

Marlene Laruelle  
Robert Ortung  
editors

URBAN  
SUSTAINABILITY  
in the  
ARCTIC  
VISIONS, CONTEXTS, AND CHALLENGES



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*Центр гуманитарных проблем Баренц региона Кольского  
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*Georgetown University*





# URBAN SUSTAINABILITY IN THE ARCTIC: VISIONS, CONTEXTS, AND CHALLENGES

ROBERT W. ORTTUNG AND MARLENE LARUELLE  
THE GEORGE WASHINGTON UNIVERSITY

This e-book provides academics and policy makers with an introduction to the topic of Arctic urban sustainability. In this wide-ranging collection of short articles, the authors present their own angles and (often competing) takes on what urban sustainability looks like in the Arctic's extreme conditions; the overall context of climate change and what it means for Arctic cities; and the various challenges of maintaining and growing cities at a time when the market for fossil fuels and other natural resources faces great uncertainty.

These articles were presented at various conferences organized between 2013 and 2017 as part of a large multi-disciplinary, multinational project supported by the National Science Foundation entitled Research Coordination Network–Science, Engineering, and Education for Sustainability (*RCN-SEES*): Building a Research Network for Promoting Arctic Urban Sustainability in Russia (Award #1231294).<sup>1</sup> The contributors include geographers, sociologists, demographers, political scientists, climatologists, architects, and urban planners. They provide perspectives from numerous countries, including Russia, the US, Canada, Finland, and Norway. The conferences were held in Washington, DC, St. Petersburg, and Murmansk.

A team of scholars based at The George Washington University – including Nikolay Shiklomanov, Dmitry Streletskiy, Marlene Laruelle, Timothy Heleniak, and Robert Orttung – first conceived this project in 2012, at a time where there was little literature specifically about urban sustainability in Arctic conditions. This project was designed to fill that hole. The RCN grant helped us create a vibrant network of scholars and laid the basis for developing a second project, also funded by the NSF. That one is entitled Partnership for Research and Education: Promoting Urban Sustainability in the Arctic (Award #1545913). It began in 2016 and will run through 2021. The purpose of the second project is to develop an Arctic Urban Sustainability Index that builds on the information and scholarly network developed from the first grant and largely presented here. The PIRE project website is: <http://blogs.gwu.edu/arcticpire/>

The material in this e-book constitutes some of the information required to understand the context of Arctic urban sustainability in Russia.

The various chapters discuss climate change and its impact on urban infrastructure; various aspects of international cooperation; Russian economic development and transportation; urban policies in Russia; the challenges facing Russia's one-industry cities (monocities); urban human capital development; new mobility and migration patterns; and indigenous people and the urban issue.

This is an ongoing project and we welcome comments and feedback.

Marlene Laruelle (laruelle@gwu.edu)

Robert Ortung (rorttung@gmail.com)

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<sup>1</sup> For the NSF announcement, see [http://www.nsf.gov/news/news\\_summ.jsp?cntn\\_id=125421](http://www.nsf.gov/news/news_summ.jsp?cntn_id=125421) and [http://www.nsf.gov/awardsearch/showAward?AWD\\_ID=1231294](http://www.nsf.gov/awardsearch/showAward?AWD_ID=1231294). For the project website, see <http://www.gwu.edu/~ieresgwu/programs/ARCN.cfm>.

# **CLIMATE CHANGE/ ENVIRONMENTAL ISSUES**



# RUSSIAN ARCTIC CITIES IN THE CONTEXT OF CLIMATE CHANGE

OLEG ANISIMOV

RUSSIAN STATE HYDROLOGICAL INSTITUTE

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For centuries, humans lived in the Arctic in relatively small, self-sustained communities in harmony with the harsh local climate and environment. In contrast to that earlier period, the modern Russian Arctic is characterized by intensive urban development, including cities whose populations exceed 100,000 people. “Urbanization” peaked in the period between the late 1950s and the 1980s. During that time, millions of – predominantly young – people, inspired by the nationwide enthusiasm for ambitious development projects, moved permanently to the North, and many of the small northern villages and compact settlements developed into cities with new types of urban infrastructure and lifestyles. Most of the northern cities demonstrated high resilience and survived the economic and political collapse of the country in the early 1990s, largely because the wellbeing of post-Soviet Russia was based on the extraction and exploitation of natural resources from the North (see Figure 1).

**Figure 1.** Salekhard, the capital of the Yamal-Nenets Autonomous Okrug, a city built on permafrost in the Arctic circle. Images 1 and 2: old barracks constructed in the 1960s. Image 3: modern urban buildings in the downtown. Image 4: construction of a new multi-storey administrative building. Photos taken June 2012.





Addressing Arctic urban sustainability today forces planners to deal with the complex interplay of multiple factors, including governance and economic development; demography and migration; environmental changes and land use; changes in the ecosystems and their services; and climate change.

While the latter can be seen as a factor that exacerbates existing vulnerabilities to other stressors, changes in temperature, precipitation, snow, river and lake ice, and the hydrological regime also have direct implications for the cities in the North. Climate change leads to reduced demand for heating energy (heating degree days, Hdd), on one hand, and heightened concerns about the fate of infrastructure built on thawing permafrost, on the other. Changes in snowfall are particularly important and have direct implications for the urban economy, as – together with heating costs – expenses for snow removal from streets, airport runways, roofs and ventilation corridors underneath buildings erected on pile foundations on permafrost constitute the bulk of the city's maintenance budget. Many cities are located in river valleys and are prone to flooding that results in enormous economic losses and casualties, including human deaths. The severity of the northern climate has direct implications for demographic changes governed by regional migration and labor flows. Climate could thus be viewed as an inexhaustible public resource that creates opportunities for sustainable urban development. Long-term trends show that climate is becoming more readily available as a resource in the Russian North, notwithstanding the general perception that, globally, climate change is one of the challenges facing humanity in the 21st century.

## **Climate Change**

Climatic changes in the 20th century were uniform neither in space nor over seasons. In the Russian North, temperatures have been rising at approximately twice the global rate. In the past 30 years, winter warming has been most pronounced in North European Russia, with the temperature trend up 9.2 °C over the last 100 years, which is nearly twice the pace of trends in the summer and fall (4.3 and 5.0 °C/100 years, respectively), and more than three times the change in the spring (2.9 °C/100 years). This maximum in seasonal trends shifts gradually from winter to spring along the West-East transect in the Russian Arctic. In Western and Central Siberia, the summer temperature changes were least pronounced, while the rest of the Russian Arctic demonstrated noticeable summer warming.

Air temperature extremes – that is, annual minimum and maximum temperatures and the temperature range – exhibit much greater changes, and there are more days per year with temperatures above or below certain thresholds. Across the extensive territory of the Russian Arctic, minima rose at a faster rate than maxima, except for Chukotka, where annual minima decreased in accord with colder winters. The largest growth in annual temperature minima over the past three decades was detected in North European Russia (14-26 °C/100 years) and in Central Siberia (10-14 °C/100 years). At the same time, annual temperature maxima did not



change in Siberia. Elsewhere in the Russian Arctic, trends never exceeded 10 °C/100 years and on average were about 6 °C/100 years. Evidently, one can say that rather than getting warmer, the regional climate in Russia is getting less cold.

## **Consequences of Climate Change**

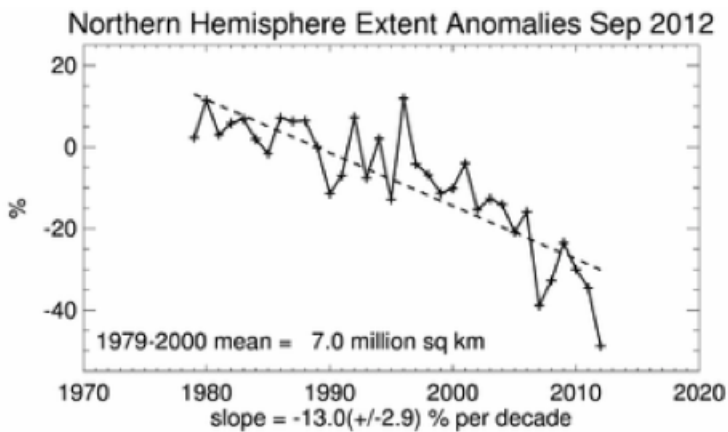
Increased summer warmth is particularly important for permafrost, which supports a variety of structures in the northern lands. This warmth can be measured in terms of degree-days of thawing (ddT), which is the cumulative sum of positive air temperatures. Model-based projections indicate that the expected rate of ddT rise decreases from West to East in the Russian Arctic and varies from 16.5 degree-days per year (°C d/y) in North European Russia and 15.7 °C d/y in West Siberia, to 11-12 °C d/y in the Central Siberia, Yakutia, and Chukotka. By 2050, the Russian Arctic will be accumulating much more heat during the summer. Except for Chukotka, all regions will be characterized by a ddT that is higher than it is now in North European Russia, where the permafrost is relatively warm. By the end of the century, the regional-mean ddT everywhere in the Russian North is projected to rise well above the current ddT level in the warmest of all permafrost regions. Such changes may have dramatic effects on Arctic urban structures, ultimately damaging them and making many of them unusable.

Annual levels of precipitation are increasing everywhere in the Russian Arctic, with large regional and seasonal variations. Observations indicate that there is an increase of up to 30% in the cumulative amount of snowfall in Chukotka between 1951-1980 and 1989-2006, mostly due to spring snowfall, which outweighed a decline in winter precipitation over the same time period. In West Siberia and the north-east of the European part of Russia, cumulative snowfall increased by 10-20%, whereas in eastern Siberia snowfall dropped up to 20%. Like the air temperature pattern, maxima in seasonal precipitation trends shift from the cold to the warm period along the West-East transect, with pronounced snowfall increase in the North European Russia and West Siberia and mostly summer precipitation increase in east Siberia. The longer presence of snow and deeper snow cover are associated with increased operational expenses in urban management; they lead to the warming of permafrost through higher thermal insulation during the cold period, enhanced risks for the infrastructure on pile foundations, and an increase in peak water levels during the spring freshets. The total amounts of precipitation in the period from October to May is projected to increase, with the rate varying from 0.82 mm/y in Central Siberia to 1.62 mm/y in North-European Russia. The proportion of liquid precipitation (rain) in this period will

progressively increase with time due to warming. Depending on the interplay between the increase in total precipitation and the share of it falling as rain, the maximum snow depth is projected to decrease in some regions and increase in others. The duration of the snow period is projected to shorten everywhere, with rates varying from -0.70 d/y and -0.61 d/y in North-European Russia and West Siberia, to less than -0.43 d/y in Yakutia and Southern Siberia.

A further consequence of enhanced regional warming is a dramatic decline in Arctic Ocean sea ice, with an average rate of 13% per 10 years in the period 1978-2012 (Figure 2). In September 2012, Arctic sea ice decreased to a record low level since satellite observations began in 1979, reaching 3.6 million km<sup>2</sup> (about half what it was in the 1980s and 1990s). Sea ice is getting thinner and younger: about 70% of it is 1-2 years old, and 95% is younger than 5 years. Such changes are projected to continue in the future, opening new opportunities for navigation along the Northern Sea Route (NSR). Increased shipping will, in turn, foster the development of infrastructure and settlements along the Arctic coastline, leading to new jobs and services to provide navigation safety, communication, rescue, military security, and other services.

**Figure 2.** Northern hemisphere September sea ice extent departures from the 1979-2000 mean.



Source: <http://www.arctic.noaa.gov/detect/ice-seaice.shtml>

## Challenges and Opportunities

The public and the mass media often equate the impacts of climate change on the urban environment in the Arctic with the potentially detrimental consequences for infrastructure built on thawing permafrost. However, climate impacts are much broader, and include both challenges and opportunities. Besides thawing permafrost, there are serious concerns about changes in the freshwater ice and hydrological regime. Of approximately 370 villages and settlements in the Russian high Arctic (tundra zone), more than 80% are located in the coastal zone of the Arctic seas and in close proximity to large rivers. Many of the coastal settlements and cities are susceptible to floods. Particular concerns are associated with floods caused by ice jams, which occur throughout the Arctic. They develop abruptly, lead to much higher water levels than freshets caused by thermal-driven snow melt, and may have potentially catastrophic consequences. One example is the catastrophic flood in the city of Lensk on the Lena river in May 2001. Observations and model-based projections indicate that in the near term period of 2010-2015, ice-jam floods on the great Siberian rivers will affect a larger proportion of the total channel length, become more frequent, and have much higher peak water levels than in the baseline period before 1977. Particular concerns are associated with the Severnaya Dvina, Sukhona, Vug, and Pechora rivers that traverse urbanized areas in north-European Russia. Many cities located along these rivers, such as Shenskursk, Kholmogory, Arkhangel'sk, Naryan-Mar, and Veliky Ustug, are likely to be affected by the increased frequency and severity of ice-jam floods, although projected near-term changes are smaller than in Yakutia and Chukotka. The frequency of floods in north-European Russia is projected to increase by 20% at most, while peak water levels may increase by 35-50%.

The longer-term projections are more optimistic. Ice dynamics are largely governed by the thermal gradients along rivers. On northward-flowing rivers, such as those in the Russian Arctic, the onset of warm temperatures and ice break-up come earlier in the upstream, leading to ice jams in the downstream. Climatic warming could change this situation for the better by lowering the thermal gradient along rivers in the spring, if the rate of warming in the downstream segments exceeds that in the upstream. Alternatively, if climatic warming leads to the enhancement of the thermal gradients along rivers, ice jam floods could potentially become more frequent and severe.

Happily, not all impacts of climate change in the Arctic are negative. Observations indicate that between the two periods of 1981-2000 and 2001-2010, demand for heating energy fell by 5-8% in north European Russia, by less than 2% in West Siberia, and by 2%-5% elsewhere in

the Russian North. It is projected to further decrease up to 15% by the mid-21st century, while the duration of the period when heating is needed in the northern cities will drop by up to one month. Current observations and model-based projections suggest that hydropower generation would benefit from a reduced ice period and increased runoff in winter, when the energy demand is at its annual maximum. The duration of the ice period on rivers in the circumpolar North has been decreasing since the 1970s (by 12 days/100 years on average, with rates up to four times greater in the high Arctic). Statistically, an increase in autumn and/or spring air temperature of 2 to 3°C leads to a 10-15 day shift in the freeze-up and break-up of river ice in the Arctic. A longer ice-free period on rivers and in the northern seas opens new opportunities for transportation over water. In the period 1980-1999, the Northern Sea Route (NSR) was open for navigation up to 45 days per year. With the current dramatic decline of the extent of sea ice in the Arctic Ocean (see Figure 2), it is becoming increasingly navigable. According to model projections, by the mid-21st century, there will be up to three months per year when navigation along the NSR is possible.

The potential benefits of increased water transportation are to some degree counter-balanced by the reduced usability of the ice roads that currently serve the supply needs of remote settlements in the Arctic, which would otherwise remain isolated in winter. In the coming decades, many ice roads and river crossings may become economically unfeasible, necessitating significant investment in the development of all-weather roads. Climate change will also have some positive implications for the human health of Arctic residents, such as a decrease in injuries, diseases and mortality associated with extreme cold temperatures.

