and development. Still, the problems are similar with respect to the potential economic and environmental legacy of extractive activities in the North, including the issue of oil and gas development in the Mackenzie Valley. Richard Caulfield (2004) has observed that since the 1970s the context of development has clearly changed, as have the management practices and overall assessment processes. The land claims have, by and large, been negotiated. Recent land claims settlements in North America, and specifically in the Canadian North, have now placed millions of square kilometres in the North, “in the hands of for-profit and non-profit entities controlled by indigenous peoples.” These corporations, Caulfield notes, “control vast resources, and they interact actively with both public and private resource governance institutions” (Caulfield 2004: 122).

It is here, again, that a Canadian Studies approach to the North distinguishes itself. While IR literature is generally concerned with the relationship between states and corporate stakeholders in the Arctic (see Wegge 2011; Dodds 2010; Borgerson 2008), the Canadian literature is more strongly focused upon the constituent parts which contribute to the Canadian state’s position in the North (see White 2008; Heininen & Nicol, 2007; Stuhl 2013; Grant 2010; Coates et al. 2008). The understanding of the relationship between state or national agency and governance issues, including regional land claims and indigenous self-government (Loukacheva 2007; Fenge 2008), as well as a running critique of the problematic consequences of state-centred definitions of sovereignty (Grant 1991; Nicol 2010; Nicol 2013) are well developed. A similar, but less developed literature distinguishes itself in debates surrounding the current landscape of economic development within the contemporary Canadian North, certainly in parts of the Western if not the entire Arctic and sub-Arctic region. While, as Caulfield (2004) notes, development of non-renewable resources such as oil and gas, gold, lead, zinc, and diamonds have had a profound impact on the livelihoods of Arctic peoples”, it is not just the fact of development that is important: rather it is the context within which exploration and resource development occurs which is crucial. Furthermore, “[e]arly development was often associated with colonization and exploitation, where Arctic residents, who lacked recognized rights to resources, benefited little but paid substantial costs in terms of environmental impacts and loss of power. With growing attention given to indigenous land claims, resource rights, and self-determination, some Arctic peoples are now finding ways to engage productively in non-renewable resource extraction” (Caulfield 2004: 122). The unqualified belief that ‘development is bad for the North’ has little credibility, even among indigenous groups. For those outside the Canadian Arctic, attempting to make sense of the politics of development, it is important to

understand that indigenous land claims – and specifically those which lead to self-governance, accompanied by more explicit control of rights to land ownership or use – are central to the new landscape of mega-project development within the Canadian North. While the long term sustainability of a wage economy linked to resource extraction for local communities is often uncertain (i.e. boom and bust cycles), the question of how revenues are shared, how investment is designated, and how control over resource extraction is regulated rests upon the success of indigenous self-governance and the consultative process it has encouraged. It is the management of the latter which, to a larger degree, influences the success of the former. As such, a new and distinctive concern with co-management of resources has complemented the rise of an indigenous studies component in Canadian Studies which is distinctively focused upon development and the North (see Campbell 1996; White 2008; Natcher and Davis 2003; Natcher 2013), of which there are approximately 34 in all of Nunavut, the NWT and the Yukon (Natcher 2013). But, as Campbell, Fenge & Hanson (2011) remind us, there seems to be a false consensus that if the problem of frontier/homeland has been assessed politically, the problem of economic development impacts and benefits is under control. Nunavut's creation did not end the problem of self-governance in the North, nor the sharing of development benefits. Instead, there is a new complexity and intertwining of issues which is as yet, poorly addressed. This relates not just to the idea that development is inherently 'good' or 'bad' for indigenous communities and environments, depending upon whether land claims are in place, but rather how developmental frameworks continue to be manipulated in ways which lessen their potential ability to resolve the crisis of underdevelopment within First Nation communities in the Canadian North.

To better appreciate this claim, which is that the Canadian Studies literature has remained rather simplistic in its analysis of Northern development issues and focused upon seminal research in need of reassessment in contemporary terms, we need to think about three important issues. The first is whether there is any evidence to support the idea that a lens on economic development has *not* developed in the Canadian Studies literature. This is the case – only about two per cent of articles in the three flagship journals which reflect the state of Canadian studies both at home and abroad discuss the Canadian North, and of these, only two articles explicitly examine economic development issues. These are the *Journal of Canadian Studies*, *The American Review of Canadian Studies*, and the *Intentional Journal of Canadian Studies*. Approximately 600 articles have appeared over the past ten years which reference the Arctic, and while next to none deal specifically with economic development, there is limited concern, more generally, for environment and governance issues. In general, while there are several other important journals which are directed specifically to the study of the Canadian and International North which do contain more explicit discussion of economic development issues, as well as single discipline publications which discuss development issues, in general Canadian Studies literature as a interdisciplinary field have avoided the topic.

The second issue to think about is how development is now being promoted in context of existing arrangements for self-determination within the North. Much of the literature on development is actually embedded in articles which define identity, political developments. This is true even within the Canadian studies journals explored, where land claims and sovereignty arrangements were the venue for explaining economic development issues. But even so, and this speaks to the last point, even where political discussions address development issues, there is little discussion of the economic context in type of decisions which are being made, specifically

the way in which federal agencies are creating a development agenda which has at its heart, a neo-liberal development agenda, and which, as such, has very important ramifications for community development itself.

### **Models for Development: Two Different Visions**

Reservations about economic, social or environmental consequences of specific projects in the North should not be confused with lack of support for development in general. Indigenous governments are very mindful of the role of resource industries in providing new economic opportunities in the western Canadian Arctic, particularly in the area of employment. Bone (2008) reminds us that while such development may indeed not be sustainable, and comes with a high price tag, there is a new understanding of the way in which resource development promotes economic development precisely because the nature of the global economy and commodity demands and prices have changed so much in recent years. Still, for Bone, there are predictable and intractable problems with reliance upon extractive industries for general economic diversification in the North, and this is a belief shared by many. While some agencies, for example, the Conference Board of Canada, or even diamond mining enterprises like Diavak, or Enkati, paint a promising picture of Northern development, this is not always the reality. When the Polaris and Nanisivik mines in Nunavut closed, they devastated the local communities as people lost their jobs, and there was a spike in substance use (Bowes-Lyon et al. 2010). Furthermore, it was found that any jobs skills developed in the mines were industry specific and not transferable, which calls into question the benefits of skills training the Conference Board (2011) promotes.

A 2010 study by Petrov also looked at the consequences of mine closures, specifically focusing on the Faro and Beaver Creek mines in the Yukon. Petrov (2010) stressed the resource industry in the North is not stable and goes through waves of decline, which are devastating for the local economy. Petrov found that not only did the resource industry suffer, but so did sectors that were both related to mining and sectors that were not, such as entertainment and tourism. These declines resulted in a declining GDP for the territory at a rate of 11.2% per year from 1997 to 2002.