The results presented in this paper illustrate that cities in the Russian North will face challenges and be presented with opportunities as a result of climate change. The data in Table 1 summarize the projections of the regional-mean climatic and hydrological characteristics that will have the greatest potential impacts on the urban environment. While these data draw a general pattern of the rates of regional changes, there are large gradients of baseline climatic conditions within each region; particular impacts on specific cities depend on local conditions.

**Table 1.** Projected changes in the regional-mean climate characteristics

Region	Degree days of thawing (°C d/10y)	Heating degree days (°C d/10y)	Snow period (days/10y)	Flood frequency increase (%)	Water level higher (%)
North European Russia	164.9	-218.3	-6.4	0-20	35-50
West Siberia	157.4	-270.9	-5.8	0-20	35-50
Southern Siberia	131.9	-209.5	-4.5	50-300	60-85
Central Siberia	119.9	-316.6	-5.3	0-20	35-50
Sakha-Yakutia	110.5	-302.8	-4.9	20-50	50-60
Chukotka	118.2	-311.1	-7.0	50-100	60-75
Russian Far East	135.6	-235.8	-4.6	20-50	50-60



# ARCTIC URBAN SUSTAINABILITY AND PERMAFROST

DMITRY STRELETSKIY AND NIKOLAY

SHIKLOMANOV

THE GEORGE WASHINGTON UNIVERSITY

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Sustainability is an ambiguous term with no clear definition and is largely open to interpretation. Although environmental, social, and economic discourses view the subject of sustainability from different perspectives and at various spatial and temporal scales, there is a clear understanding of the importance of climate change in all discussions. In the rapidly growing field of urban sustainability, there is no general agreement on what a sustainable city is, nor there is a unifying methodology developed to address urban sustainability. The remoteness and harsh natural environment of the Arctic produce a unique set of challenges for Arctic urban communities. Since the majority of these challenges are related to climate-driven natural phenomena, the analysis of socially-important climatic variables can provide a critical link between the socio-economic and natural processes affecting Arctic communities, thus contributing to an overall assessment of Arctic urban sustainability.

Observed trends indicate that the Arctic climate has been changing at a rate twice as high as anywhere on the globe. Despite high uncertainty, all climate projections indicate further amplification of Arctic warming. The impacts of climate change on human development are expected to be the most pronounced in areas with permafrost. Permafrost, which is highly sensitive to climatic changes and technogenic disturbances, serves as the foundation for human infrastructure and effects socio-economic development. As such, it can be considered an important integrative concepts useful for understanding the sustainability of Arctic urban environments. The relationship between urban infrastructure and permafrost is especially pronounced in the Russian Arctic, where a generally sparse population is concentrated largely in urban centers located in regions with permafrost (such as Vorkuta, Salekhard, Nadym, Novyi Urengoi, Noril'sk, Magadan, and Yakutsk).

Arctic urban development is characterized by major disturbances of very fragile environments. Specific environmental impacts are very diverse and depend on a combination of numerous factors, both natural (climate and geology) and socio-economic (size, population density, planning, architecture, and land use). Regardless of these factors, the development of previously undisturbed areas is always accompanied by the removal of vegetation, the redistribution of snow, and modification to hydrological regimes, which, in turn, alter heat exchange between the atmosphere and the ground. The resulting anthropogenic complexes are characterized by an intensification of negative permafrost-related (cryogenic) processes.

Urban architecture in the Russian Arctic is predominantly represented by a mixture of brick and standard-design prefabricated panel buildings, ranging from five to nine floors in height. Permafrost is used as the solid foundation base and is protected from thawing during construction and throughout the lifespan of the structure. Even with very expensive periodic maintenance, the life expectancy of such buildings in permafrost regions is, on average, between 30 and 50 years. However, these structures are usually exploited for a far longer period.

Climate-induced near-surface permafrost warming and an increase in annual thaw propagation, not anticipated at the time of construction, can reduce the bearing capacity of frozen ground (its ability to support structures) and contribute to intensified differential frost heave/thaw subsidence and the corrosion of foundation materials. As such, changes in atmospheric climate can result in the deformation and collapse of buildings and can destabilize the socio-economic life of Arctic urban communities.

A large number of structural, permafrost-related deformations of buildings have been reported throughout the Russian Arctic (Figure 1). These deformations can be attributed, at least in part, to climatic changes. The transportation network is also affected as warmer permafrost and a deeper summer thaw induce differential heave and settlement, leading to the deterioration of railroads, pavements and pipelines. Higher air temperatures, especially during transition seasons, are limiting access to remote regions, since winter roads are operational for a shorter timeframe.

This paper summarizes the results of a quantitative geographic assessment of climate change impacts on infrastructure built on permafrost and provides a brief discussion of the effects of permafrost on urban development in the Russian Arctic.



**Figure 1.** Typical residential house in Igarka. Image 1: In 1983 (five years after construction). Image 2: In 2011 (33 years after construction). Note significant permafrost-related structural deformation in the second photograph.



### **Effect of climate change on Arctic Urban Infrastructure**

Structure-specific engineering investigations are required to assess the stability of individual buildings. However, regional quantitative assessments are useful for evaluating the impact of climate-induced changes on the ability of permafrost-affected soil to support engineering structures on a broad scale. To address the potential effect of a changing climate on the stability of Arctic urban infrastructure, we have evaluated the capacity of

permafrost to support standard, 0.35x0.35x10 m concrete foundation pile across Russian permafrost regions. This methodology is frequently used in Russia for preliminary engineering assessments of large territories. By effectively illuminating the diversity of possible construction designs and practices, such an approach allows for a focus on the engineering properties of permafrost itself, as well as climate-related changes. We have utilized parameterizations provided by the Russian Construction Norms and Regulations, which relate climate-dependent permafrost parameters to the bearing capacity of standard foundation pile embedded in the permafrost. Changes in permafrost parameters (such as active-layer thickness and permafrost temperature) were estimated using a spatially distributed equilibrium model of permafrost-climate interactions.

To evaluate changes in bearing capacity, the model was forced with climatic input obtained from the National Center for Environmental Prediction. The climatic input consists of gridded datasets of daily temperatures and precipitation, scaled to 25x25 km horizontal resolution. The assessments were focused on two reference periods: 1965-1975 and 1995-2005. Daily climate data were averaged over these two periods to find the climatologic mean. We chose to look the data over the course of decade-long periods in order to focus on climatic changes over time, rather than variability from one year to another. The decade of 1965-1975 was chosen as a baseline period since the majority of Russian Arctic urban infrastructure was developed at that time. It was assumed that structures were designed to withstand the climatic conditions (and variability) characteristic of the period. The 1995-2005 period was selected to represent contemporary conditions, since, at the time of analysis, the last year for which standardized gridded data was available was 2005. Land surface data indicate a uniform sandy-soil profile with low ice content, which are considered favorable lithological conditions for construction.

Geographically, the analysis focused on five Russian Administrative regions bordering the Arctic Ocean and largely occupied by permafrost: Nenets Autonomous Okrug (AO), Yamalo-Nenets AO, Taymyr AO, the Republic of Sakha (Yakutia), and Chuckchi AO. Taken together, these regions comprise a significant portion of the Russian Arctic. Data from the Russian Census of 2002 was used to estimate the impacts of climate change on population.

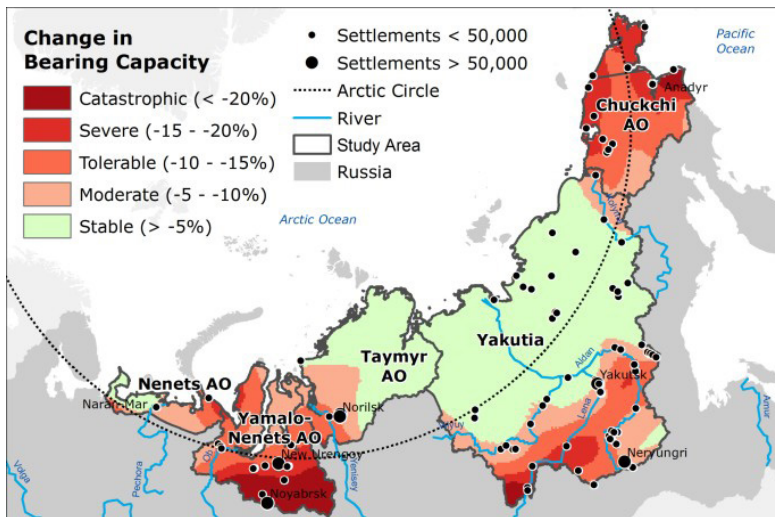
According to the Russian Census of 2002, the majority of the population in the Russia Arctic was concentrated in urban centers, with the urban population accounting for 73% of the total 1,854,000 people living across the study area. Most of the study area experienced varying degrees of warming between the 1970 and 2000 time periods, with small degrees of cooling occurring in just a few areas, such as the western part of Nenets AO and Northern Yakutia. The mean air temperature across the region

for the 2000 time period was  $-9.5^{\circ}\text{C}$ , up from  $-10.4^{\circ}\text{C}$  for the 1970 time period. A majority of settlements (69 out of 102) experienced air temperature increases greater than  $0.5^{\circ}\text{C}$  and up to  $1.5^{\circ}\text{C}$  between two reference periods. Of the largest cities, Noril'sk experienced the most significant warming (up to  $1.4^{\circ}\text{C}$ ), followed by Novyi Urengoi and Noyabrsk ( $1.3^{\circ}\text{C}$ ), Neryungr'i ( $0.9^{\circ}\text{C}$ ), and Yakutsk ( $0.8^{\circ}\text{C}$ ).

The methodology briefly outlined above was used to evaluate the potential impact of observed climatic changes on the bearing capacity of frozen ground. The map presented in Figure 2 shows relative change in the ability of frozen ground to support structures between the two periods under study. Our analysis indicates that observed climate warming has the potential to decrease the bearing capacity of permafrost foundations built in 1970s in the majority of settlements in the five regions studied. Substantial decreases in potential foundation bearing capacity were found in regions of eastern Chukotka, southern parts of Yamalo-Nenets AO and Sakha Republic. According to our estimates, climatic changes induced a 15-20% decline in bearing capacity in induced decreases in Salekhard, Nadym, and Novyi Urengoi; a 5-10% drop in Noril'sk, Yakutsk, Lensk, and Cherskii; and a decrease of more than 20% in Anadyr and Pevek.

While climatic warming is a one plausible cause for decreases in foundation bearing capacity, other technogenic factors, such as inadequate structural design or lack of proper maintenance, should also be considered.

**Figure 2.** Temporal changes in foundation bearing capacity between the 1970 and the 2000 periods.



## **Effect of non-climatic factors on Arctic Urban Infrastructure**

Undetected leaks in sewage and water pipes are well known to result in rapid warming and chemical contamination of permafrost below a building's foundations. In the city of Noril'sk, for example, such anthropogenic causes have diminished the soil's ability to support foundations, resulting in the serious deformation of many structures.

Technogenic salinization and waterlogging is another problem facing some of the Russian Arctic cities built on permafrost, particularly those with developed mining and metallurgy industry, such as Noril'sk and Vorkuta. Near the nickel plant in Noril'sk, soil salinization reaches up to 21 mg/l. Technogenic salinization is not only leading to a decline in the stability of infrastructure by lowering the freezing point of soils, but is also directly affecting foundations by corroding metal and concrete.

Snow cover plays a crucial role in developing and modulating the ground's thermal regime. Variations in duration, thickness, accumulation, melting processes, structure, density, and thermal properties have significant impacts on the insulating effect of seasonal snow cover. In order to be accessible, some elements of the urban landscape (including roads, driveways, and parking lots) require constant snow removal, while other are used as snow dumps (yards, parks, and road shoulders). The redistribution of snow in populated areas leads to changes in the ground's thermal regime and may intensify negative cryogenic processes. As a rule, areas with higher snow accumulation will have higher ground temperatures, as more snow provides thermal insulation during winter. Consistently warmer ground temperatures and excess melt water may promote permafrost degradation and related ground subsidence and thermokarst development. By contrast, the consistently colder ground temperatures of cleared surfaces intensify cryogenic weathering, frost cracking, and frost heave. Observations in the city of Noril'sk have shown that in areas used as snow dumps, the permafrost temperature at a depth of zero annual amplitude (10-15m) is 2-3°C higher than under consistently cleared nearby roads. Colder permafrost temperatures along the roads create a situation where road pads act as frozen dams, altering surface runoff. This typically leads to waterlogging along the roads during the warm season, promoting thermokarst development. The colder road itself, however, is subject to intensified processes of frost cracking and differential frost heave, resulting in highly uneven road surfaces. This requires continuous expensive maintenance and shortens the life expectancy of roads. Changes in snow albedo due to pollution associated with Arctic industrial centers further complicate the problem. In the cities of Vorkuta and Noril'sk, snow melts a month earlier than in surrounding areas due to the accumulation of dust particles from coal mines and metallurgy plants

Similar to snow, vegetation provides the ground with thermal insulation. However, the overall effect of vegetation on the ground thermal regime is very complex since vegetation plays an important role in wind-driven snow distribution, affects the hydrologic regime, and contributes to the stability of slopes. In urban areas, the removal of vegetation generally increases heat flow in the ground, resulting in deeper thaw penetration and a higher permafrost temperature, which in turn undermines the stability of structures. It should be noted that, geographically speaking, anthropogenic disturbance of vegetation can reach far beyond urbanized and industrial areas. For example, the dead forest that resulted from Noril'sk pollution extends for tens of kilometers beyond the city borders. In Western Siberia, the area of vegetation disturbance is estimated to be between 3 and 5 times larger than the areas of development.

## **Conclusion**

These examples illustrate the complexity of cryogenic processes in Arctic settlements and demonstrate close relations between natural and socio-economic factors affecting urban sustainability in permafrost regions. More detailed interdisciplinary studies are required to comprehensively evaluate the relative role of climatic and anthropogenic influences affecting infrastructure in the cities of the Russian Arctic.



# ENVIRONMENTAL SECURITY IN THE RUSSIAN ARCTIC: DRIVERS, PRESSURES AND RESPONSES

LEV NERETIN

UNITED NATIONS ENVIRONMENT PROGRAMME

(2013)

The beginning of a new stage of circumpolar cooperation is often ascribed to the 1987 Murmansk speech of Mikhail Gorbachev, who laid down key challenges and opportunities that still define Arctic cooperation today: i) peaceful cooperation in jointly developing Arctic natural resources; (ii) scientific exploration of the Arctic; (iii) circumpolar collaboration on environmental protection; and (iv) the opening of the Northern Sea Route as an international transport corridor (Gorbachev 1987, 23-31).<sup>1</sup> This speech paved the way for the establishment of the Arctic Council in 1996, based on the 1991 Arctic Environmental Protection Strategy. The Council remains the most significant intergovernmental forum for dialogue in the circumpolar region. Its main focus on the environment pillar of sustainable development is a manifestation of the Arctic countries' recognition that enhanced dialogue and action on environmental protection are the cornerstone of assuring broader security in the region.

This paper argues that to assure prosperity and a sustainable future for the Arctic region, Arctic states – including Russia – have to embrace the concept of *environmental security*, defined as an integrated approach *for assessing and responding to the risks as well as the opportunities* generated by an *environmental state-change* (Berkman and Vylegzhanin 2013). Of the various environmental state-change drivers, climate change is the most important. With the rate of warming in the Arctic twice as fast as the global average (ACIA 2005), the region is already showing signs of dangerous climate change, defined by the United Nations Framework Convention on Climate Change as a situation that precludes ecosystem adaptation, jeopardizes food production or prevents sustainable development (Duarte et al. 2012a, 60). The Arctic region also has the greatest concentration of potential tipping elements in the entire Earth System, including Arctic

Sea ice (a system that, by some estimates, has already crossed a tipping point or “point of no return”) (Lenton 2012); the Greenland ice sheet; North-Atlantic deep-water formation; the dieback of boreal forests; permafrost; marine methane hydrates; and others (Duarte et al. 2012*b*). While our understanding of the Arctic environmental state-change and its implications for economies and societies has improved significantly over recent years, this abundant knowledge has not yet translated into the wider adoption of evidence-based policies and actions by the Arctic states (UNEP 2013, ch. 2). Arctic policy and decision makers should increasingly focus efforts on questions of *how to respond to a rapid change* and *how to build resilience* in Arctic socio-ecological systems (Duarte et al. 2012*a*).

The Arctic as a whole can be considered one of the world’s last remaining wilderness areas, but it is undergoing profound and rapid changes that affect its ecosystems, its economies and the wellbeing of its residents (UNEP 2013, ch. 2). The Arctic is of vital importance not only as a crucial natural resource base of global significance but also as a provider of ecosystem services, including global climate regulation, biodiversity, and fisheries (Glomsrød and Aslaksen 2006; ACIA 2005). Climate change impacts in the region are multifaceted and potentially transformative for a number of sectors of Arctic economies, including fishing; agriculture; forestry; renewable (wind, solar, and hydropower) and non-renewable (gas, petroleum and mining) resources; tourism and maritime transportation; and land and coastal infrastructure. They also have social and demographic impacts, particularly for indigenous communities’ traditional way of life.

The Arctic Zone of the Russian Federation (AZRF), as defined in legislation, encompasses all or part of the territories of Murmansk Oblast, the Sakha (Yakutia) Republic, Arkhangel’sk Oblast, the Nenets and Yamalo-Nenets Autonomous Okrugs (AOs), and the Chukotka AO, as well as islands in the Arctic Ocean. The AZRF is approximately 9 million km<sup>2</sup> in size and has a population of about 2.5 million people. The Russian Arctic economy produces 12-15% of the national GDP and generates about a quarter of the country’s export revenues, predominantly from extractive industries. The Russian Arctic has the highest share of value added produced from the extraction of natural resources among Arctic regions (50%). In 2003, together with the US state of Alaska, three oil and gas producing regions of the Russian Arctic – Khanty-Mansi, Yamalo-Nenets and Sakha – accounted for 60% of the total circumpolar GDP.

Russia’s oil and gas industry, concentrated largely in the Arctic and sub-Arctic regions, serve as a basis for ensuring the country’s international balance of payments, maintaining the national currency and forming investment resources. With capital investments below 15% of the country’s total (though this is increasing), the industry provides over



50% of federal budget revenues and about 65% of export revenues. The market equity value of the five major Russian oil companies represents 60% of the total Russian stock market value (Oil and Gas Eurasia 2011). In the near to mid-term future, Russian northern economies will continue to rely on the intensive development of new off-shore oil and gas fields. The Russian government's ambitious plans – which aim at reaching 95 million tons of oil and 320 billion cubic meters of gas extracted on the shelf by 2020<sup>2</sup> – could cost tens of billions of US dollars, with more spent on the exploration and development of these commodities from a few prospected areas in the Barents and Kara Sea (Lloyd's 2012). The need to build coastal infrastructure – including overhaul and storage terminals oil and gas storage, networks of underwater and land pipelines, additional sea transport and auxiliary ships, safety services, and information networks on weather and ice conditions – will add substantially to these costs. These developments would require sophisticated technologies and practices often not available domestically.

About 80% of the Arctic population resides along coasts that are strongly impacted by rapid Arctic change (Forbes 2011, 178). Subsistence economies based on hunting, herding, fishing and gathering continue to be of major significance both to northern economies and to the indigenous peoples of the Russian North and throughout the circumpolar region (Forbes 2011). Profound new environmental and economic drivers will stress social systems in the Arctic. At the same time as this environmental change, government policies in the spheres of social, regional and natural resources management; international market and trade conditions; and cultural and demographic changes caused by urbanization and cultural globalization are impacting society (Forbes 2011).

Arctic societies and cultures, including those of indigenous peoples, have a long history of resilience based on their capacity to adapt to – and often profit from – physical, economic and social challenges.<sup>3</sup> There is, however, growing evidence that the established resilience of environmental and social systems in the Arctic is challenged by the rapid pace of change, which is unprecedented in recent history (Carmack et al. 2012). For the Nenets indigenous communities of the Yamal peninsula, the relatively unrestricted movement of people and animals has historically allowed them to exploit a wide range of habitats sustainably. This single factor was crucial in sustaining their resilience (Forbes et al. 2009). Yet the nature and pace of the ongoing expansion of infrastructure; terrestrial and freshwater ecosystem degradation; climate change; and the increasing number of migrants to the Yamal region might put this established resilience into jeopardy. The United Nations Environment Programme estimated that if current development trends persist or accelerate, perhaps as much as 80% of the circumpolar Arctic land area could have been impacted

by infrastructure developments by 2050 (UNEP 2001). The importance of protecting indigenous people's rights to land and natural resources is fundamental to the survival of these communities, as reflected in a number of international declarations and conventions (such as the United Nations Declaration on the Rights of Indigenous Peoples, 2007).

The Russian government, both in the articulation of its policies and through its actions, has sent a clear message to the global community that Russia's economic future is in the Arctic. Therefore, the degree to which Russia succeeds in building internal capacities and resilience to respond to the various challenges of a warming Arctic will have important impacts on Russia's foreign policy and regional security in general. Secure development of the region in ways beneficial to its population and the environment will make Russia a more predictable player and partner, not only at the circumpolar level but also globally. Conversely, the failure to utilize opportunities and address risks from the changing Arctic in a sustainable way will put Russia at a disadvantage vis-à-vis other global players and could have negative consequences for regional stability. This plausible scenario might see Russia being more assertive and isolated in its ambitions to secure extraction and transport of natural resources and control of the Northern Sea Route.

The Russian economy's heavy reliance on oil and gas markets concentrated in the Arctic, primarily in terms of oil and gas revenues, makes the country vulnerable to shifts in global commodity prices. It explains why, of the emerging economies, Russia was hit particularly hard by the 2009 economic and financial crisis. The crisis led to an 8% decline in GDP within one year and caused oil and gas exports to fall by 40%. The country may already be a victim of the so-called "resource curse" phenomenon, where the abundance of certain natural resources and the presence of rents from their exploration causes stagnation and further decline in economic growth and human development in the long term instead of leading to higher prosperity. Given that global demand for fossil fuels is expected to remain high for years to come, the Russian economy's high level of exposure to external shocks in commodity markets could continue for decades. For the strategies of economic modernization proposed by former Russian President Dmitry Medvedev to succeed in building a post-industrial economy dominated by high-tech and services, the Russian government would need to invest billions of dollars over at least two decades to finance badly needed structural economic changes. Arctic resource rents would likely be a source of these revenues. Historic analysis of resource rents in Russia reveals that fluctuations in the level of these rents has always played a central role in both Russian political economy and the country's economic performance (Gaddy and Ickes 2005). The peculiar nature of the rents – which consist of formal and informal streams

– and particularly their re-distribution between the private sector and the state favored the expansion of low-efficiency extractive industries and the maintenance of a *status quo* of weak property rights. The long-term costs of continuing with this strategy are substantial, due to the high price volatility of oil, gas and metals markets; depleting reserves; and high financial risks associated with exploration and development in the Arctic. As a result, in the short to medium term, the country’s leadership is left with no choice but to continue the exploration and development of new deposits on the Arctic shelf and in Siberia. Without major policy reforms and the introduction of technological know-how, these expanding activities pose significant environmental and social risks. As certain scholars have suggested, “an Arctic-based economy can therefore turn out to be a way for postponing the need for an in-depth reformation of the country’s economic structure or an engine of Russia’s modernization.” (Laruelle 2013)

Effective governance institutions and processes underpin the sustainability of socio-economic and environmental systems. The ability of governance<sup>4</sup> to respond to and address ongoing challenges (response function), as well as anticipate future challenges (preventive function), is critical and particularly relevant for governing systems operating in environments undergoing transformation.<sup>5</sup> Young proposed three sets of issues or themes that should characterize the effectiveness of the response function of governance institutions, as well as three sets of criteria that would characterize the preventive function of governance. Among the first set are criteria that (i) take into account the interests of major non-Arctic actors; (ii) avoid functional fragmentation (embrace principles of ecosystem-based management and spatial planning); and (iii) are designed to respect the pace of change. He draws out three distinct themes among preventive function criteria: (i) early warning systems; (ii) rapid response capabilities; and (iii) deliberative approaches to decision making under conditions of uncertainty (Young 2012). These themes could be used to define, develop, and implement governance systems in the Russian Arctic in the face of rapid climate change. Scholarly analysis of at least some of these governance systems in the Russian Arctic remains limited, and policy research in this area is urgently needed.

Supporting effective environmental governance is key to ensuring the sustainability of development activities in the Russian Arctic. An integrated ecosystem-based management approach, balancing environmental, economic, and cultural needs and objectives, should be promoted at the federal, regional and local levels in the Russian Arctic. Applying this approach would require: strengthening existing opportunities – and developing new ones – for participatory planning and better stakeholder engagement; support for valuation of ecosystem services and mandatory environmental impact assessments and strategic environmental

assessments; developing mechanisms and institutions that closely link science and decision making; and applying spatial management tools, such as land-use planning and marine spatial planning. These measures will not address systemic issues of sustainability and the prospects for “green” growth in the Russian economy in general and the Arctic regional economy in particular. However, they have an important role to play in minimizing the environmental risks of ongoing and planned development activities, and at the same time testing innovative management approaches and environmentally sound technologies in anticipation of badly needed structural macro-economic reforms.

<sup>1</sup>The views expressed in this publication are those of the author and do not necessarily represent those of the United Nations Environment Programme.

<sup>2</sup>In 2010, Russia produced 505 million tons of oil and 650 billion cubic meters of natural gas, or over 18% of the global hydrocarbon production in terms of energy equivalent. About 70% of produced oil and 40% of produced gas are exported, primarily to the European markets and CIS (for gas). According to the Energy Strategy of the Russian Federation until 2030, the share of Arctic shelf should increase to about 40-45% or higher in the planned oil and gas production compensating for diminishing resources in the Western Siberia by 2030. This should allow Russia to sustain current levels of oil and gas production.

<sup>3</sup>Resilience is the capacity of a system to absorb disturbance and reorganize while undergoing change so as to retain essentially the same function, structure, identity, and feedbacks. (See Chapin III, F. Stuart. 2006. “Building resilience and adaptation to manage Arctic change.”

*Ambio* 35, 198-202).

<sup>4</sup>*Governance* is a social function involving the establishment and administration of assemblages of rights, rules, and decision making procedures intended to steer socio-ecological systems toward pathways that are collectively desirable and away from pathways that are undesirable (Young et al. 2012).

<sup>5</sup>Adaptive governance is an evolving research framework for analyzing the social, institutional, economical and ecological foundations of multilevel governance modes that are successful in building resilience for the vast challenges posed by global change, and coupled complex adaptive social-ecological systems (SEI definition).

<sup>6</sup>A few examples are the analysis of the coastal management in Arctic seas by V. V. Denisov and Yu. G. Mikhaylichenko. 2009. “Management of the Russian Arctic Seas.” In: *Best Practices in Ecosystem-based Oceans Management in the Arctic Report Series 129*, ed. A. H. Hoel; and Arctic oil spill emergency response system by Ivanova, Maria. 2011. “Oil spill emergency preparedness in the Russian Arctic: a study of the Murmansk region.” *Polar Research* 30, 7285, doi: 10.3402/polar.v30i0.7285

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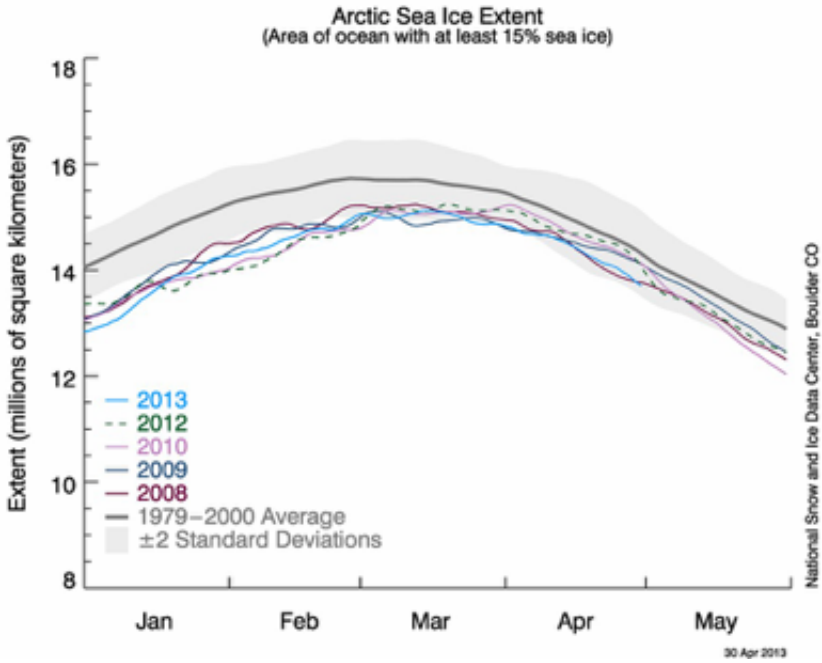


# MARINE ENVIRONMENT IMPACTS ON URBAN SUSTAINABILITY

LEE W. COOPER  
UNIVERSITY OF MARYLAND  
(2013)

The prominent recent decrease in the extent of Arctic seasonal sea ice (see Figures 1 and 2) is imposing significant challenges on Arctic coastal communities. These challenges will be particularly prominent in Russia, where some of the greatest shore erosion worldwide is now occurring in the Laptev Sea (Günther et al. 2013). In the absence of summer sea ice, increased wave fetch is occurring, and there may also be a related intensification of cyclonic storms in the Arctic (Simmonds and Rudeva 2012). Rising sea levels and thawing permafrost will also contribute, with increased wave action, to higher rates of Arctic shoreline erosion (Lynch et al 2004). In the Laptev Sea, for example, shoreline erosion currently contributes more organic carbon to the Arctic Ocean than river runoff (Rachold et al. 2000), despite the presence of sediment contributed by the Lena River.