On the other hand, indigenous communities are eager to make decisions regarding the admissibility of such projects, and in doing so play a larger decision-making role. The landscape of megaprojects, defined by Bone (2012: 171), indicates that virtually all are created by outside interest and investment. There are, of course groups such as the Aboriginal Pipeline Group, which have formally established themselves as part of the potential landscape of economic investors should the Mackenzie Valley pipeline move forward. In other areas, through the management and investment of settlement funds, northern groups have made considerable progress and investment in the North. The magnitude of growth in this area is suggested by I and D Management statistics. I and D was formed in 2002 in partnership with Diavak mines (Rio Tinto). It represents 4 indigenous groups, including the Tlicho Investment Corporation, and has today 72% of mine employment comprised of aboriginal employees – 43% for “impact communities” (I and D, pers. Com. 2009). Since 2002, I and D has more than doubled its

workforce in Diavak, employing indigenous and northerners at all levels of production, while in 2008 unemployment stood at 5.4% – a remarkable feat when compared to 17.4% in 2001 (Up Here Business 2008: 28) or 13.7% in 1999. Similarly, transfer payments account for 70% of the territories total expected revenue, again down from closer to 80%, or more, in previous decades. Indeed, the diamond mines are estimated by some locals to provide for as many as 2000 jobs region-wide, and have significantly changed the perception of locals towards their ability to become regionally self-sufficient, decreasing welfare dependency and creating the potential for a more materially affluent standard of living. There is, however, a very real problem in that every group, from indigenous governments to industry, recognizes, which is that the nature of the diamond industry is not sustainable. Jobs created by diamond mines, and the boom in construction, infrastructure development and ancillary economic activities to expand a growing and more affluent population is limited. Estimates of 20 to 40 years are given, depending upon the ability of the major corporate players like De Beers, Rio Tinto or BHP Billiton to maintain diamond mining activities in the face of a volatile global market and in the face of what may be increasingly expensive underground mining activities rather than open pit or surface pipe mining operations.

So the issue of sustainability remains a difficult one, but as far as sharing the wealth, a new landscape is emerging. Several types of agreements in place which attempt to change the exploitative nature of mining itself. These are the social and economic agreements negotiated with governments, and the IBAs (Impact Benefit Agreements) negotiated with individual communities, where, unlike the co-management boards, indigenous groups are ready and able to enter into negotiations directly with corporate investors, to gather some of the benefits of development on impact (and often even on non-impact) lands.

This is an area in which Canadian Studies scholars are only beginning to invest time and effort. Similarly, the relationship between co-management boards and decision-making is also emerging as a research area. Co-management boards appeared to pave the way for future development for indigenous populations, although few scholars were sufficiently versed in the complexity of these agreements to provide insightful analysis (see Graben 2011; White 2008; Natcher & Davis 2003). Co-management is, potentially, a process of shared stewardship or responsibility between indigenous and non-indigenous actors, the latter including regional and territorial government personnel. Co-Management boards are designed to deal with the licencing of “most undertakings related to the use of land, water, and wildlife in their respective regions or to make recommendations related to environmental impacts” (Graben 2011). Campbell (1996) shows that co-management first developed as a concept in the early 1980s, but that although institutionalized ‘co-management agreements’ had been developed in context of settlements involving aboriginal people in Québec and in the northern territories, “the experience of co-management in Québec was extremely limited and highly criticized”. By 1984, however, with the signing of the Inuvialuit Final Agreement, co-management had evolved. For Campbell it was the IFA model which served to define subsequent understandings:

The terms of the IFA included a lump-sum compensation payment, the equivalent of full title to lands in and around the six Western Arctic communities of Inuvik, Aklavik, Tuktoyaktuk, Paulatuk, Sachs Harbour and Holman (Category I lands: 11 000 sq. km), and shared or joint management of resources on additional territory (Category II lands: 78 000 sq. km) (Dickerson, 1992: 103). Boards and committees

established under the IFA to administer Category I and II lands and resources are unique in Canada. They include the Fisheries Joint Management Committee, the Wildlife Management Advisory Council (NWT), the Wildlife Management Council (North Slope), the Environmental Impact Screening Committee, and the Environmental Impact Review Board. Joint management on these boards and committees is accomplished through a 50% Inuvialuit representation. Consensus-based, they employ non adversarial methods of negotiation, and enjoy a reputation of being successful from both state and industry perspectives. In addition, each community developed its own conservation and management plans that are consistent with the regional plan developed in 1988 (Campbell, 1996).

The IFA model has been reproduced elsewhere in the North. The result is an increasing number of boards, both regulatory and advisory, which have authority over economic development and its environmental impacts. Co-management boards are now found throughout all land claims areas, including Nunavut and Nunatsiavut, with differing degrees of indigenous voice and influence. The structure and function of co-management boards is quite variable, nonetheless. Some, like the Nunavut Wildlife Management Board, are created by land claim agreements themselves, and some by federal legislation, such as the Mackenzie Valley Land and Water Board, or the Gwich'in Land Use Planning Board (White 2008). For some stakeholders, such as those invested in corporate development agendas, this creates an "over-regulated" development environment (McCrank 2008), while to others this represents a move towards more equitable and sensitive response to the need for greater civil participation within the NWT, particularly with respect to environmental and development issues (White 2008) – despite gender inequalities in representation (Natcher 2013).

While co-management has increasingly been the model whereby both indigenous and non-indigenous review panels and boards evaluate environmental oversight, most co-management boards' concerns are limited largely to environment, wildlife and land and environmental issues, rather than education, health, or social welfare, with the Mackenzie Valley Environmental Impact Review Board being exceptional in that it has broader powers (White 2008: 72). In total, approximately 34 co-management boards exist across the Canadian territorial North. For example, in the NWT there are several such regulatory regimes established as a result of both the IFA and the subsequent Gwich'in, Sahtu and Tlicho final agreements. The latter set of agreements saw co-management boards relating to each claim entrenched in the [Mackenzie Valley Resource Management Act](#). Arguably one of the most important co-management regimes, created as a result of "The Mackenzie Valley Resources Management Act (MVRMA)", it has allowed "authorities to co-management boards to carry out land use planning, regulate the use of land and water and, if required conduct environmental assessments and reviews of large or complex projects. It also provides for the creation of a Cumulative Impact Monitoring Program (the NT CIMP) and an environmental audit to be conducted once every five years", thereby allowing for a more robust management system (see MVRMA).

The resulting landscape of regulation and control thus established were complex and often scattered, responding to local community issues under the umbrella of broader regional initiatives (see White 2008; Campbell, Fenge & Hanson 2011). Indeed, there were four land and water boards entrenched within the MVRMA, and these included the Gwich'in Land and Water

Board, the Sahtu Land and Water Board, the Wek'eezhii Land and Water Board; and the Mackenzie Valley Land and Water Board.

These land and water boards were designed to undertake monitoring and permitting programs as specified in the planning and co-management negotiated with the Government of the Northwest Territory and indigenous peoples. As White (2008) has indicated, their role was designed to 'regulate the use of land and water, and the deposit of waste, through the issuance and management of Land Use Permits and Water Licences'. For example, for the Gwich'in Tribal Council, this meant that it has the right "to sit on any board that is set up to carry out environmental monitoring and testing within the Gwich'in Settlement Area. If a government department is given the responsibility for this, they must work with the Gwich'in Tribal Council." (<http://gwichintribalcouncil.com/cmb/>).

White maintains that despite their flaws, the co-management boards have seemed to provide traction for greater indigenous voice in decision-making. He observes, however, that their faults are many: "Individual boards exhibit serious flaws (and some have been painfully dysfunctional), while systematic problems and shortcomings are evident across the entire range of land-claim boards. Among other things, they have been criticized for providing little more than token aboriginal influence over land and wildlife decisions, for remaining (via funding arrangements and appointment provisions) essentially under the control of the federal government (or, less frequently, the territorial governments) and, perhaps most damningly, for undercutting rather than enhancing aboriginal peoples' self-determination and autonomy by enmeshing them in Western modes of thought and behaviour " (White, 2008, 72).

Indeed, the failure of co-management boards to live up to their potential has also been identified by a number of authors, as has been the minority structure of many of these boards where indigenous representation has been achieved (White, 2008; see also Natcher and Davis, 2003; 2011). In many cases, indigenous knowledge has not been incorporated into decision-making (Graben, 2011; Natcher and Davis, 2003).