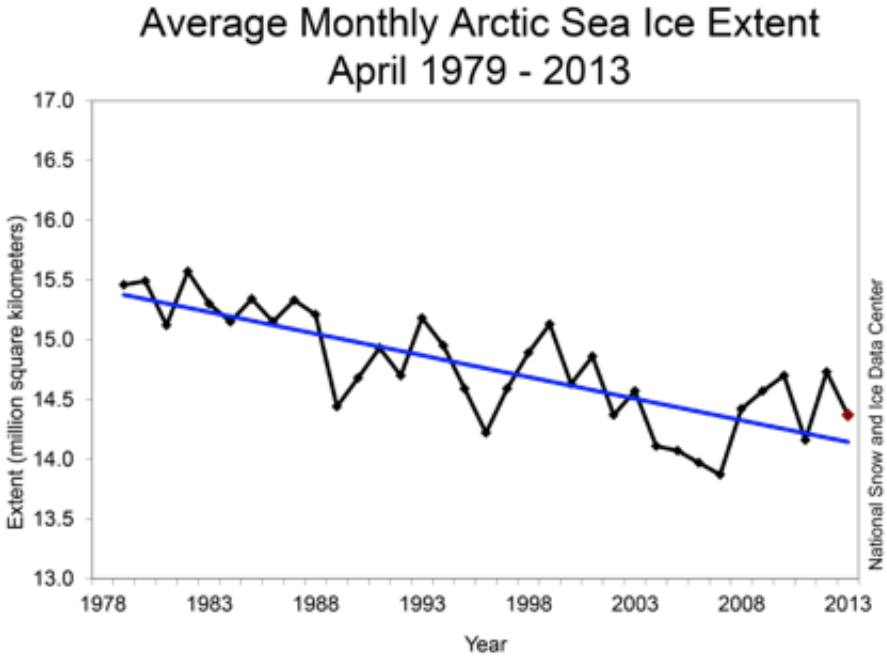
**Figure 1.** Arctic sea ice as of 21 May 2013, showing that current sea ice extent is well below the 1979- 2000 average and similar to the extent observed on this date in 2012.



Source: National Snow and Ice Data Center



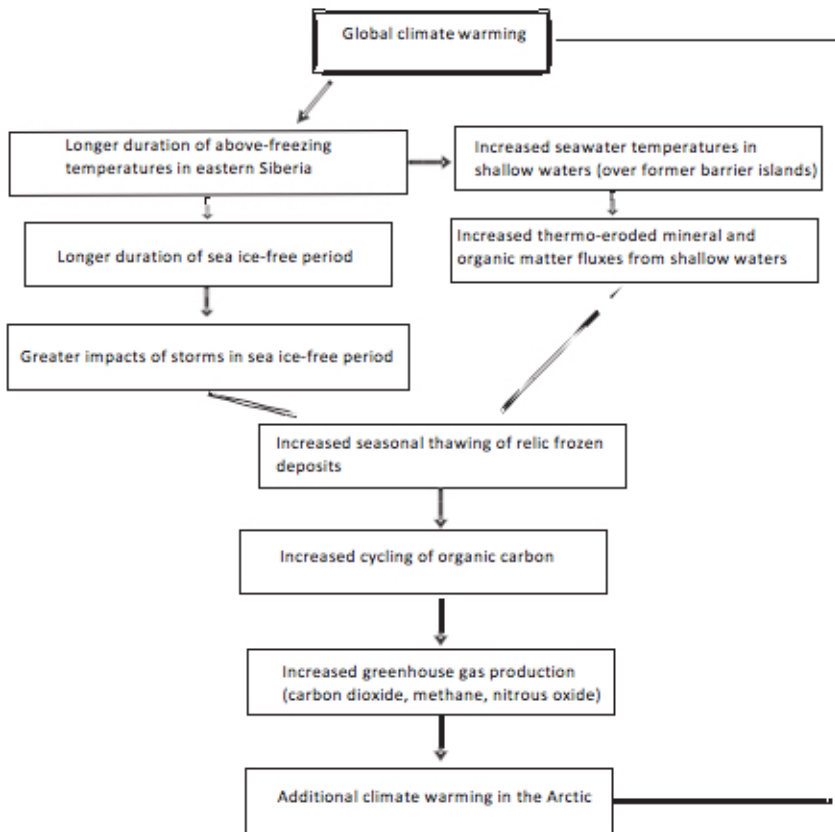
**Figure 2.** Sea ice decline in April during the satellite era. Similar patterns are apparent for almost every month of the year, and the decadal decline of multiyear ice has been even more striking.



*Source: National Snow and Ice Data Center.*

Economic centralization in Moscow, and the associated trend of de-population trends in outlying areas of Russia, has placed additional stress on cities and smaller communities in the Russian Arctic. While there is some hope that the development of new seasonally ice-free shipping routes will bring economic development to the Arctic, the positive feedbacks created by the current climate change regime (Figure 3) indicate that even greater challenges lie ahead.

**Figure 3.** Positive feedbacks driving climate warming in the Russian coastal Arctic.



*Based upon a contribution to a science planning document by Nikolai Romanovskii, Lomonosov Moscow State University, 2002.*

The problems of urban sustainability faced by Russian urban centers in the Arctic are, in many respects, no different from those faced by other Arctic countries, including the United States (Alaska) and Canada's North. High transportation costs and limited infrastructure preclude large-scale economic activity except for resource extraction, which often occurs far from existing Arctic urban centers. Examples of this phenomenon in Alaska include the Red Dog zinc-lead mine in northwestern Alaska and the Prudhoe Bay oil fields.

It is clear that almost all communities in the Arctic will face great

challenges over the next century. The climate is expected to continue to warm, thawing permafrost and damaging existing infrastructure and buildings. At the same time, shoreline erosion will accelerate, impacting many coastal regions. “Business as usual” approaches will likely be insufficient to ensure the viability of human communities in the Arctic, both in Russia and elsewhere; it will therefore be necessary to implement innovative plans for sustaining economic growth, particularly given the need for climate change mitigation. In the remainder of this chapter, I provide several brief case studies of communities in the Arctic coastal zone outside of Russia that are pioneering new ways to sustain economic activity for local residents: namely, by providing logistical assistance for the growing scientific research enterprise that is studying the impacts of climate change within the Arctic Ocean system and its connections to global climate. I believe the lessons learned from these communities’ experiences could potentially be applied at strategic locations in Russia where there are critical needs to monitor the Arctic Ocean system and related climate.

One example I will briefly highlight is the hydrographic flux of water through the Bering Strait, where observations are concentrated on the US side of the Strait. There, ship-deployed automated moorings record oceanographic information over annual periods using in-situ batteries for power (see, for example, Woodgate et al. 2005). However, the more poorly monitored Russian side of the Bering Strait is responsible for a much higher flow of nutrient-rich, productive water that affects overall Arctic Ocean productivity. Pilot scale studies on the US-Russian frontier at the Little and Big Diomedes (Ratmanov) Islands in the center of the Strait show that it is possible to sample representative surface waters from land-based water pumping systems that replicate the known isotopic tracer composition of Bering Sea water that reaches the upper halocline of the Arctic Ocean (Cooper et al. 2006). The establishment of mechanisms for continuous sampling of water flowing through the Bering Strait from Cape Dezhnev, or, more practically, from the nearest existing settlement north of the Bering Strait, Uelen, would significantly improve our understanding of how the productivity of the Arctic Ocean is influenced by the northward flow of Bering Sea waters, and therefore in assessing changes going forward.

## **Case Studies**

Several peculiarities and political processes account for the sustainability of the communities I highlight using a case study approach: Longyearbyen, Svalbard (Norway), Barrow, Alaska (United States) and Cambridge Bay, Nunavut (Canada). The historical artifacts and political processes that provide success to these communities may not necessarily be universally

applicable to improving economic sustainability in Russian Arctic urban centers, but there are only a few locations in Russia that derive any significant benefit at all from the large (and growing) internationally-driven investment in Arctic research. These communities include Tiksi on the Lena delta, where the United States and Finland operate clean air sampling systems with Russian cooperation, and Cherskii on the Kolyma River, where joint US- and Russian-led research on tundra landscapes has improved research infrastructure and international cooperation. I outline these case studies in the expectation that the lessons learned could be applied to improving the sustainability of Russian Arctic urban centers.

*Svalbard*, in particular, has become a center for internationally-focused science research. At least half of the 21 countries participating in the International Arctic Science Committee maintain a research presence on the Svalbard archipelago, including the U.K., Germany, France, India, Japan, Poland, the Republic of Korea, Italy, China, the Netherlands, and Norway. The internationalization of Arctic research in Svalbard is considered to be a direct consequence of the Spitsbergen Treaty of 1925 (Machowski 1995), which, while recognizing Norwegian sovereignty over Spitsbergen and the remainder of the Svalbard Archipelago, applied several principles that have led to the internationalization of the research enterprise at this high latitude. These principles include the right of all signatory states to access the archipelago in order to undertake commercial activities on an equal footing (subject to Norwegian legislation), which has been interpreted to include free, unfettered access for scientific research. Svalbard is also administered under an internal taxation regime with lower taxes than the Norwegian mainland. Grydehoj et al. (2012) provide a lengthy and interesting description of economic development on Svalbard and in its key community of Longyearbyen following the adoption of the Spitsbergen Treaty. They also point out that the foundation of the science research center by the Norwegian government at Ny-Ålesund was in part motivated by the desire to prevent an abandoned coalmine from being taken over by Russians. The primary economic activity on Spitsbergen in the past century has been coal mining, maintained by Soviet and Russian enterprises as well as by Norway, and these mines have been marginally economical to operate at best. Since the 1980s, new initiatives to promote scientific research have been highly successful, including the foundation of the University Centre in Svalbard; the Centre serves 450 students from all over the world who take one or more classes annually. The economic impact of the University Centre in Svalbard and the array of international research activities conducted – involving countries with growing interest in the Arctic, such as Korea, India and China – are clearly significant. (Some economic statistical estimates are available in Norwegian-language

government documents.) The economic activities associated with supporting scientific research are more sustainable than coal extraction; research support also provides a higher-value return for the local community than the third significant economic force in Svalbard, tourism, which includes short-term transient cruise ship passengers.

**Barrow, Alaska** is the largest community in the United States north of the Arctic Circle, with a population of 4202 (US Census 2010). Interest in supporting scientific research in Barrow is, in large part, a legacy of the US Naval Arctic Research Laboratory (NARL), founded in 1947. Local Inupiat residents of Barrow were employed during the Laboratory's operating period up until its closure in the late 1980s; they worked side-by-side with researchers, shared traditional knowledge of Arctic conditions, and facilitated the research efforts of NARL (Norton 2001). The facilities at NARL have now been successfully transformed into a revived scientific research complex. Researchers based both in the US and internationally use the area for air sampling, and for studying marine and tundra ecosystems, as well as marine mammals that are locally important for subsistence hunting. The research facility is locally owned by the Ukpeagvik Iñupiat Corporation (UIC), the Barrow Village corporation formed following the legislative passage of the Alaska Native Claims Settlement Act of 1971. A logistics support contract between the US National Science Foundation, CH2M HILL Polar Services, and a local subsidiary of the UIC, UMIAQ, provides a mechanism for continuing the local community economic development that was initiated during the operation of NARL. As with the economic impact of scientific research in Svalbard, it is difficult to estimate the total economic value of science support in the Barrow area, but in an email, Karl Newyear, a science support specialist with UMIAQ, provided me with the following outline of economic impacts:

I can say that our Barrow-based science support staff comprises 9 full-time positions, 1 seasonal position, and several temporary spots (e.g. on-demand bear guards) as well as administration in Anchorage. Labor costs have a government-approved multiplier which supports overhead, so it's a little unclear just how much money stays in Barrow versus our business office in Anchorage but Barrow residents certainly spend a lot of their salary locally. Almost every project conducting field work contributes \$154.50/person and \$200/project to the local government through UIC Land Use and North Slope Borough Land Management Regulations permits, respectively. UMIAQ leases huts and other UIC-owned space on the NARL campus to support visiting researchers. Visitors eat at the local restaurants and buy stuff at the grocery and hardware stores -- the amount might be hard to specify. We also buy a lot of gasoline for our snow machine, ATV, and truck fleet in support of science.

Barrow is part of the North Slope Borough, which has taxation authority over the oil field at Prudhoe Bay and other oil resources in northern Alaska, so the local government has financial resources that contribute to the local economy through government spending. Nevertheless, as oil field production continues to decline, sustaining Barrow as a community at its current size and regional importance will require the elaboration of new sources of economic development. The continued use of the area as a base for scientific research and as a local support for improving and enhancing scientific infrastructure appears to be a viable element of that future.

**Cambridge Bay, Nunavut** will be the site of a major investment by the Canadian government in a new Canadian High Arctic Research Station (CHARS). CDN\$142.4 million has been allocated for construction, with CDN\$46.2 million over six years set aside for Science and Technology training funds for local residents. Once construction is completed in 2017, annual operating costs are budgeted at CDN\$26.5 million. Up to 150 local jobs are expected to be created in a community that currently has a population of ~1100, located on Victoria Island in Canada's Northwest Passage. According to a press release from the office of Prime Minister Harper, the goals of the CHARS will include at least two objectives that could easily be applied to consideration of the sustainability of Russian Arctic communities (emphasis added):

- ***Develop and diversify the economy in Canada's Arctic;***
- Support the effective stewardship of Canada's Arctic lands, waters, and resources;
- Create a hub for scientific activity in Canada's vast and diverse Arctic;
- ***Promote self-sufficient, vibrant, and healthy Northern communities;***
- Inspire and build capacity through training, education and outreach; and,
- Enhance Canada's visible presence in the Arctic and strengthen Canada's leadership on Arctic issues.

## **Conclusions**

The success of these planned Canadian investments will not be known for a decade or more, but it is nevertheless helpful to summarize how these efforts, and existing efforts in Norway and the United States discussed above, are structured:

1. Unfettered international access to research sites in appropriate places in the Arctic (Norway, USA, probably Canada also)

2. Support from high levels of the national government
  - Norway – to strengthen treaty claims to sovereignty over Svalbard,
  - USA – NARL was originally a national defense facility
  - Canada – in part to strengthen sovereignty over the Northwest Passage
3. Support from local residents who benefit from economic diversification and employment opportunities (Norway, USA, Canada)

Unfortunately, the prospects of finding these research-friendly characteristics in a Russian research venue are fair at best. The challenges of obtaining local and national research permits in Russia, problems with temporarily importing scientific equipment and exporting samples, and other restrictions on land and in the Russian Exclusive Economic Zone are widespread and well known. The International Arctic Science Committee maintains an international advisory group, the International Science Initiative in the Russia Arctic (ISIRA), which has as one of its key goals to improve research access to the Russian Arctic. The ISIRA group has worked and exchanged information on these issues for a dozen years, and is also now working to promote the participation of the next generation of Russian scientists in high-latitude research. This working approach indicates widespread international understanding of the scope of research challenges in the Russian Arctic that could be addressed by changes in national and local Russian government policy.