The point here is that there is no longer a simple dichotomy of 'development is bad' or 'development is good'. This analysis allows us to explore more closely the political economy landscape in which economic development initiatives in the North are situated. At this point it is important to note that the literature resulting from a Canadian Studies approach to economic development in the North closely situated the goals of development as dependent upon the efficacy of local governance, land claims and co-management structures and relationships. Scholarly and indigenous assessments as to the positive (White, 2008) or negative (Alfred and Corntassel, 2005) outcomes of the process were varied, but there was essential agreement on the fact that land claims, co-management boards, and the political agenda of indigenous self-governance in the North was essentially the best way to proceed.

Moreover, the point is that the Canadian Studies literature, in general, has been reluctant to dig deeper, and it is only by digging deeper that a real assessment of the way in which development could and should proceed can be made. Instead, it remains focused upon colonial structures and identity/sovereignty narratives.

Since the mid to late 2010's, however, there has been a fundamental shift in the landscape of regulatory control and the visioning of economic development policies. Since the time that the land and water boards were established, and co-management became normative, however, two significant events have happened. First, a political agenda of neoliberalism was advanced specifically for northern territorial development, and secondly, territorial devolution was put forward. In both instances the relationship between development and political agency were oriented towards serving broad corporate interests to enhance opportunities for large-scale regional investment. The Conference Board of Canada (2011), for example, argues that resource development in the North will provide employment and bring revenue into the territories. Indeed, the Conference Board (2011) states that many northern communities want to participate in development projects, not just as employees, but as participants throughout the whole process. It is this type of logic which has also seen a broader strategy of development in the form of the Federal Government's Northern Strategy, its organization of Canada's Northern Economic Development Agency (CAN NOR), and its business agenda as a platform for the Canadian Arctic Council Chairmanship in 2013. Both of these events were influenced by a Conservative Federal Government's approach to the North as laid out in its ['Northern Strategy'](#) (see [Northern Strategy](#)). The same strategy left the provincial powers more vulnerable and dependent. All un-owned land and resource royalties in the territories has been under federal not territorial control, meaning that the territories did not have access to them the same way provinces would. The devolution of powers of control over natural resources creates considerable opportunity for territorial governments to generate income through larger shares of resource bonanzas.

Building upon this model, recent policy and legislation initiated by both federal and territorial governments has contributed to a reassessment of co-management structures. This is why (beginning in 2003, with revisions to the Yukon Act which that led to devolution of resource management authority to the Yukon, and continuing today with the devolution of similar powers to the NWT as well as the continuing accommodation of the role of and claims agreements towards similar ends) economic development needs to be understood in institutional and political context. The structure of local power arrangements has always been instrumental in the way in which the benefits of development have been embedded, or not, within northern communities.

In April 2003, for example, the Yukon Act ensured devolution of resource management. Much like a provincial government, it gained control over its natural resources. This gives the Yukon the right to collect royalties on Crown land owned by the federal government. In a development climate here large areas of Crown land are being explored and potentially invested in for their natural resource development, such a new territorial power is substantive. It meant that monies which would have previously flowed out of the north, to the benefit of those elsewhere in the nation, are now directly retained by the Yukon Territory. Similarly, the Northwest Territories have now seen gains on territorial powers as a new devolution agreement was reached in 2014 (see Anthony Specca's commentary in this Yearbook).

For the Yukon and the Northwest Territories, there have been significant gains associated with devolution agreements recently concluded. Devolution and the landscape of land claim agreements is instrumental to economic development processes in the Canadian North. There is

also a significant impact for indigenous governance exerted by this devolutionary process. The new devolution act in the Northwest Territories, for example, does away with local land and water boards negotiated as part of the land claims agreements. The Devolution Act combines all boards into a single land and water board, made up of members from across the territory. The rationale is ‘regulatory simplification’, and was first articulated by McCrank in 2008.

Devolution and the deregulation is thus consistent with what could be termed a new neoliberal approach to Northern economic development, brought to bear by the current Harper Government. This agenda builds upon what the federal government calls its “Northern Strategy”, introduced in 2007. The goals of this strategy were articulated in 2009, in *Canada's Northern Strategy: Our North, Our Heritage, Our Future*. Cornerstone pieces of this agenda also include the Economic Action Plan, and the 2010 Northern Jobs and Growth Act. The latter impacts upon the Nunavut Planning and Project Assessment Act and the Northwest Territories Surface Rights Board Act, along with amendments related to the Yukon Surface Rights Board Act. While the intent of the Northern Jobs and Growth Act is partly to meet the Government of Canada’s outstanding legislative obligations under the Nunavut Land Claims Agreement and the Gwich’in and Sahtu Land Claim Agreements, it also is very invested in streamlining and improving regulatory processes in the North – and is therefore very much an outcome of projects such as the McCrank Report of 2008.

## Conclusions

If we return to our original framework – looking at this process of development and devolution from a ‘Canadian Studies’ perspective, what results is a web of development discourses and initiatives which are not easily reduced to a single framework of analysis. Development agendas which create new relationships between citizens, states, corporations, environment and resources, and responding to a social agenda which increasingly legitimizes and calls for strengthened indigenous involvement and self-determination. Canada’s Arctic is now looking very much like many other ‘underdeveloped’ regions – that is to say communities undergoing considerable developmental pressure while being caught up in a development agenda directed from distant capitals. Still, the development agenda is intersected by a rising indigenous rights agenda, strong new voices from a multitude of local, regional and global lobby and stakeholder groups. It is in this context that we return to the idea of ‘sovereignty’. Indeed it the latter, ‘sovereignty’, which tends to occupy the Canadian Studies literature (Byers 2010; Huebert 2010; Coates et al. 2008) focus on the north more substantively than ‘economic development’. Partly, this is because the legacy of Canadian Studies itself has linked political economy to state, and has either romanticized or villainized resource extraction industries, depending upon whether state or indigenous interests are described. Berger’s inquiry, for example, seemed to suggest to many that economic development was not in the interests of indigenous peoples and northerners, and therefore all development was bad, although this is not exactly what Berger said. This essentialization and polarization of the two perspectives has left interest in mapping the less exciting, but more important, minutia of the landscape of development to fewer scholars, like Campbell (1996), Fenge and Hason (2011), Robidoux (2004), Bone (2012), DiFrancesco (2000), Petrov (2010; 2013), or indigenous writers whose work is less accessed by mainstream academia. It also competes with larger nation-building narratives and state agency, particularly in terms of the state’s colonial legacy – and it is the latter of these that we have found particularly compelling

over time and in which we have invested most of our scholarly efforts. Campbell, Fenge & Hason (2011) see this as an obsession with the political lens of Arctic academia, and perhaps in this assessment they are correct.

Berger (2005, 2006) himself has argued only recently that the fact of land claim agreements has not resolved the very real and complex issues that face northern communities in their assertion to have some control over their own fate. The holding status of devolution for Nunavut is a case in point. Development and its environmental impacts are important areas of fate control. The way in which regulatory boards have been established, funded, also plays a role. The federal government has not lived up to many of its solicitations, and as such this jeopardizes much meaningful development discourse, development for which many indigenous and non-indigenous Northerners are anxious for. This, we believe, is an important topic in which 'Canadianists' should engage.

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## References

- Alfred, T. & J. Corntassel, (2005). Being indigenous: Resurgences against contemporary colonialism. *Government and Opposition*. 40(4): 597-614.
- Altamirano-Jiminez, I. (2004). North American First Peoples: Slipping Up Into Market Citizenship? *Citizenship Studies*. 8(4): 349-365.
- Armitage, D., et al. (2011). Co-Management and the Co-Production of Knowledge: Learning to Adapt in Canada's Arctic. *Global Environmental Change*. 21: 995-1004.
- Asch, M. (1992). Capital Economic Development: A Critical Appraisal of the Recommendations of the Mackenzie Valley Pipeline Commission. In B.A. Cox (ed.). *Native People, Native Lands: Canadian Indians, Inuit, Metis*. (pp. 232-240). Montreal: McGill-Queen's University Press.
- Berger, C. (1966). The True North, Strong and Free. In P. Russell (ed.). *Nationalism in Canada* (pp. 3-26). Toronto: McGraw-Hill.
- Berger, T.R. (1977). *Northern Frontier, Northern Homeland: Report of the Mackenzie Valley Pipeline Inquiry*. Ottawa: Supply Services Canada.
- Berger, T.R. (2005, August 31). Conciliator's Interim Report: Nunavut Land Claims Agreement Implementation, Contract Negotiations for the Second Planning Period. Retrieved from <http://www.tunngavik.com/category/publications/implementation>.

- Berger, T.R. (2006, March 1). Conciliator's Final Report: Nunavut Land Claims Agreement Implementation, Contract Negotiations for the Second Planning Period. Retrieved from [www.tunnigavik.com/category/publications/implementation](http://www.tunnigavik.com/category/publications/implementation).
- Bone, Robert M. (2012). *The Canadian North issues and Challenges* (5<sup>th</sup> ed.). Oxford: Oxford University Press.
- Borgerson, S.G. (2008, March). Arctic Meltdown: The Economic and Security Implications of Global Warming. *Foreign Affairs*. Retrieved from <http://www.foreignaffairs.com/articles/63222/scott-g-borgerson/arctic-meltdown>.
- Bowes-Lyon, L-M., et al. (2010). Socio-Economic Impacts of the Nanisivik and Polaris Mines, Nunavut, Canada. *Mining, Society, and a Sustainable World*. 371-396.
- Byers, M. 2009. *Who Owns the Arctic?: Understanding Sovereignty Disputes in the North*. Vancouver: Douglas & McIntyre.
- Campbell, T. (1996). Co-management of Aboriginal Resources. *Information North*. 22(1).
- Campbell, A., Fenge, T and U. Hanson. (2011). Implementing the 1993 Nunavut Land Claims. *Arctic Review on Law and Politics*. 1(2): 25-51.
- Canada. Government of. (2010). *Arctic Foreign Policy Statement*. Retrived from [http://www.international.gc.ca/polar-polaire/canada\\_arctic\\_foreign\\_policy\\_booklet-la\\_politique\\_etrangere\\_du\\_canada\\_pour\\_arctique\\_livret.aspx?lang=eng&view=d](http://www.international.gc.ca/polar-polaire/canada_arctic_foreign_policy_booklet-la_politique_etrangere_du_canada_pour_arctique_livret.aspx?lang=eng&view=d).
- Caulfield, R.A. (2004). Resource Development. In *Arctic Human Development Report 2004* (AHDR) (121-138). Akureyri: Stefansson Arctic Institute.
- Charter, A. (2012). Beyond the “Golly-Gee” Stage: The Inspiration of Academics who Study Arctic Sovereignty. *International Journal*. 67(3): 831-847.
- Christensen, J. & Grant, M. (2007). How Political Change Paved the Way for Indigenous Knowledge: The Mackenzie Valley Resource Management Act. *Arctic*. 60(2): 115-123.
- Cizek, P. (2005, March/April). Northern Pipe-Dreams, Northern Nightmares: The Second Coming of the Mackenzie Valley Pipeline. *Canadian Dimensions*. 36-41.
- Coates, K. (1985). *Canada's Colonies: A History of the Yukon and Northwest Territories*. Toronto: James Lorimer and Company.
- Coates, K., P.W. Lackenbauer, B. Morrison and G. Poelzer. (2008). *Arctic Front: Defending Canada in the far North*. Markham: Thomas Allen Publishers.
- Coates, K. & G. Poelzer. (2014, April 22). Completing Confederation – The North Wants In. *National Post*. Retrieved from <http://fullcomment.nationalpost.com/2014/04/22/coates-poelzer-completing-confederation-the-north-wants-in/>.
- Conference Board of Canada. (2011). *Striking a Balance: Impacts of Major Resource Projects in the North*. Ottawa: Conference Board of Canada.
- Conference Board of Canada. (2010). *Security in Canada's North: Looking Beyond Arctic Sovereignty*. Ottawa: Conference Board of Canada.

- R. J. DiFrancesco. (2000). A Diamond in the Rough?: An Examination of the Issues Surrounding the Development of the Northwest Territories. *The Canadian Geographer*. 44(2): 114-134.
- Dittmer, J., S. Moiso, A. Ingram and K. Dodds. (2012). Have you heard the one about the disappearing ice? Recasting Arctic geopolitics. *Political Geography*. 30(4): 202-214.
- Dodds, K. (2010). Flag planting and finger pointing: The Law of the Sea, the Arctic and the political geographies of the outer continental shelf. *Political Geography*. 29(2): 63-73
- Eber, D.H. (1989). *When the Whalers Were Up North: Inuit Memories from the Eastern Arctic*. Montreal: McGill-Queen's Press.
- Exner-Pirot, H. (2012). Human Security in the Arctic: The Foundation of Regional Cooperation. *Working Papers on Arctic Security No. 1*. Toronto: Munk-Gordon Arctic Security Program. Retrieved from <http://gordonfoundation.ca/publication/537>.
- Feit, H.A. (1998). Reflections on local knowledge and wildlife resource management: differences, dominance, and decentralization. In *Aboriginal environmental knowledge in the North: Definitions and dimensions* (pp. 123-148). Quebec: University of Laval. Groupe d'études inuit et circumpolaires. Retrieved from <http://www.culturalsurvival.org/publications/cultural-survival-quarterly/canada/decolonizing-co-management-northern-canada#sthash.dIFGW59x.dpuf>.
- Fenge, T. (2008). Inuit and the Nunavut Land Claims Agreement: Supporting Canada's Arctic Sovereignty. *Policy Options*. December 2007-January 2008: 84-88. Retrieved from <http://www.irpp.org/po/archive/dec07/fenge.pdf>.
- Fumoleau, R. (2004). *As Long As This Land Shall Last: A History of Treaty 8 and Treaty 11, 1870-1939*. Calgary: University of Calgary Press.
- Graben, S. (2011). Living in Perfect Harmony: Harmonizing Sub-Artic Co-Management through Judicial Review. *Osgoode Hall Law Journal*. 49(2): 199-236. Retrieved from <http://digitalcommons.osgoode.yorku.ca/ohlj/vol49/iss2/1>
- Grant, S.D. (1991, Spring). A Case of Compounded Error: The Inuit Resettlement Project, 1953, and the Government Response, 1990. *Northern Perspectives*. 19(1): 3-29.
- Grant, S. (2010). *Polar Imperative: A History of Arctic Sovereignty in North America*. Toronto: Douglas & McIntyre.
- Greaves, W. (2011/2012). For Whom, For What? Canada's Arctic Policy and the Narrowing of Human Security. *International Journal*. 67(1): 219-240.
- Heininen, L. & H.N. Nicol. 2007. The importance of northern dimension foreign policies in the geopolitics of the circumpolar North. *Geopolitics*. 12: 133-165.
- Huebert, R. (2010, March). The Newly Emerging Arctic Security Environment. Prepared for the Canadian Defence & Foreign Affairs Institute (CDFAI). Retrieved from <http://www.cdfai.org/PDF/The%20Newly%20Emerging%20Arctic%20Security%20Environment.pdf>.