I hope this memo can serve to highlight the economic development benefits that might accrue from a more “open door” Russian national scientific research policy in cooperation with other countries. In addition, from a scientific perspective, more research is critically needed in Russia because Arctic research investments to observe and assess climate change have not been geographically distributed evenly. By almost any standard, the Russian Arctic is understudied, yet it occupies a far larger portion of the Arctic than does any other nation. There is a risk that our understanding of changes in Arctic climate, ecosystems, biogeochemistry, and perhaps even urban sustainability may be unrepresentative because it is based on field data collected outside of Russia. The following statistics may give some idea of Russia’s prominence in the Arctic: 60-70% of Arctic land area (depending on how the Arctic boundary is defined) is in Russia; the majority of river discharge to the Arctic Ocean comes from Russia (~10% of global river runoff is to the Arctic Ocean); and over 80% of the Arctic’s human population lives in Russia. The world’s largest continental shelves are in the Arctic, and most of the Arctic Ocean’s expansive shelf is in Russian territory. Russia’s boreal forests, peatlands, tundra, and shelf contain globally significant reservoirs of stored organic carbon that are

both a source and sink of greenhouse gases, including carbon dioxide, methane, and nitrous oxide. Thus, whether one considers land or continental shelf surface area, river discharge volumes, watershed area, or human population size, most of it is found within Russia or its territorial waters. The need for community sustainability is strongly linked to an interdependent need for a comprehensive understanding of the Arctic, which cannot be achieved without expanding research opportunities for studying the Arctic System from within the Russian Arctic.

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# INTERACTION BETWEEN SOCIETY AND ENVIRONMENT REFLECTED IN URBAN CLIMATES

IGOR ESAU AND VICTORIA MILES

NANSEN ENVIRONMENTAL AND REMOTE SENSING CENTER/BJERKNES

CENTRE FOR CLIMATE RESEARCH

(2016)

Modern human societies have accumulated considerable power to modify the environment and the earth's climate as a whole. The most significant impact is found in urbanized areas. This study shows that urban climates in the northern West Siberian cities (Tazovsky, Nadya, Noyabrsk and Megion) are significantly (1.3°C to 5.2°C) warmer than the climates of the surrounding regions. This higher temperature corresponds to the expected polar warming by the middle or the end of the century as well as to the climate found 300 – 600 km to the south. The disturbed areas in and around the cities are re-vegetated with more productive forest and tall shrubs. The migrant city population welcomes this afforestation as it is more consistent with their traditional ecological knowledge. Significant effort and investment are directed toward introducing an even broader spectrum of temperate blossoming trees and shrubs into urban green spaces.

Urbanized territories represent significantly, or even entirely, anthropogenic environments. Anthropogenic modification of some environmental features, such as landscapes, land use type and air quality, is obvious to any observer. Changes in other environmental features are less accessible. For instance, vegetation and temperature changes, considered in this study, could be identified only through careful statistical analysis of meteorological data and satellite images.

It is even more difficult to establish unambiguous links between socio-economic, ecological and physical environment features. A straightforward causality approach is usually not fruitful in such studies, as the links could be mediated by seemingly unavoidable technologic solutions and landscape management decisions. Nevertheless, growing empirical evidence indicates the impact of urban vegetation and microclimate diversity on population health and lifestyle, eventually contributing to the

psychophysiological comfort of the population (Zrudlo 1988; Nikolopoulou and Steemers 2003). Urban green spaces serve as places of identity and belonging. They provide important social and psychological benefits, enriching human life and emotions. Those benefits might be as important to urban sustainability as are the more recognized recreation and protective services provided by green spaces.

This study suggests that the reverse connection might also be influential. The urban migrant dwellers use their traditional ecological knowledge to create, or at least to favor, vegetation ecosystems more compatible with their ideas of urban green spaces (mostly drawn from temperate climates). The cultural, social and environmental services of urban green spaces are even more appreciated in the severe Arctic climate (McBride and Douhovnikoff 2012; Roy et al. 2012), where their maintenance, particularly urban forestry, is a challenging task (Srodnykh 2008). In the present study, we limit the discourse to a trans-disciplinary triad: urban heat island (UHI) – urban green spaces – traditional ecological knowledge (TEK). This triad frames interpretation of quantitative data analysis, but so far it cannot be understood within the cause-and-effect paradigm.

## **Urban heat island**

We begin with the urban heat island (UHI) – the systematic temperature difference between the urban area and surrounding rural locations – as the most established component of the triad. Although Arctic UHI amplitudes vary substantially in space and time (e.g. Konstantinov et al. 2015), the UHI is unambiguously recognized both in winter (polar night) and summer (polar day) seasons. Frequent air temperature inversions – where the air temperature increases with altitude (Wetzel and Brummer 2011) – trap and accumulate urban heat within the lowermost atmospheric layer (Davy and Esau 2016). The urban-rural temperature difference is further enhanced when the additional heat penetrates the upper soil (Hinkel and Nelson 2007; Klene et al. 2013) and water (Steenefeld et al. 2014) layers.

Wienert and Kuttler (2005) found that the UHI amplitudes increase towards high latitudes. This study confirms that observed tendency with a new 2000-2014 climatology, obtained from the 1 km spatial resolution land surface temperature (LST) data product by the Moderate Resolution Imaging Spectroradiometer (MODIS) onboard the Terra and Aqua satellite platforms. The MODIS data products are widely used for studies of environmentally determined phenomena (see, for example, Balsamo et al. 2010; Tatem et al. 2004).

This study considers four cities in the northern part of Western Siberia: Tazovsky, Nadym, Noyabrsk, and Megion. Table 1 summarizes the cities' characteristics. The MODIS-based climatology reveals that all

four cities have significantly modified LST and vegetation cover. Figure 1 shows that the UHIs and the changed land cover patches are collocated. The strongest area-averaged UHI is found in Noyabrsk, while the UHIs in other cities are also significant. Notably, the higher temperatures in the UHIs correspond to the projected polar warming by the end of the 21<sup>st</sup> century or to the contemporary climate observed 300-600 km to the south.

Urban development destroys the natural vegetation cover. In addition, many northern cities are built on artificial sandy ground that is higher than the surrounding landscape and therefore better drained. Distortions of the established cold-conserving ecosystems, better drainage, and anthropogenic heating (up to 50 W/m<sup>2</sup>) create favorable conditions for the reclaiming of urban land disturbances by broad-leaf and dark-needle trees and other more southern plant species (Lloyd et al. 2003; Srodnykh 2008; Koronatova and Milyaeva 2011; Miles and Esau 2016). Figure 1 and Table 1 show that three cities (all but Nadym) display greening: that is, an increase in the maximum Normalized Difference Vegetation Index (*NDVImax*). This urban greening is particularly interesting to observe in the southernmost city of Megion, where the surrounding vegetation shows no *NDVImax* changes or even widespread significantly negative trends.

Thus, the region-wide satellite-based air temperature climatology and vegetation productivity dynamics support the conclusions of previous detailed but highly fragmented studies: the urbanized cities of northern Siberia enjoy a significantly warmer climate. Both the reclaimed natural vegetation and managed vegetation of the urban green spaces receive benefits from the UHI and urban soils (“*urbanozem*” - Srodnykh 2008). These benefits are seen in a considerable increase in biomass production (*NDVImax*) in the urban territories.

## Urban green spaces

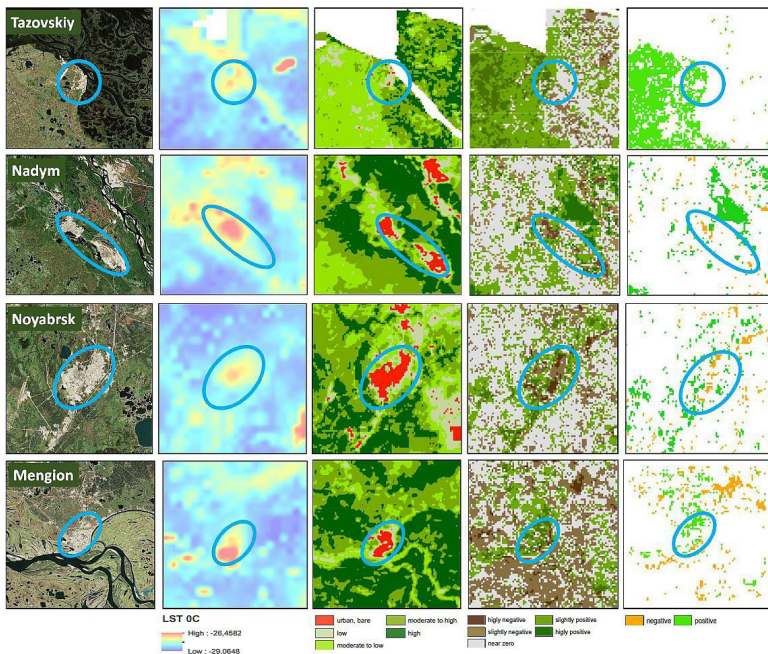
The idea of a healthy environment as an urban space with green places and forest is deeply rooted in the TEK systems of the migrant population (McBride and Douhovnikoff 2012). The migrant population embraces the connection between the green spaces and living comfortably; they encourage various forms of green planning, even those that entail significant time, administrative, and financial resources. Srodnykh (2006) showed that green space planning in Siberian cities frequently begins with the conversion of a shift-worker settlement into a permanent one. More recently, municipal administrations have increased their investments, experimenting with more plant species from further south, and even fruit trees.

Northern vegetation is critically sensitive to the combination of positive air and soil temperatures (Barichivich et al. 2014). In this sense, the UHIs (in late spring and early autumn) and better drainage of urban

sandy soils (in summer) favor a longer growing season. The warmer, dryer soils improve conditions for plant rooting. The green spaces also mediate eventual cold air spells, as the latter correlate well with reduced vertical mixing and the dilution of additional urban heat.

At the same time, the evergreen trees and tall shrubs absorb more solar energy in the summertime and reduce the long-wave radiation cooling in the wintertime. This shifts the surface heat balance towards higher temperatures. Moreover, increasing surface roughness and wind reduction in the forest prevent convection and heat dilution across the surrounding territories. Thus, the afforested urban green spaces can create positive temperature feedback when the UHIs facilitate greening and greening further enhances the UHIs.

**Figure 1.** Maps for 4 different cities situated in four bioclimatic zones: tundra (Tazovskiy); forest-tundra (Nadym); Northern taiga (Noyabrsk); and southern taiga (Mengion). The leftmost column shows the LANDSAT visual image; the 2nd column, the mean wintertime urban heat island using LST MODIS data; the 3rd column, the mean NDVI<sub>max</sub> around the city; the 4th column, the NDVI<sub>max</sub> trends; and the 5th column, the statistically significant ( $p < 0.01$ ) NDVI<sub>max</sub> trends. Square side is 20 km. Blue ellipses help to collocate the patterns.



## Traditional ecological knowledge

Recognition of the TEK concept began with research on people's understandings of ecological processes and their relationships with the physical environment (Berkes 2000). In short, TEK is a knowledge-practice-belief complex with a component of belief included in people's interaction with their immediate environment. TEK accumulates over generations of living in a particular environment, and is therefore frequently considered as synonymous with indigenous knowledge (Whyte 2013). Hence, the Arctic urban migratory population unavoidably brings and attempts to implement its TEK, which, in the case of the northern Siberia, corresponds to temperate mid-latitude Russian or even central Asian ecosystems.

As we will illustrate with the Nadym case below, these temperate TEKs are used to organize urban green spaces, as well as in environmental management more broadly. In this process, decision-makers from the migrant population strongly depreciate the value of open landscapes in favor of forests and shrub patches (Kumpula et al. 2011).

## The Nadym case

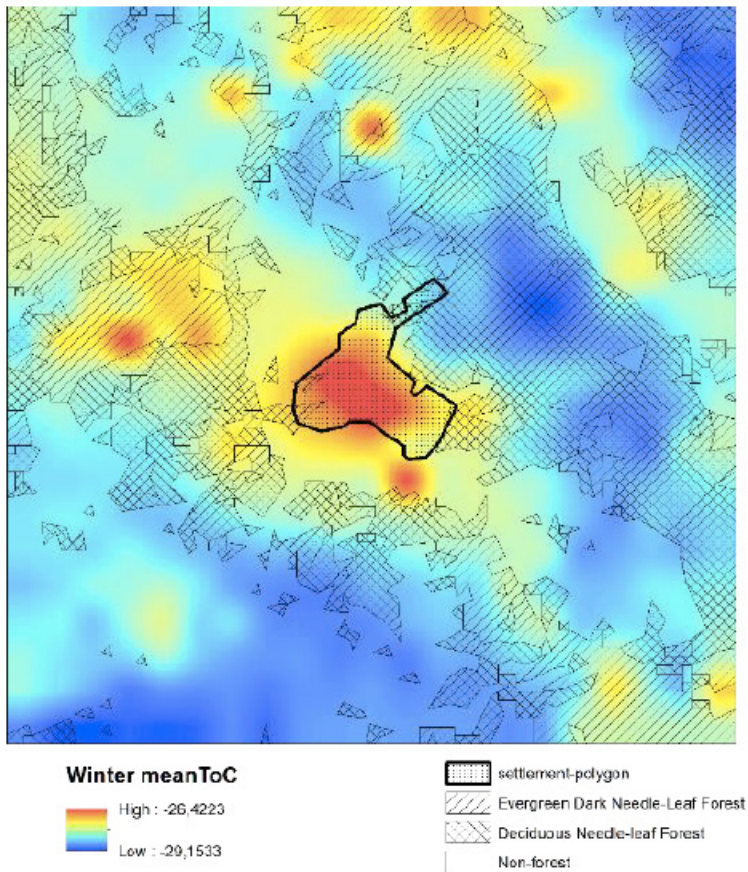
The Nadym case provides us with deeper insight into the proposed triad connectivity. Figure 2 reveals seasonal LST changes in and around Nadym. The map is overlaid with the vegetation types' chart. Nadym's UHI is clearly recognizable. In addition, one can identify a seasonal (summer-time) heat island south of the city that is developing on the sandy soils of the airport. The seasonal emergence of the airport UHI indicates that the amplitude of the Nadym UHI is determined by direct anthropogenic heating rather than by the modified urban soil heat balance. Longer field studies summarized by Moskalenko (2009) reveal the permafrost and vegetation changes in the Nadym area between 1970 and 2008. The human-induced terrain disturbances were reclaimed by plant communities of birch (*Betula nana*), pine (*Pinus silvestris*, *Pinus sibirica*) and tall shrubs, which are more typical of northern taiga ecosystems south of this area.

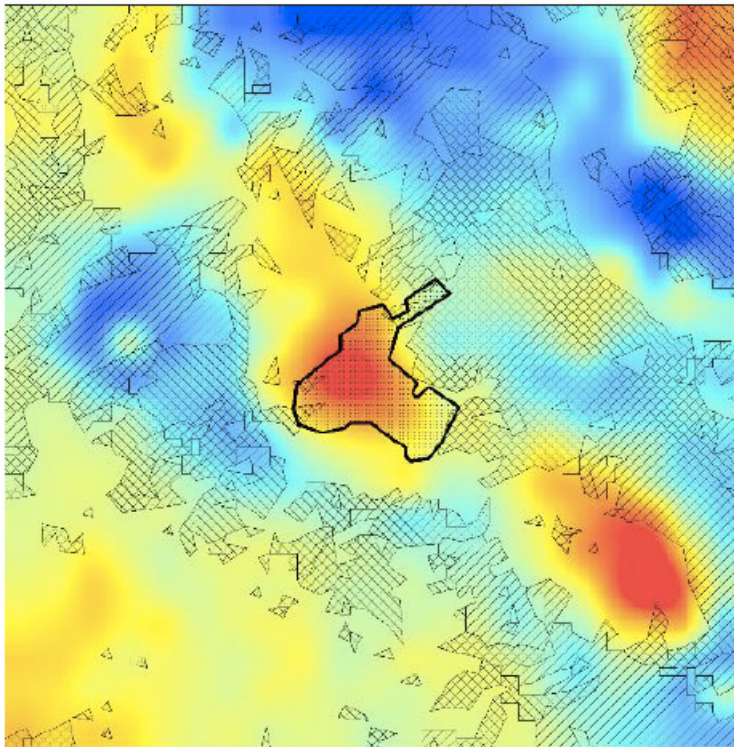
Although natural forest productivity is increasing as air temperatures rise (Miles and Esau 2016), *NDVImax* trends in the city remain negative due to intensive urban development and the construction of infrastructural objects. The development of urban green spaces in Nadym consistently demonstrates the implementation of migrants' TEK. The city not only conserves existing relict forest patches, such as dark-needle *Pinus sibirica* forest in the city park, but also actively introduces exotic southern plant species. Intriguingly, the label of "ecological" behavior is pinned not on the effort to conserve patches of natural vegetation but on the work to introduce even larger areas of temperate vegetation.<sup>1</sup> The ultimate expression of this cultural attitude comes from the municipal program "Nadym – the



blossoming city of the North,” which encourages city-dwellers to participate in the work of tree- and flower-planting.





**Figure 2.** The mean winter (Image 1) and summer (Image 2) season urban heat islands over Nadym, Western Siberia. The seasons are defined as June – August (summer) and December – February (winter). The color shading shows the seasonally averaged land surface temperature from the MODIS LST product between 2000 and 2014. Gray shading identifies the forest area. Black contours show the buildings. Image 3 shows the landscape and land use in the area around the airport, while Image 4 gives the same data for the Nadym city core. The images are from Google Earth.





**Summer mean ToC**



-  settlement-polygon
-  Evergreen Dark Needle-Leaf Forest
-  Deciduous Needle-Leaf Forest
-  Non-forest





## Synthesis and perspectives

Knowledge of the UHI, the physical mechanisms behind it, and its links to the biological and anthropogenic components of the earth climate system could be utilized in an emerging paradigm for climate services (Vaughan and Dessai 2014). This paradigm involves the generation, provision, and contextualization of information and knowledge derived from climate research, to be used in decision-making at all levels of society.

Cities in temperate zones introduce urban green spaces to cool and moisten the environment. Those functions are not welcome in northern cities – and the boreal forest might not perform them. Li et al. (2014) demonstrated that the boreal forest effect is rather different, leading to strong winter (and annual mean) warming and moderate summer cooling of the cities. Our results show that, at the polar circle, the boreal (*Larix sibirica*) forest remains cooler than the open green spaces even in winter-time (see Figure 2).

In northern cities, green spaces have more of a cultural and psycho-physiological significance. They relieve the psychological pressure on migrants by providing more traditional, and therefore more comfortable, visual spaces. This psychological comfort might explain why city-dwellers so cherish the flowers and temperate-climate trees (e.g. *Malus sylvestris*) while widely neglecting the natural vegetation systems.

The identified higher temperatures in the polar UHIs and the positive *NDVImax* trends in the urban vegetation cover call into question the widely accepted concept of damaging anthropogenic pressure on the polar environment. In fact, existing building practices and urban heat pollution support rather than impede re-vegetation over a long period of time. Moreover, the disturbed microsites facilitate the establishment of more productive ecosystems.

This study shows that, at present, climate change and culturally motivated landscape modifications are broadly aligned. The spatially localized urban settlements have higher temperatures and better-drained artificial soils, which aid in establishing the desired urban green spaces. From a regional perspective, this alignment might lead to environmental mismanagement and create grounds for conflict, as indigenous and migrant TEKs are incompatible in terms of the value they place on natural landscapes.

**Table 1.** Four cities in Western Siberia included in this study. The city population (pop. in thousand inhabitants) is given from the Russian national census, 2010. The mean background *NDVImax* (nature) is shown for the most distant 40-km ring. The relative trends are given for the time series without the years with the minimum and maximum *NDVImax*.

Statistically significant trends at 95% level are underlined. The biomes are abbreviated as: tundra (T); forest-tundra (FT); northern taiga forest (NTF); and middle taiga forest (MTF).

	City Name	Coord.	Pop. (x1000)	Biome	UHI (°C) Summer day
	Tazovskiy	67°28'N 78°42'E	↓7	NTF	1.7
	Nadym	65°32'N 72°31'E	↓46	NTF	2.1
	Noyabrsk	63°11'N 75°27'E	↓107	MTF	5.2
	Megion	61°22'N 76°06'E	↓49	MTF	2.1

UHI (°C) Winter night	Mean NDVI-max (nature)	NDVI-max trend (nature) [% dec <sup>-1</sup> ]	Mean NDVI-max (city core)	NDVI-max trend (city core) [% dec <sup>-1</sup> ]
1.3	0.73	+1.5%	0.63	<u>+7.6%</u>
2.1	0.71	+1.2%	0.55	-1.8%
3.9	0.69	No change	0.60	+0.6%
2.0	0.77	+0.8%	0.52	<u>+6.9%</u>

<sup>1</sup> A good illustration of this controversial perception of the conservation issues is given by a new “Ecopark” project. See <http://www.gazprom.ru/about/subsidiaries/news/2013/july/article166464/>

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**INTERNATIONAL  
COOPERATION AND  
PARALLELS**



# BLACK CARBON EMISSIONS: IMPACTS AND MITIGATION

MEREDYDD EVANS

PACIFIC NORTHWEST NATIONAL LABORATORY

(2013)

## **What is black carbon?**

**B**lack carbon (BC), a product of incomplete combustion of coal, diesel, biofuels, and biomass, is “the most strongly light-absorbing component of particulate matter (PM).”<sup>1</sup> It can be defined as “a solid form of mostly pure carbon that absorbs solar radiation at all wavelengths.” BC is the most effective form of PM at absorbing solar energy and is a major component of soot, impure carbon particles that also contain organic carbon. “BC is emitted directly into the atmosphere in the form of fine particles (PM<sub>2.5</sub>).” Initial analysis indicates that Russia contributes about 7% of BC emissions globally; natural fires, residential, transport, and industrial energy use appear to be the main sources of BC emissions in Russia. In the Russian Arctic, mobile and stationary engines are among the largest sources of BC emissions, and substantial mitigation opportunities exist.

## **Impacts of black carbon on public health, environment, and climate**

BC, as part of PM<sub>2.5</sub>, has “adverse impacts on human health, ecosystems, and visibility.” Short-term and long-term exposure to PM<sub>2.5</sub> is associated with respiratory and cardiovascular diseases, as well as premature death. PM<sub>2.5</sub>, including BC, is also linked to reduced crop yields and damage to materials and buildings. BC particles can penetrate the human body by inhalation into the lungs, via water and food contact with the gastrointestinal tract, and through skin and mucosa. In a study conducted by the Russian Academy of Sciences, PM<sub>10</sub> emissions are positively associated with an increase in non-accidental deaths as well as mortality due to ischemic heart disease and cerebrovascular diseases in Moscow between 2003 and 2005.

BC influences climate in three ways: direct effect, snow albedo effect, and cloud interactions.

First, BC contributes to the warming of the atmosphere by absorbing radiation at all wavelengths (direct effect). Second, BC “deposited on

snow and ice darkens the surface, reduces reflectivity and thus increases absorption and melting” (snow albedo effect). Third, BC also interacts with clouds, which affects cloud stability, precipitation, and reflectivity (cloud interaction effects). These influences—particularly the snow albedo effect—also make the Arctic particularly vulnerable to BC emissions. A recent study concluded that black carbon had a net climate forcing of +1.1 W/m<sup>2</sup>, making it the second most important contributor to climate change after CO<sub>2</sub>. In addition, the climate effect may increase the likelihood of extreme weather, such as the prolonged and extreme summer heat in Moscow in 2010, which appears to correlate with high mortality during that period.

### **Mitigation strategies and climate, environmental, health, and economic benefits**

BC is emitted with other particles and gases. Depending on their composition, these mixtures of emissions can produce mixed effects on the climate. It is therefore important to consider the effects of co-emitted particles and gases when evaluating mitigation options. For example, BC accounts for about 75% of particle emissions from mobile diesel engines, while particles emitted in biomass burning are primarily organic carbon, which is generally more reflective than black carbon. The location of the emissions is also important, since emissions that reach Arctic snow and ice will tend to cause warming regardless of composition due to the very light surface underneath.

Improving combustion and controlling direct PM<sub>2.5</sub> emissions can help reduce BC emissions. Some recommended mitigation options include: improving energy efficiency to reduce demand from diesel generators; improving the efficiency of diesel machines; increasing new engine standards or enhancing fuel standards to reduce emissions from mobile sources; and replacing or retrofitting industrial boilers and diesel generators. BC has a short atmospheric lifetime, and the climate will respond quickly to reductions in BC emissions, especially in sensitive regions like the Russian Arctic. In addition, strategies to reduce BC emissions normally reduce PM<sub>2.5</sub> emissions as well, providing substantial public health, environmental, and economic benefits. It is estimated that in the US, the benefits linked with reducing PM<sub>2.5</sub> emissions range from \$290,000 to \$1.2 million per ton of PM<sub>2.5</sub> in 2030; the estimated cost to achieve such emissions reductions is much lower.

<sup>1</sup>All direct quotes are from EPA 2012.



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# INTERNATIONAL COOPERATION AS A MEANS FOR RUSSIA'S ARCTIC URBAN SUSTAINABILITY STRATEGY

ALEXANDER SERGUNIN  
ST. PETERSBURG STATE UNIVERSITY  
(2013)

This paper aims to examine how Russian Arctic urban municipalities use cooperation with international partners to ensure sustainable development. This is an entirely new – post-Soviet – phenomenon because, first, most of the Arctic zone of the USSR was closed to cooperation with foreigners and, second, it was the central authorities who took care of the Soviet Far Northern territories in terms of their development and supply. The harsh realities of the 1990s (when many Russian northern territories were almost abandoned by the federal government) forced local actors to seek new survival strategies. Municipalities see cooperation with international partners as a valuable resource for – and an efficient method of – ensuring their sustainable development.

Specialists distinguish two main types of international strategies deployed by municipalities: direct (developing external relations of their own) and indirect (influencing regional and federal governments' foreign policies, as well as international organizations).

*Direct methods* include:

- *Treaty-making.* Despite the heated debate between federal, regional, and municipal authorities over who has treaty-making powers, municipalities have been quite active in this area. Since the early 1990s, many Russian Arctic municipalities have concluded direct agreements with their international counterparts. In the past, such treaties had been prepared with the assistance of the Russian Foreign Ministry. These municipal 'treaty-making' activities are some of the most effective instruments available to cities seeking to strengthen their international prestige.
- *Attracting foreign investment.* Some Russian Arctic municipalities have succeeded in winning foreign investment to develop their local economies. For example, Canadian companies have

invested – or plan to invest – in the mining industries (gold and silver) in Chukotka and Yakutia, as well as in the oil fields and the renewable energy sector in the Nenets Autonomous District (See the Minregion website: <http://pda.www.minregion.ru/Arctic/552/650/1693.html>).

- *International environmental projects.* To solve their numerous environmental problems at a time when they are short of money and federal subsidies, Russian Arctic municipalities have engaged in cooperation with international partners. For example, there are plans to create a U.S.-Russian natural park, provisionally named *Beringia*, focused on protecting biodiversity in the Bering Strait region. This project is crucial for the local economy, which is heavily dependent on the fishery. The idea is that the park would be based on the experiences of an existing ethno-natural park of the same name, established in 1993 on the Russian side of the Bering Strait. (See the *Beringia* park's website: <http://beringiapark.ru/>).
- *Education and culture.* Most of the Russian Arctic urban municipalities have well-established educational/cultural cooperative ties with foreign countries. Of the Russian Arctic higher education institutions, the Northern-Arctic Federal University (Arkhangel'sk), Murmansk Pedagogical University, and Yakutia State University have the most intensive international cooperative programs funded by foreign partners. These include teacher and student exchanges, joint bachelor and masters programs, collaborative research projects, and so on.
- *Indigenous people.* Between 2006 and 2009, the Canadian International Development Agency implemented a series of small projects to support indigenous peoples' traditional economies and way of life in municipalities of the Yamal-Nenets and Khanty-Mansi Autonomous Districts.
- *Creating a positive image of a region.* To attract foreign investors, some municipalities have launched aggressive PR campaigns. Among other things, they arrange exhibitions; hold so-called 'cooperation days' or festivals in sister cities; take part in international fairs; and advertise themselves in the foreign mass media. Municipal leaders undertake foreign trips for PR reasons. Some towns publish English-language periodicals oriented toward foreign audiences.
- *Cooperation with international organizations.* In hopes of obtaining international assistance, many municipalities try to develop relations with regional and sub-organizations, such as the Barents/Euro-Arctic Council (BEAC), Arctic Council, Council of Europe, European Congress of Municipal and Regional Governments,

and the European Regions Assembly. The BEAC, for example, has a Murmansk office that coordinates cooperative projects at the regional and municipal levels. It should be noted that cooperation with international organizations is important for Russian Arctic municipalities not only in terms of survival or acquiring additional resources for their development programs but also in terms of increasing the municipalities' openness to the forces of globalization and regionalization.

*Indirect methods* boil down to:

- *Taking part in federal diplomacy.* Since federal law envisages that Russian regional and local governments will participate in international activities that concern them, some municipalities have managed to include their representatives in official delegations and negotiation teams. For example, Murmansk representatives assisted the Russian Foreign Ministry in preparing the Russian-Norwegian agreements on delimiting maritime territories in the Barents Sea and on the visa facilitation regime for the border regions (2010).
- *Exploiting the Russian Parliament.* Similar to regional governments, municipalities use the legislature to lobby for their foreign policy interests at the federal level. The Federation Council – the upper chamber of the Parliament, which is made up of representatives of the Russian regions – is the most popular vehicle for regional and municipal lobbying. Working with regional governments, the Arctic municipalities seek to promote political ‘heavyweights’ for the senatorial positions in the Federation Council; these individuals then serve as lobbyists for the municipalities and regions.
- *Capitalizing on federal infrastructure.* To promote their foreign policy interests, the municipalities use the institutional structure created by Moscow in the periphery. For example, the Foreign Ministry has established a special unit on inter-regional affairs; the Foreign Ministry, Ministry of Commerce, Customs Committee, and Federal Border Service all have offices in those regions/municipalities engaged in intensive international cooperation. Theoretically, these agencies should coordinate and control municipalities' international contacts. However, they often serve more as an instrument for the municipalities to pressure Moscow than as a tool for the center to exert leverage over the cities. The problem is that these agencies are dependent on local authorities

for housing, salaries, and professional career advancement. They are usually staffed by locals with close personal connections to the regional or municipal elites. Some experts claim that this situation even casts doubt on the loyalty of these federal structures to Moscow.