- Irlbacher-Fox, S. (2009). *Funding Dasha: Self-Government, Social Suffering and Aboriginal Policy in Canada*. Vancouver: UBC Press.
- Laidler, G. J and Petrov, A. 2013. The North, Balancing Tradition and Change. In R. Tremblay & H. Chicoine (eds.) *The Geographies of Canada*. (pp. 393-452). Brussels: P.I.E. Peter Lang.
- Loukacheva, N. (2007, Spring). Nunavut and Canadian Arctic Sovereignty. *Journal of Canadian Studies*. 43(2): 82-108.
- MVRMA: *Mackenzie Valley Resource Management Act* (<http://wlwb.ca/content/co-management>).
- MVLWB: *Mackenzie Valley Land and Water Boards*.  
<http://wlwb.ca/sites/default/files/images/Figure-2-The-Land-and-Water-Boards-of-the-Mackenzie-Valley-cropped.jpg>.
- McCrank, N. (2008). Road to Improvement. The Review of the Regulatory Systems Across the North. Ottawa: Indian and Northern Affairs Canada. Retrieved from <http://slwb.com/sites/default/files/mvlwb/documents/McCrank-Report.pdf>.
- Mifflin, M. (2008). Canada's Arctic Sovereignty and Nunavut's Place in the Federation. *Policy Options*, 29(7), 86.
- Nadasdy, P. (2012). Boundaries among Kin: Sovereignty, the Modern Treaty Process, and the Rise of Ethno-Territorial Nationalism Among Yukon First Nations. *Comparative Studies in Society and History*. 54(3): 499-532.
- Natcher, D.C. (2013, June). Gender and Resource Co-Management in Northern Canada Arctic. 66(2): 218 – 221.
- Natcher, D.C. & S. Davis. (2003). Rethinking devolution: Emerging challenges for aboriginal resource management in the Yukon Territory. Paper submitted to Sustainable Forest Management Network Working Paper Series. Retrieved from <http://www.culturalsurvival.org/publications/cultural-survival-quarterly/canada/decolonizing-co-management-northern-canada#sthash.dIFGW59x.dpuf>
- Nicol, H.N. (2010). Reframing Sovereignty: Indigenous People and Arctic States. *Political Geography*, 29(2): 78-80.
- Nicol, H.N. (2013) Natural News, State Discourses and the Canadian Arctic. In *Arctic Yearbook 2013*. L. Heininen, H.E. Pirot & J. Plouffe (eds). Akureyri, Iceland: Northern Research Forum. Retrieved from [http://www.arcticyearbook.com/images/Articles2013/NICOL%20AY13\\_FINAL.pdf](http://www.arcticyearbook.com/images/Articles2013/NICOL%20AY13_FINAL.pdf)
- Northern Strategy (Canada's Northern Strategy). *Government of Canada*. Retrieved from <http://www.northernstrategy.gc.ca/cns/au-eng.asp>.
- Northwest Territories. (n.d.). Aboriginal Self-Government in the Northwest Territories. Retrieved from <http://www.gov.nt.ca/publications/asg/pdfs/abor.pdf>.
- Page, R. (1986). *Northern Development: The Canadian Dilemma*. Toronto: McClelland and Stewart.
- Palosaari, T. (2012). The Amazing Race. *Nordica Geographical Publications*. 40(4): 13-30.

- Petrov, A. (2010). Post-staple Bust: Modeling Economic Effects of Mine Closures and Post-Mine Demographic Shift in an Arctic Economy (Yukon). *Polar Geography*. 33(1-2): 39-61.
- Privy Council Office (Canada). (2010). Difference Between Canadian Provinces and Territories. Retrieved from: <http://www.pco-bcp.gc.ca/aia/index.asp?lang=eng&page=provterr&sub=difference&doc=difference-eng.htm>
- Querenguesser, T. J. (2013). Boundaries of Identity: The boundaries of unity: Implications of proposed reforms to the Mackenzie Valley Resource Management Act for the future boundaries of the Northwest Territories. Unpublished MRP. Trent University, Peterborough, Ontario, Canada.
- Robidoux, M.C. (2004). Geomatics and Traditional Knowledge – Liidlii Ku'e First Nation. International Federation of Surveyors, article of the month. [http://www.fig.net/pub/monthly\\_articles/october\\_2004/robideux\\_october\\_2004.htm](http://www.fig.net/pub/monthly_articles/october_2004/robideux_october_2004.htm). Accessed Nov 6, 2009
- Said, E. (1993). *Culture and Imperialism*. London: Vintage Books.
- Simon, M. (2009). Inuit and the Canadian Arctic: Sovereignty Begins at Home. *Journal of Canadian Studies*. 43(2): 250-263.
- Stevenson, M. 2004. Decolonizing Co-management in Northern Canada. *Cultural Survival Quarterly*. 28(1): 68–72.
- Stuhl, A. (2013). The Politics of the New North: Putting History and Geography at Stake in Arctic Futures. *The Polar Journal*. 3(1): 94-119.
- Usher, P.J. (2003). Environment, Race, and Nation Reconsidered: Reflections on Aboriginal Land Claims in Canada. *The Canadian Geographer*. 47(4): 365-382.
- Vongdouangchanh, Bea. 2006. Cabinet Waiting for Defense Department's 10-Year Arctic Military Plan: O'Connor. October 16, *Policy Briefing: Canada's North*. Retrieved from [www.hilltimes.com/pb/view/2006-10-16](http://www.hilltimes.com/pb/view/2006-10-16) on July 1, 2013.
- Watkins, M. (ed.). (1977). *Dene Nation – The Colony Within*. Toronto: University of Toronto Press.
- Wegge, N. (2010). The political order in the Arctic: power structures, regimes and influence. *Polar Record*. 47(241): 165-176.
- White, G. (2008). “Not the Almighty”: Evaluating Aboriginal Influence in Northern Land-Claim Boards. *Arctic*. 61 (suppl.1): 7-85.
- Young, O. (2012, Fall/Winter). Arctic Politics in an Era of Global Change. *Brown Journal of World Affairs*. XIX(1). Retrieved from <http://www.highbeam.com/doc/1P3-2943034231.html>.

## **Section IV**

# **Thematic Network on Geopolitics and Security Updates**

## Thematic Network Update

# CALOTTE ACADEMY 2014: RESOURCE GEOPOLITICS, SOVEREIGNTIES & CROSS-BORDER ARCTIC DIALOGUE

Hanna Lempinen & Joël Plouffe

For over twenty years now, the [Calotte Academy](#) (CA) has been organized as an international symposium that travels across borders in the Euro-Arctic as a means to initiate and sustain dialogue on Arctic security and geopolitics with researchers and practitioners. In 2014, the CA took place during the first week of June with a focus on key issues under the umbrella of this year's theme: *Resource Geopolitics – Sovereignty*. The CA consisted of 10 working sessions held in Rovaniemi and Inari, Finland; in Kirkenes, Norway; and in Murmansk and Apatity, Russia. Altogether nearly 40 participants from 10 countries as well as local stakeholders from the towns and cities we visited took part in the working sessions.

Similar to last's year's CA, the High North went through record warm temperatures for early June in 2014, reaching almost thirty degrees at Murmansk! It is definitely perfect weather for continued dialogue under the midnight sun after a full day of sessions, or even for fieldwork in

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the Kola Peninsula. Then again, it is another reminder of extreme weather patterns witnessed throughout the Arctic.