- *Exploiting international organizations.* To put pressure on Moscow, the municipalities have managed to use not only the Russian federal institutions mentioned above but also international organizations. For instance, to attain a more privileged status (such as a facilitated visa regime with neighboring countries or the designation of “special economic zone”), Russian Arctic municipalities have quite skillfully exploited venues such as the BEAC or the EU’s Northern Dimension program. The northern areas of Russia are represented at the Regional Council of the BEAC and have developed direct ties with the neighboring regions of Finland, Norway and Sweden.

It should be noted that, in practice, the regions combine both direct and indirect methods; the two approaches are complementary rather than mutually exclusive.

### **City-Twinning: The case of Nikel-Kirkenes**

City-twinning has proved to be a most promising form of international cooperation at the inter-municipal level in Northern Europe. The case of Nikel-Kirkenes exemplifies a success story in the Arctic zone.

The first twinning agreement between Kirkenes and Nikel was signed during the Cold War era (1973). At that time, the collaborative ties between two towns consisted mostly of irregular cultural contacts and reflected a local interest in reaching across the then rather divisive and by-and-large closed border (Brednikova and Voronkov 1999).

The relationship went much further in the post-Soviet era, with both the Norwegian and Russian sides expressing interest in reinvigorating their city-to-city relations on a new and more pragmatic basis. This mutual interest and intensified contacts between the towns have resulted in a cooperation agreement between the Sør-Varanger community and the Pechenga district (part of the Murmansk Region), including a special Kirkenes-Nikel twin city project. The agreement was signed by the leaders of the Sør-Varanger community and of the Pechenga district on March 28th, 2008. The agreement and twin city project were approved by the Norwegian and Russian foreign ministers at their meeting in Kirkenes (June 9, 2008) (Pogoretskaya 2008).

Specific projects and general spheres of cooperation covered by the

project include:

- Support for small and medium-size business
- The establishment of a joint Business Cooperation Centre in Nikel
- Environmental protection
- Health care (including direct cooperative schemes between municipal hospitals)
- Education (direct links between elementary and secondary schools)
- Training programs for municipal officials
- Tourism
- Cultural festivals and exhibitions
- Library and museum cooperation
- Mass media cooperation
- Women and youth cooperation
- Sports (see Smirnova 2008).

The agreement is part and parcel of a broader Norwegian-Russian strategy of cooperation in the North. For Norway, the North has been designated a strategic priority area of the country's foreign policy, as articulated, for example, in the Government's High North Strategy (issued in 2006 and updated in 2009). The September 2010 treaty between Norway and Russia on the delimitation of maritime areas in the North has further added to the interest in, as well as the prospects for, cooperation.

As to twinning, there is still considerable emphasis on cultural contacts, although cultural bonds have increasingly related to more pragmatic and interest-driven forms of cooperation. Hence, the case of Kirkenes-Nikel is clearly to be understood as a laboratory introduced in order to explore and test the prospects for cooperation in a broader context. The Kirkenes-Nikel twinning is itself connected to the Norwegian Pomor Plan, a plan initiated by Norwegian experts in 2006 that aims to establish a Pomor Special Industrial Zone in the Sør-Varanger/Petchanga districts of the border region; the Special Industrial Zone may even transcend the Norwegian-Russian border (Cherednichenko 2008).

Plans to build a metallurgy plant on the coast of the Pechenga Bay were a particular focus. One of the primary aims of establishing such a zone is to facilitate the development and use of the Shtokman gas field in the Barents Sea, including by providing the bulk of the necessary regional transport infrastructure and constructing a plant to produce liquefied natural gas. Russia and Norway have also decided to connect some of their gas pipelines in the Barents Sea area; by bringing the pipeline on land, an appendage might also reach Nikel, meaning that nickel deposits could be processed on the spot rather than traded on the world market as raw material, as has been the case so far.

This opens up some interesting prospects for twinning. The broader background also implies that, over time, the twinning between Kirkenes and Nickel might be integrated into a broader pattern of transborder cooperation between Norway and Russia, with several other cities and regional actors as part of the configuration.

Crucially, the Russian authorities have been prepared to consider such a plan of extensive transborder cooperation, although there also seem to be competitive aspects at stake. For example, the Murmansk regional authorities have been reserved about a project that aims to build a 40km railroad from Nickel to Kirkenes. Such a connection would be needed in order to route part of a broader flow of goods that comes from the Far East and Russia's High North to Europe and North America (via Murmansk) to Kirkenes. Owing to competition between the cities, the railway project has made little progress. Instead, Oslo has begun to push for exploring the viability of a railroad from Rovaniemi (Finland) to Tromsø or Finnmark county as an alternative transport corridor. According to the Norwegian foreign minister, Jonas Gahr Støre (2010), the plan is being assessed "on a serious basis."

Another aspect of the Nickel-Kirkenes twinning is labor relations. There is a considerable shortage of skilled labor in Sør-Varanger and Finnmark more generally, a shortage that has become more acute with the re-opening of iron mines in the vicinity of Kirkenes. Efforts have been made to improve the flow of labor in the Barents region between Norway and Russia. These include training for jobs in the offshore sector and an exchange of experience through the promotion of an inclusive labor market (Støre 2010, 10).

In that context, an agreement was reached to establish a local border traffic zone and introduce a border resident ID card (November 2, 2010). Those who live within 30 km of the border on the Norwegian side and 30–50 km on the Russian side will be able to cross the border without a visa and stay on the other side for up to 15 days at a time. Both Kirkenes and Nickel will be covered by the arrangements, as will Zapolyarny, a nearby city. Temporary work permits of up to three years can be issued to unskilled Russian workers from the Barents region for work in any sector in the three northernmost Norwegian counties. Both the Norwegian and Russian sides ratified the agreement in early 2011.

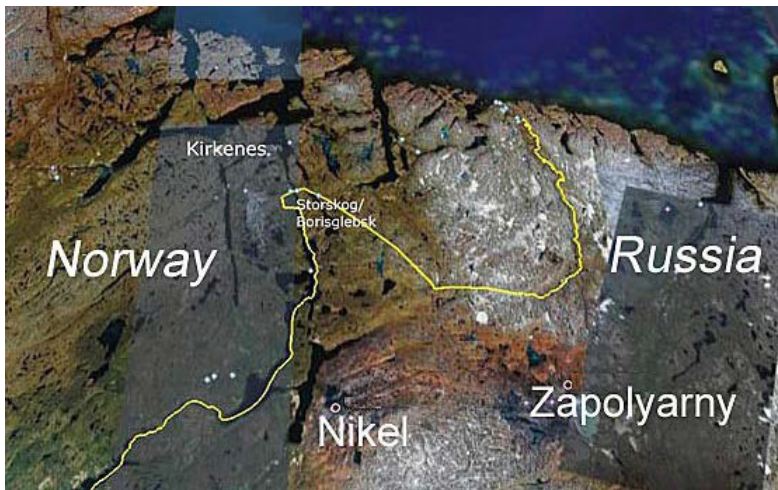
These increased contacts imply that the number of border crossings has grown considerably. The Norway-Russia border crossing at Storskog, near Kirkenes, was reopened in 1991, but initially the number of border crossings remained low, with only a few thousand crossings recorded annually. In 2010, the figure exceeded 100,000 crossings per year (Støre 2010, 9); it is expected to be much greater in the forthcoming years.

In spite of some bureaucratic obstacles (mostly presented by the



regional and federal governments), the twinning project seems to have reasonably good prospects of growth for the foreseeable future as part of increased cooperation between Norway and Russia. If the project succeeds, the Kirkenes-Nikel pair plans to join the City Twins Association.<sup>1</sup> In any case, their decision to become city twins seems to indicate that the concept of twinning has retained its attractiveness in northern Europe, and has also become a project that some states in the region wish to advance and support.

**Figure 1.** Area map.



<sup>1</sup> Established in 2006 by several city-pairs from Northern, Eastern and Central Europe. For more detail, see Joenniemi and Sergunin 2008.

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# MAKING POLICY FOR THE NORTH: NORWEGIAN PERSPECTIVES

PÅL ARNE DAVIDSEN

FOREIGN AFFAIRS ADVISER FOR THE PROGRESS PARTY IN THE  
NORWEGIAN PARLIAMENT

VISITING SCHOLAR, THE GEORGE WASHINGTON UNIVERSITY  
(2013)

While northern Norway was, for a long time, perceived as an area with high unemployment rates and a lack of opportunities for future generations, several significant events and developments in recent years – both national and international – have revitalized the region and increased attention to, and interest in, what is going on in the High North. Climate change and the melting of the polar ice caps in the Arctic present challenges in a number of areas, but they also offer opportunities to access new natural resource deposits and open new shipping routes. On September 15, 2010, Norway and Russia signed the Treaty Concerning Maritime Delimitation and Cooperation in the Barents Sea and the Arctic Ocean. The Treaty was the culmination of over 40 years of negotiations, and it has paved the way for a vast number of opportunities relating to business and industry development; research and education; and trans-border cooperation in transport, fisheries, and petroleum development.

In recent years, several Arctic states have developed comprehensive policy documents and strategies for advancing their respective national priorities in the region. These strategies vary in focus and scope. The Norwegian Government launched a white paper in November 2011 delineating policy proposals on a broad range of issues that will the region in the coming decades. The Norwegian Parliament (Storting) submitted its final recommendations for the White Paper in April, and the debate took place in the plenary session held on April 17, 2013.

The legislative process surrounding the white paper is the topic of this chapter.

## From Cold War to Cooperation

For decades during the Cold War, the High North was an arena of rivalry between the superpowers. Norway was at the crossroads of this rivalry, representing the border between the free world and communism. One of the first substantial post-Cold War cooperative efforts in the Arctic was initiated by Norway in January 1993 with the signing of the Kirkenes Declaration, which established the Barents Euro-Arctic Region Cooperation. The cooperation was launched on two levels: the intergovernmental Barents Euro-Arctic Council (BEAC) and the interregional Barents Regional Council (BRC).<sup>1</sup>

**Figure 1.** Map showing the Barents Euro-Arctic Region, which straddles the border of 4 countries



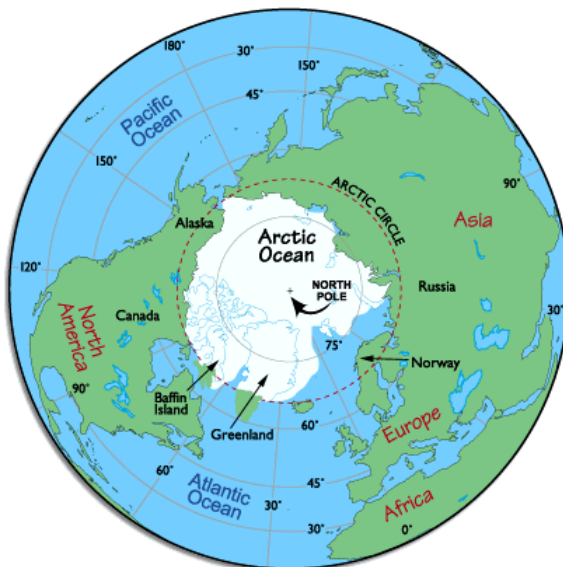
*Source: University of Tromsø.*

The Barents Euro-Arctic Region is Europe's largest area for interregional cooperation and includes 13 territories in northern Russia, Norway, Finland, and Sweden. The Barents Cooperation has provided cross border, people-to people cooperation and peaceful resolution of common challenges in the area for 20 years. The Barents Cooperation framework has primarily focused on trade and industry; energy; resource development; health education; and culture, as well as transport and logistics. Each

chair of the BEAC organizes a Barents Parliamentary Conference; the last one was held in Harstad, northern Norway on April 22-24, 2013. One of the most important results from the Parliamentary Conference was an agreement on developing a comprehensive Barents transport plan, which includes transport on land, at sea and in the air, and the development of the Northern Sea Route. In 2011, the Barents region was assessed by the prestigious Monocle Magazine as being one of the 5 most promising regions in the world for business development and investment. The other areas were Chile, Haifa, Berlin and Istanbul.

The Arctic Council (AC) was established in 1996 as the only forum for circumpolar cooperation in the Arctic. The AC is an intergovernmental forum promoting cooperation, coordination, and interaction among all the eight Arctic states and its people. Underlining the increased importance of the Arctic, several non-Arctic countries have applied for observer status in the AC. The last Arctic Council Ministerial meeting took place in Kiruna, Sweden on May 15 [2013]. At this meeting, China, India, Japan, the Republic of Korea, Singapore and Italy were granted the status of new observer states in the council. The AC deals with a broad range of issues relating to interstate cooperation, energy development, maritime security, health, education, research, and tourism, to name but a few.

**Figure 2.** Map showing the Arctic region above 66 degrees north latitude



Source: World Atlas.

## Norwegian Perspectives

The High North is Norway's most important policy priority, a statement unanimously supported by all seven parties represented in the Parliament. The High North has been a priority for several Norwegian governments. The current government launched its first High North Strategy in 2006, and followed up with the report "New Building Blocks in the North" in 2009. The last government white paper on the High North, "Visions and Strategies," was introduced on November 18, 2011 (see <http://www.regjeringen.no/en/dep/ud/campaigns/the-high-north.html?id=450629>). This white paper sets forth ambitious goals for Norway's engagement in the north across a broad spectrum of policy areas. Since the main focus is on foreign policy, the Ministry of Foreign Affairs was tasked with coordinating the work. This was a significant task for two main reasons. Firstly, because the current government is a coalition government consisting of three different political parties, all efforts had to be agreed on jointly within the coalition. Secondly, because policy-making for the high north encompasses a number of different government departments that all wanted a say in the process, inter- and intra-departmental coordination was crucial.

After the white paper was launched, it was sent as a Report to the Parliament (Storting), and then passed on to the Standing Committee on Foreign Affairs and Defense. The Standing Committee elected Mr. Morten Høglund from the Progress Party as parliamentary spokesperson, meaning that he would be responsible for drafting policy recommendations to be considered by the committee and finally put to a vote in the main assembly. Høglund is also the Chair of the Standing Committee of Parliamentarians of the Arctic Region (SCPAR), which started its work in September 1994, supporting the establishment of the Arctic Council. Currently, the SCPAR consists of parliamentarians from all eight Arctic states as well as the European Parliament.

Throughout the winter of 2012, I traveled extensively in the three northernmost counties in Norway alongside Mr. Høglund. The task was to meet with various international organizations, government bodies, regional and local authorities, non-governmental organizations, and representatives of the business community, as well as the petroleum industry. A hearing on the White Paper was held in the Parliament in the winter of 2012 with participants from a broad range of organizations and companies. The White Paper was also widely distributed within the Progress Party, and each affected local or county board was able to submit remarks and recommendations to the spokesperson.

### Some Central Policy Areas in the North

Norway's High North policy encompasses a broad range of issues and policy areas. The scope of this paper does not allow for a comprehensive analysis of all of these areas. Therefore, transport and logistics, trade, energy, and cooperation with Russia are highlighted as important policy issues.