### State Sovereignty(ies), Indigenous Rights & Local Voices



Issues related to sovereignty were a central theme of CA 2014, as one of the aims of the discussions was to reflect on, re(de)fine and (re)conceptualize the notion of sovereignty in order to include ideas and values coming from indigenous interpretations and non-governmental perspectives. The goal of such a broad discussion was to introduce and debate changing understandings of security premises and paradigms in a very constructive way.

Especially the rights of indigenous peoples ranging from individual and group rights, to rights to protect native languages and culture, livelihoods, and land were all topics brought to the fore, equally in the context of national policies and legislation, regional developments and programmes, and localized decisions over resource utilization, management and distribution of revenues. Discussion revolved also around the controversial issue of defining *indigenouness* as well as the position, voice and rights of non-indigenous northerners.

### Levels & Scales

During the Academy, the overarching issues were discussed both in very localized contexts – even through case studies focusing on individual communities – as well as in broader terms. Questions such as cross-border cooperation and communication in the context of regional development were pervasive topics on the agenda as were changing national policies, strategies and positions both in terms of domestic and international developments.

The importance of the Arctic region globally and in terms of shipping, climate and environmental policies and mineral reserves was repeatedly underlined by presenters and participants. In a similar manner, the roles and interests of actors not traditionally perceived as of relevance in the context of the Arctic region were debated. As events and developments in the north have wider repercussions far beyond the Arctic region and its borders (and vice versa), conclusions were presented, on the one hand, in terms of different levels and scales particularly because of the characteristically interconnected nature of those developments taking place on different levels, and on the other, reflected the ongoing debate over the conceptual artificiality of the idea of scales and levels altogether.

### Economic Development vs. Sustainable Development

Arctic resources – both living and non-living as well as renewable and non-renewable, ranging from utilization of marine mammals to forestry and small- and large-scale extraction of mineral



and fossil resources – were the main feature of many talks during the Academy. Moreover, questions relating to the management and governance of resource development as well as the

practices and pitfalls of sharing the revenues of resource utilization were addressed and discussed by many speakers. Others highlighted the importance of economic activity and development not based (solely) on natural resources or on nature and knowledge *as* resources in their own right. An overarching theme underpinning all debates related to resource-driven developments in northern areas was the irreconcilable incompatibility between increasing industrial activity based on mass-scale utilization of finite resources and the idea(l) of sustainable development in the environmentally and culturally unique Arctic region, where everyone seems to be preparing for “a” boom, but where no one foresees or prepares for the bust.



## Discourses & Debates

Throughout the week, many presentations and discussions either touched upon or explicitly dealt with conceptual questions and concerns. Several speakers addressed and analyzed political discourses and debates and the manners in which different issues such as indigenous rights, local identities and the roles of different actors are perceived and constructed; while others took a focus on the ways in which some key issues are conceptualized and discussed in academic forums and debates. Among others debated, the contested concepts of sustainability and security, their different definitions and contradicting and complementing dimensions. Vivid and recurrent attention was also drawn to the value *basis* and *biases* inevitably embedded in all systems of knowledge, including the western scientific worldview frequently (implicitly) conceived as “objective” and thus value-free.



## Cross-border Dialogue Through Practice & Continued Engagement

Since its inception twenty years ago and in the wake of the collapse of the Soviet Union, the guiding principle of the CA has been a real commitment to dialogue and bridge-building between people, communities, regions, nations and states. It has also been a method for engaging such dialogue through knowledge sharing both between individual researchers, different disciplines as well as amongst the scientific community, the local stakeholders and the wider public across borders.

The principles of inclusion and dialogue were, this year, embraced even to a greater extent against the evolving political situation(s) between Russia and the West. As the CA approached, significant effort was channeled into making the participation of researchers from different areas of the globe possible.



In these times of geopolitical apprehensions, the CA once again proved its *raison d'être* by bringing together thinkers and practitioners, sometimes lost in translation, around one table to take the necessary time to talk, share and learn amongst each other on pressing topics. The CA method allows all participants to bring back home invaluable knowledge, nuances and often unheard-of issues or solutions as a way to contribute to the policy dialogue. This year, the traveling symposium was invited to listen *patiently* as the translation assistance provided the words and common understandings for a constructive exchange of questions, ideas and answers that, in our view, would not have been possible otherwise.

This type of dialogue in the North, between North(s), and elsewhere around the world, should not be undermined.

### *About the Calotte Academy*

The Calotte Academy has been arranged annually since 1991 with an aim to bring together students, other experts, local stakeholders as well as scientists with different academic backgrounds and in different stages of their academic careers. It aims to create an alternative model for conventional academic conferences where the time allocated for discussion often remains very limited. The Academy also aims to contribute to discussions and debates over regional development through inviting local politicians and stakeholders to participate in the sessions with the intention of sharing research results and insights, creating networks and fostering dialogue between the local actors and the international scientific community.

The full and detailed Final Report of the Calotte Academy 2014 with abstracts and [written summary reports](#) from all sessions is available online in address [www.nrf.is](http://www.nrf.is).

*The Calotte Academy organizers and participants wish to thank the following 2014 sponsors:*





## Thematic Network Update

### THE “GLOBAL ARCTIC” PROJECT

Lassi Heininen & Matthias Finger

The *GlobalArctic* project (see [www.globalarctic.org](http://www.globalarctic.org)) is an international and interdisciplinary expert network based on individuals affiliated in several Nordic and circumpolar institutions, networks and forums in the field. A joint strategy for the *GlobalArctic* project considers the Arctic region in the 2010s to have become part and parcel of global political, economic, technological and environmental, as well as societal, change. Correspondingly, what happens in the Arctic has significant implications worldwide.

Following from this, the context of the emerging research project is twofold: the first stage, the ‘*Global > Arctic*’, is to (re)define globalization and its multi-functional effects, as well as impacts of rapid climate change, as drivers of change in the Arctic region.

The second stage is the ‘*Arctic > Global*’, which will identify and explore the global implications and drivers of the globalized Arctic affecting the rest of the globe, and their interactions, as well as the role the Arctic plays in world politics and the global economy. In order to address the major stages the Project is aimed to be organized around four interrelated thematic areas of varying scope (see Matrix below): *Resources, Energy, Economics, Infrastructures and Technology; Environment, Environmental Degradation and Climate Change; (Geo)Politics, Security and Governance; and Peoples, Cultures, Well-being and Societies*. They represent the major functions of the Arctic region in globalization of the 2010s and cover the most relevant fields of research.

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The ‘GlobalArctic’ Project was initiated in the brainstorming meeting of the Thematic Network (TN) on

Thematic Area	1 <sup>st</sup> stage: <i>Global &gt; Arctic</i>	2 <sup>nd</sup> stage: <i>Arctic &gt; Global</i>
<b>I. Resources, Energy, Economics, Infrastructures, and Technology</b>	Pressure to extract of oil, gas and minerals in the Arctic; Pressure to increase fisheries in Northern waters; Development of corresponding infrastructures and technology; Mining project expansion dynamics and possible impact of the global land rush; Development of Arctic shipping; New ICT, esp. Internet; Growing role of TNCs and SOEs; Pressure for regional (economic) development.	Significant oil, gas and minerals reserves for further industrial development; Shortening of sea routes facilitating global trade; Roles of resources extracting SOEs and TNCs in global economic development; Self-determination of indigenous peoples effecting the global land rush.
<b>II. Environment, Environmental degradation, and Climate Change</b>	The Arctic as a sink of pollutants; Impacts of warming / rapid climate change on Arctic ecosystems and in the social and political spheres (e.g. rationale and potential for industrial and other economic development and shipping); The 'Arctic Paradox'; Potential risk to sustainability and threat to state sovereignty.	Environmental 'awakening'; Climate forcing due to loss of sea ice (albedo effect, methane release); Biodiversity; Laboratory / workshop for research on the environment, climate change and the Anthropocene; Ecology as a new discipline for 'disciplining'; Model for cooperation.
<b>III. (Geo)Politics, Security, and Governance</b>	Regionalism, region-building and international cooperation; Environmental and Human security; Growing global interest in Arctic resource geopolitics and governance; Shaped by industrial civilization; Weakening of the states' ability to protect their sovereignty.	Innovations in Arctic governance essential to addressing climate change; Arctic stability-building as a model and common ground for a paradigm shift of security; Military training and exercises; The Arctic Ocean as a 'global commons'; Reinterpretation of security; New kind of space for innovations in legal and political arrangements.
<b>IV. Peoples, Cultures, Well-being and Societies</b>	Recognition of the transcultural nature of the Arctic and indigenous peoples' rights; Threat to well-being, human health and food security; Challenge of well-being in big cities; Need for education; Migration to the Arctic; Urbanization; Challenge of de-industrialization.	Human capital and capacity. The role of indigenous peoples and self-determination in resource governance and sustainability; Knowledge as power based on ICT/Internet; The Arctic as a knowledge-based (political) space; The role of 'paradiplomacy'; Reconceptualization of sovereignty; Workshop for research on governance and human security.

The *GlobalArctic* project aims to foster a comprehensive and trans-disciplinary approach of the Arctic in a global ecological, cultural, economic and political context. In particular, it aims, on the one hand, at understanding the dynamics of the Arctic, as it increasingly becomes part of global changes, the world-wide resources and transportation economy, as well as global geopolitics and geo-economics with a danger of an 'irreversible collapse' of industrial civilization. Yet, on the other hand, the Arctic already is, and increasingly will be, a key agent of global changes, as it is also a place from where a paradigmatic change in global governance, as well as that in security, can emerge. Here the Project, hence, will respond to urgent political and scientific needs to gain a better understanding of the globalized Arctic with rapid regional and world-wide changes.

To address this, the *GlobalArctic* project aims to become an international and interdisciplinary research project, as well as an international center of excellence, on the globalized Arctic with sites in several Arctic states and regions, and partners from all over the Northern Hemisphere.

The objectives of the Project are as follows:

- To study and (re)conceptualize the Arctic as a geological, biological, economic, socio-cultural and political entity within a changing global context, both being affected by it and affecting it;
- To identify and analyze the major forces driving change in the Arctic, such as global changes (environmental change, climate change, societal change), the opening of the Arctic to resources exploration and exploitation, Arctic economic and social development, evolving geo-political interests, and others more, as well as the major drivers behind these changes;
- To discuss and elaborate concrete ways to address and mitigate these changes in the Arctic and beyond, involving all the relevant stakeholders, notably non-governmental organizations, civil societies, indigenous peoples (organizations) and other inhabitants of the Arctic, nation-states and state-owned enterprises, transnational corporations, as well as the research community; and
- More generally to reflect upon, and propose and provide new bold ideas and ways of holistic thinking regarding the implications of these profound changes on humanity and the planet, both in the Arctic region and globally.

The activities and plans of the *GlobalArctic* project in the foreseeable future are as follows:

- The organization of sessions, workshops and brainstorming meetings at particularly relevant venues (see below);
- The submission of research projects and applications, notably to national funding agencies (e.g. Academy of Finland), foundations, NordForsk, and others;
- The publication of working papers, scientific articles, and publications on the subject (e.g. for Palgrave Pivot); and
- The establishment of a study / expertise program on the subject, and a *GlobalArctic* newsletter / journal.

Among the organized seminars, workshops and sessions of the Project in the foreseeable future are, e.g., annual TN on Geopolitics and Security's Panels in various forums; the Calotte Academy, an annual international travelling symposium and expertise-based seminar (May 2015 in Rovaniemi and Inari, Finland, Murmansk and Apatity, Russia, and Kirkenes, Norway).

Almost 25 universities and research institutions from East Asia, Europe, North America and Russia have, so far, accepted an invitation to become involved in the Project.

The *GlobalArctic* Project was built on the foundation of the Northern Research Forum (NRF) and its biennial Open Assemblies, fostering academic and other expertise and implementing the interplay between science, politics and business; as well as on that of the University of the Arctic's and the NRF's joint Thematic Network on Geopolitics and Security and its activities. The Project is coordinated by Rasmus Bertelsen, Aalborg University, Denmark ([rasmus@cgs.aau.dk](mailto:rasmus@cgs.aau.dk)), Matthias Finger, EPFL, Switzerland ([matthias.finger@epfl.ch](mailto:matthias.finger@epfl.ch)), and Lassi Heininen, University of Lapland, Finland ([lassi.heininen@ulapland.fi](mailto:lassi.heininen@ulapland.fi)).

The Project was officially launched at the 2<sup>nd</sup> Arctic Circle at the turn of October-November 2014 in Reykjavik, Iceland.

## Thematic Network Update

# DISCUSSING & PROMOTING (REGIONAL) ARCTIC COOPERATION IN RUSSIA: HIGHLIGHTS FROM KARELIA IN 2014

Boris Khabarov & Joël Plouffe

On May 23rd, 2014 the 4th International Conference “Innovative and Safe Cooperation in the Barents Euro-Arctic Region” took place in Petrozavodsk, Russia. The agenda included topics relevant to the topic of cross-border cooperation in BEAR such as issues of (industrial) development in the High North and across the circumpolar North(s). The conference took place following the 11<sup>th</sup> International Summer School in Karelia (ISSK), and preceded the “Eco-Efficient Project” workshop which reunited experts, practitioners and observers from Russia, Finland, Norway and Canada.

### **Innovative and Safe Cooperation in the Barents Euro-Arctic Region**

The 4<sup>th</sup> [annual meeting](#) “Innovative and Safe Cooperation in the Barents Euro-Arctic Region” was organized in 2014 by the North Center at the Karelian Research Center of the Russian Academy of Science in Petrozavodsk. The event proved to be both topical and interesting considering the political and the global contexts in which it took place. It was therefore ripe for interesting debates and discussions between participants (NRF members and others) with

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different backgrounds coming from many Arctic countries like Russia, Canada, the United States, Finland, Norway, and other states from the European Union like France.

This year's conference was hosted in the middle of heated public debate within both Russian civil society and media over the issue of international economic and political sanctions applied to the Russian government officials and major businesses in Russia by the EU, the US, Canada and other states. These sanctions, being a result of growing international concern for Moscow's foreign policy in the Ukraine, had become a focus for the public debate in Russia by the time the conference took place. Thus, it was without much surprise that the discussions were tainted by the context of international relations. While some participants argued against Western sanctions from a classic hardheaded *Realpolitik* perspective, others presented a more liberal approach arguing for the need to not ignore the implications of such foreign policy decisions on regional cooperation (and economies), and thus long term stability in BEAR and northern Europe. It was pretty clear from that perspective – based on the realities of globalization – that economic



sanctions upon Russia would not and could not be a good strategy to reverse the situation in the Ukraine, and in contrast would have negative repercussions in BEAR cooperation and, in the longer term, on the work of the Arctic Council. Indeed, many participants underlined their concern that sanctions and absence of dialogue with Russia would have on the human security agenda in the High North. It was often argued that as a consequence of Western foreign policies regarding Russia – which have been projecting

throughout 2014 contested stereotypes and speculations about Russian intentions in world affairs, and on Russians in general – security issues and cooperation in the Arctic are likely to be impacted in some way.

A very revealing aspect of the ongoing situation between Russia and the West became quite vivid at the time of the conference: that there is a *need* to ‘depoliticize’ the areas of pragmatic work being done in the North by numerous individuals whose genuine values and human security objectives cannot be substituted with the ones that have been set forth by multiple state and non state actors during the last few months. History and the known value(s) of cooperation in BEAR for example speaks for its vitality that should not be impaired by any political sanctions or restrictions derived from a very controversial ground.

The 4<sup>th</sup> annual meeting on “Innovative and Safe Cooperation in the Barents Euro-Arctic Region” has definitely served as a forum and network to pursue discussions between Arctic states on geopolitics and security issues. Engaging dialogue between academics, stakeholders and students in Russia, with translators, is a known pragmatic and efficient way to foster knowledge sharing and network building for enhanced collaboration throughout the Arctic.

## 11<sup>th</sup> International Summer School in Karelia (ISSK)

Another important example of knowledge sharing methods between Russians and Arctic states is the [International Summer School in Karelia](#) (ISSK) that was organized for its eleventh year in 2014. The summer school is held at the Petrozavodsk State University in Karelia for BA and MA students affiliated to different Russian and Finnish universities. It is an international joint initiative organized by PetroSU, the University of Lapland, the University of Tampere, the Aleksanteri Institute of the University of Helsinki and the University of Eastern Finland.



This year's week-long intensive course was themed "Sovereignty in the Barents Euro-Arctic Region" and brought together scholars and students from Karelia and other parts of Russia, France, Finland, the United States and Canada. Students were first introduced to the global Arctic in a post-cold war context, with lectures on the world economy, regionalism, theory of international relations, the relationships between transnational corporations and states, and also the geopolitics of energy security. The Arctic region – and mostly BEAR – is feeling the pressure from those abovementioned contexts and actors that appear to be increasingly challenging state sovereignty and national securities, thus fuelling sentiments of insecurity. Thematic case studies were also presented to the students by professors and scholars from the Arctic on different issues and perspectives on sovereignty, borders, national defence, regional economies, governance, and environmental security. The format of the summer school – lectures and interactive participation by the students as well as afternoon breakout working groups – offers an excellent opportunity for students from different regions of the Arctic or elsewhere to work together and learn from lectures and from each other. After being trained for a week, students are asked to submit an article on different sessions of the summer school.

While one of the organizers of the ISSK, Lassi Heininen from the University of Lapland, is the lead of the Thematic Network on Geopolitics and Security (TNGS), many lecturers who participated in the ISSK were affiliated to the TNGS. The network therefore is a tool for knowledge sharing on Arctic issues, and has also the potential to interest more students to pursue higher learning in geopolitics and security. Most of all, through such formats as ISSK, the

TNGS creates bridges and academic relationships between Russian students, professors and scholars from Finland and elsewhere, which in our view corresponds to the interest of all Arctic states.



### **“Eco-Efficient Tourism” in the Republic of Karelia**

One of the main characteristics of BEAR is local, regional and cross-border cooperation which, since the mid 1990s, has been promoting people-to-people collaboration from a bottom-up approach and between multiple governmental and non-governmental stakeholders.

Launched in 2012, the “Eco-Efficient Tourism Project” is a great example of ongoing (often unnoticed) collaborative measures that strengthen cross-border relations and stability in BEAR. It is implemented through the framework of the Karelia European Neighborhood and Partnership Instrument and Cross Border Cooperation (ENPI CBC). Over the last two years, the project has been promoting Nordic-Russian economic and sustainable development cooperation through “green” tourism initiatives across the Republic of Karelia, and with shared Nordic-Russian expertise. Finnish and Russian partners have joined efforts to make the Karelian borderland a more developed and attractive area for the tourism industry.

Organized at the end of May 2014 by the North Center of the Karelian Research Center of the Russian Academy of Science, the [final seminar and field trip](#) of the project took place at the “Denisov mys” center on the shores of Lake Syamozero and at project pilot sites in Karelia. The North Center invited us to participate as a way to get a hands-on experience of the project, its implementation, the current results, and to meet with various Russian, Finnish and Norwegian stakeholders who have been engaged in the project over the last few years. Bellow is a short summary of what we observed at the seminar and on the field trip in various locations of Karelia.



The “Eco-Efficient Tourism Project” was developed around three objectives that are key to developing an attractive and sustainable tourism industry in the Republic of Karelia:

1. Promoting the introduction of eco-efficient technologies for the management of recreational management, and also to be utilized to improve and offer high quality services in important tourist destinations in the Republic of Karelia (Lake Ladoga and Syamozero area). This is to be done in close collaboration with the Finnish partners.
2. In the pilot areas of the project, initiatives should be made to offer a more comfortable, safe and environmentally friendly experience.
3. Introduce and implement measures to improve cross-border tourism through transboundary practices and regional development cooperation.

While at the seminar at the “Denisov mys” center, we got the opportunity to be briefed on the development of the project and the core pilot projects that we got the chance to visit the next day. Below are the pilot projects we were introduced to and visited.

*“Dlinny” beach, Essoila settlement on the Syamozero lakeshore*



At this pilot site, the project initiated one of the very rare rest stops and beach area for tourists in Karelia. Here the planners aimed to construct a 1-hectare beach, a passage to the beach and a parking area, an information board, lavatories, shelters (with cooking grills), fire pits, and also trash containers.

#### *Kolatselga village*

After visiting that first site, the whole group headed to the Kolatselga village which is a popular tourist stop considering its location between the Russia/Finland border and the city of Petrozavodsk and tourist attractions. This was not only an interesting stop to discover the new lavatories for travelers, but also to eat some delicious local Karelian pastries from the café's bakery (the Kalitki are exceptionally tasty here!). This pilot stop also hosts a convenience store that is again an important added-value for tourists.





*Sortavala, Svetloe Lake & Ruskeala Marble Canyon*

Leaving the Kolatselga village, we then headed to Sortavala to have lunch at Piypun piha restaurant which is one of the major partners of the “Eco-efficient Tourism Project”. We ended our field trip later that day very close to the Finnish border on the shores of Svetloe lake and the popular tourist destination Ruskeala Marble Canyon where we got the opportunity to visit the canyon grounds and lakeshore to see the new facilities that were introduced through the project.

Upon our arrival at Ruskeala, we immediately saw the new state of the art lavatories, tourist information panels and a tourist information desk. The grounds also host a boutique and restaurant, and tourists can also buy local art by vendors on site (before or after spending some hours touring the marble grounds). Planners also integrated new camping sites on lake Svetloe with new grill cabins close to the canyon. From our experience on site, we take back the impression that the project has had a major impact on Ruskeala by transforming the marble canyon into a very attractive and interactive tourist destination on the Russian-Finnish border. It has also brought together partners to build a sustainable tourist attraction that could eventually serve as a model for other potential sites along the border.



The “Eco-Efficient Tourism Project” is a concrete example of local, people-to-people cooperation that has the potential to reinforce cross-border relations, create closer relationships between regional/international stakeholders, and engage collaboration around a common objective with beneficial impacts on local economies. For some people, having lavatories or road signs for tourists are pretty common things back home. For others, like in Karelia, building such infrastructures are a complete change of culture that can only be initiated, implemented and sustained through cross-border cooperation for region building and knowledge sharing in such an important borderland between Russia and the European Union. Hopefully more projects similar to this one will be funded and implemented in the years to come.

#### **About “Eco-Efficient Tourism Project”**

More information about this project is available at:

- <http://eet-northcentre.ru/en/pilotprojects/>
- <http://eet-northcentre.ru/en/news/5565.html>