Since the end of the Cold War, the number of people crossing the border between Norway and Russia has boomed. While around 8,000 people crossed the 196-kilometer border between the two countries in 1990, the total number of people increased to over 300,000 by 2013. The increase in traffic across border poses both challenges and opportunities relating to infrastructure, visa requirements, business development, and trade. In 2010, an agreement between Norway and Russia established a special border zone allowing for eased border crossing for the 40,000 Russians and 9,000 Norwegians who live within a 30-kilometer radius of the common border. The intention of the Norwegian Government is to further expand this agreement.

**Figure 3.** Widerøe flight from the city of Kirkenes to Tromsø. Air transport is crucial in rural areas of northern Norway.





**Figure 4.** Mr. Høglund meeting with representatives from the Harbor of Narvik, northern Norway. Narvik aims to become a transport hub in the high north.



Significant upgrades in the infrastructure network of the High North are needed in order to facilitate sustainable movement of people and goods in urban and rural areas. While Russia has, in recent years, upgraded the 240-kilometer road from Murmansk to the Norwegian border to European standards, the road on the Norwegian side of the border is in much worse condition. As reiterated at the Barents Region Parliamentary Conference in April 2013, there is a strong desire among the Barents countries to improve transport networks in the region, and several potential transport corridors are being discussed. Such projects will require joint cooperation and substantial investment as well as private sector involvement in all countries in the region.

Norway is an energy nation, a major oil exporter, the 6th largest hydropower producer and the third largest gas exporter in the world. While



future US energy independence might have far-reaching global implications for international energy markets, it is important for Norway to ensure that our petroleum has a prominent role in the energy mix of countries around the world.

The agreement delineating the Barents Sea border between Norway and Russia explicitly states that joint cooperation is required when developing discoveries of petroleum that straddle the common border at sea. This opens up the possibility of a broad range of cooperative schemes between the two countries. At the same time, the low ice cover extent in the Arctic has allowed for the seasonal opening of the Northern Sea Route for commercial purposes; the first non-Russian vessel sailed from Kirkenes to China in 2010. Sustainable and secure utilization of the sea route in the future requires that due attention be paid to environmental concerns as well as safety standards.

The Agreement on Cooperation on Aeronautical and Maritime Search and Rescue (SAR) in the Arctic, which was signed on May 12, 2011, is the first binding agreement negotiated under the auspices of the Arctic Council. The SAR coordinates circumpolar maritime and aeronautical coverage and response among the Arctic States. According to the US Department of State, the agreement represents one of the most successful negotiations to date on emerging issues in the Arctic.

## **Norwegian Parliamentary Deliberations**

The final High North White Paper debate and recommendations passed in the main assembly revealed that there is consensus among the different political parties in Norway on most issues involving the north. These areas include:

- The need for sustainable development of the region's natural resources for the benefit of its population.
- "High north, low tension" - the phrase draws attention to the fact that no party wants the Arctic to become an area of conflict. Further, the phrase "high attention, low tension," used by the Norwegian Minister of Fisheries and Coastal Affairs, implies that all parties agree on the strategic importance of the region.
- Norway is a small country, best served by an international legal order based on regional and international cooperation.
- The idea that the Arctic Council is the primary legitimate circumpolar organization for dealing with Arctic issues in a joint manner.

At the same time, certain disagreements can be identified, including:

- The need for strict priorities, concrete action and better coordination among diverse government departments and institutions.

The White Paper listed over 100 different priorities, and the opposition parties requested a clearer strategy for implementation of policy recommendations (Opposition vs. Government).

- The need to distinguish between what can be termed a specific focus and priority of the north, and what are regular budgetary requirements affecting the north (Opposition vs. Government).
- The misbalance between mandated missions and available resources for the Norwegian military in the north (Opposition vs. Government).
- The pace and scope of petroleum exploration and development in the north, including whether a moratorium should be declared for certain areas (Disagreements within both Opposition and Government).

## **Conclusions**

Norway's experience suggests strong political support among all political parties for the sustainable development of Arctic resources. This has made Norway one of the lead actors in the region, able to shape policy decision-making in a number of different areas. While not unique to the Arctic region, policy coordination among the many international, regional, national and local administrative bodies is the Achilles' heel of Arctic cooperation.

If the Arctic region is to continue to be an area of "high attention and low tension," it is crucial that the respective governments establish policy environments that are conducive to sustainable growth and development. Progressive policy environments have the potential to attract a vast number of private and industry initiatives to what US Deputy Secretary of State Thomas R. Nides in 2012 termed "one of the last true frontiers of the United States."

<sup>1</sup> The members of the Barents Euro-Arctic Council are Denmark, Finland, Iceland, Norway, Russia, Sweden, and the European Commission. The chair of the Barents Euro-Arctic Council rotates between Finland, Norway, Russia and Sweden. Norway held the chairmanship during the period 2011-2013.

# THE IMPLICATIONS OF THE 2010 NORWEGIAN-RUSSIAN TREATY ON MARITIME DELIMITATION IN THE BARENTS SEA FOR THE MURMANSK ECONOMY

VALERY KONYSHEV  
ST. PETERSBURG STATE UNIVERSITY  
(2014)

Russian strategists see territorial disputes in the High North as a significant threat to the country's security. It should be noted that the Arctic region has inherited a number of territorial disputes from the Cold War era, and Russia was a party to them. Some of these conflicts were successfully settled, while others are still waiting to be resolved.

The Barents Sea is rich in various natural resources. First, due to the North Atlantic drift, it has a high level of biological production compared to other seas and oceans of similar latitude. The fisheries of the Barents Sea, in particular the cod fisheries, are of great importance to both Norway and Russia.

Second, according to some accounts, the Barents Sea may hold vast hydrocarbon resources. A recent assessment by the U.S. Geological Survey estimated the mean undiscovered, conventional, technically recoverable petroleum resources in the Barents Sea Shelf at 11 billion barrels of crude oil, 380 trillion cubic feet of natural gas, and two billion barrels of natural gas liquids (Klett and Gautier 2009).

Relations between Russia and Norway in the Barents Sea have a long history, full of negotiations, disputes, rivalry, and cooperation. The last milestone, which opened the way for extensive cooperation, was the Barents Sea Treaty of 2010. This treaty agreed a maritime delimitation line between Russia and Norway and questioned the status of Svalbard previously vested by the Paris Agreement of 1920.

The disputed area can be divided into three parts. The first one starts at the mouth of the Varangerfjord and extends 200 nautical miles northeast

of the mainlands of Norway and Russia. Here, a boundary was needed both for the continental shelf and for the 200-mile Exclusive Economic Zone. The second area is in the middle of the Barents Sea beyond 200 miles from the mainland (the Barents Sea loophole), where a boundary for the continental shelf between the opposite coasts of the mainlands of Norway and Svalbard, on one side, and of Russia (Novaia Zemlia) was required. The third area is in the northern Barents Sea, where a boundary for the continental shelf and between Svalbard and Franz Josef Land was necessary.

Russia and Norway discussed at length the principle of how to define the border in a disputed area. Russia insisted on the so-called sectoral principle: that is, drawing borders from the North Pole to the tips of national territories straight along meridians. Norway proposed a median line: drawing borders at equal distance from coastlines.

The most contested area appeared in the second and third areas in the so-called “gray zone” (between sectoral and median lines). International law does not provide a universal rule for this case, instead appealing for a reasonable agreement between parties. Consequently, discussions between Russia and Norway endured for a long time.

The Barents Sea Treaty was finally signed in 2010. But if Norway celebrated the signing of the document as a national triumph, in Russia the decision to sign it was hidden from public view, leading to a number of contradictory assessments.

Advocates mentioned that the treaty ended about forty years of negotiations and tensions between Russia and Norway that had prevented economic development and impeded cooperation in the Barents region. They believe the desire to increase the extraction of oil and gas in the Barents Sea was the primary force behind a final agreement, since both states needed first to decide upon a delimitation line.

Russian critics of the treaty insisted that the document suffered from disadvantages and ambiguities that impair the rights of Russia and give preference to Norway. Fishery companies strongly opposed the conditions of the agreement, and the Murmansk parliament submitted a letter to the Russian government and to both chambers of federal parliament in an effort to delay ratification. Local powers believed that the treaty would compromise the Murmansk region’s interests in different spheres of economic activity.

The negative consequences of the treaty are as follows:

***First, the Barents Sea Treaty created legal collision.*** It does not cite the Svalbard Treaty (1920), giving the impression that certain clauses in the Barents Sea Treaty override the Svalbard Treaty. For example, the Barents Sea Treaty makes it possible to extend the notion of sovereignty over Svalbard beyond the land territory, while the 1920 treaty says nothing about Norway’s sovereignty rights over territorial waters. (This right was

first enshrined into international law under UNCLOS 1982.)

Russian and Norwegian officials reinforced the ambiguous relationship between the Svalbard Treaty and the Barents Sea Treaty when they recognized that the Barents Sea Treaty was based on modern international law. This claim only strengthened Norway's attempts to evade the Svalbard Treaty in different ways or to use modern law to revise the Svalbard Treaty. Remarkably, modern Norwegian writers often make no mention of the Svalbard Treaty when they discuss the status of the archipelago.

From a contemporary legal standpoint, it is very difficult to object to Norway's claims to a 200-mile protection zone, the continental shelf and territorial sea around Svalbard. Chapter 2 of the Barents Sea Treaty clearly suggests that Russia cannot exercise any jurisdiction beyond the delimitation line. In the future, any Russian economic activity in the area will be possible only under Norwegian legislation. On my view, that entails overriding the Svalbard Treaty.

***Second, Russia lost part of the Barents Sea, jeopardizing Russia's national interests.*** The most disputed sea area, the so-called "gray zone," covers approximately 174,000 square kilometers. Norway's method for resolving the dispute (the median line) conflicted here with Russia's approach (the sectoral line). The sectoral line corresponded to the Svalbard Treaty, which delimited Norwegian sovereignty over the archipelago on the 35th meridian east. The polar border established by the USSR in 1926 also corresponded to this coordinate.

According to international law, sea lines can be delimited only by mutual agreement with respect to special conditions (including historical traditions, previous agreements, coastlines, and the like). Russia therefore had every opportunity to defend its traditional position. But during discussions of the Barents Sea Treaty, Russian negotiators suddenly refused to push for a sectoral delimitation on the basis of historical precedent, yielding instead to Norway's position on how to define the delimitation line in the "grey zone." As a result, the most finny part of the Barents Sea fell under Norwegian jurisdiction. Accordingly, the Barents Sea Treaty gave Norway the right to assert that Russian vessels had to follow national fishing rules established by Norway. Murmansk fishing companies estimated damages at 300,000 tons of catch every year, at a cost of \$4-5 billion annually (ArcticWay).

Obviously, Norwegian diplomacy efforts were more effective than Russian ones at promoting national interests during negotiations on the Barents Sea Treaty.

***Third, the tensions between Russia and Norway over fishing have only intensified since the ratification of the Barents Sea Treaty.*** In accordance with the treaty, Norway now applies national legislation on fishing in the part of the former "gray zone" that fell under Norwegian control.

Russian vessels are therefore regularly arrested for non-compliance with Norwegian law. At the same time, Norway has no right either to claim a protected zone or to arrest foreign vessels.

Any conflict in the waters adjacent to Svalbard should be subject to regulation rather than arrest. Norway sees the following reasons for conflict:

- Overfishing due to the Russian practice of delivering catches to transport ships in the sea. The Norwegian Coast Guard considers these catches not to be registered. Instead of going to Murmansk with the fish, however, these transport vessels now head for other European countries: Denmark, the United Kingdom, the Netherlands, Spain, and Portugal.
- Norway developed an initiative to assess the possibility of overfishing, but encountered a less cooperative Russian stance. Russian fishery companies in Murmansk insist that these measures and vessel arrests are indicative of anti-Russian sentiment.
- Disagreement about total allowable catch levels: Russia is unwilling to decrease its level of fishing, in part because its assessment of fish stocks in the Barents Sea suggests less of a need to be concerned about overfishing than the Norwegian assessment.
- Russian vessels are providing Norway with the wrong information about catches
- Russia exerts insufficient control over fishing vessels and companies, encouraging violation of the accepted rules (Honneland 2014).

***Fourth, the suspension of the Shtokman Project.*** Russian companies hoped to use Norwegian technological expertise to develop gas fields located about 500 kilometers from Murmansk. But after the Barents Sea Treaty was signed, Norway refused to participate in the project because maritime delimitation had created the opportunity for Norway to develop its own oil and gas fields, located in the part of the sea that fell under Norwegian jurisdiction. These fields are significantly closer to the coast and promise to be more profitable than Shtokman.

## **Prospects for the future**

Russia and Norway can prevent further conflicts and contradictions by amending the Treaty as follows:

- Both states should define the status of Svalbard and adjacent waters with reference to the Svalbard Treaty (1920). Both states need to decide whether the Barents Sea Treaty overrides the Svalbard Treaty or not. Otherwise, future conflicts in the Barents Sea are inevitable. Ratification of the Barents Sea Treaty has

weakened Russia's position.

- The status of the delimitation line should be explained in more detail, including, for example, how this line corresponds to the Exclusive Economic Zones of the two states. But it is improbable that Norway would let its current preferential status go without significant compensation from Russia. A more radical and (for Russia) more favorable way would be to appeal to all parties of the Svalbard Treaty of 1920 to confirm Norway's partial sovereignty over Svalbard and to develop a new version of the Treaty adapted to modern international law. At the same time, Russia, which possesses the largest part of the Arctic shelf with the richest gas reserves, can withstand pressure from other participants in Arctic policy. Taking into account the growing rivalry for Arctic resources and its lack of allies, Russia needs to find a balance between the parties.

As for fishing in the Barents Sea, the Joint Fish Committee and other organizations involved in mutual regulation may be able to address many of the specific problems. The main question here is how to develop rules that bind both Russia and Norway. When the transition period concluded in July 2013, the development of new rules was not complete. At the same time, under the Barents Sea Treaty, Norway obtained additional leverage to impose national regulations (like reports about activity in the protected zone of Svalbard).

From the Russian side, it is necessary to align legislative norms with the situation on the ground and to deepen cooperation with Norwegian institutions responsible for research and planning in the Barents region. If Russian fishery companies are to meet modern requirements for the safe exploitation of fish stocks, their specialized equipment will need extensive upgrades. The Murmansk port should be reconstructed to process maritime resources. Russia and Norway need to reconcile their differing quotas for Barents Sea catches. Whereas Norway sees quotas based on scientific estimations of fish stocks as a way to protect the country's long-term economic interests, Russia perceives these quotas as part of a battle between the two states, evidence of Norway's intention to damage the Russian economy.

As for the Shtokman project, it is frozen due to a lack of financial support and technologies for deep-water drilling.

To conclude, the Barents Sea Treaty created more negative conditions than positive ones for the development of the Murmansk economy.

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# CAPACITY BUILDING AND SUSTAINABLE DEVELOPMENT: COMPARATIVE LESSONS AND THE RUSSIAN NORTH

GREG POELZER  
UNIVERSITY OF SASKATCHEWAN  
(2013)

Climate change, demand for natural resources, globalization, the increasing political power of indigenous groups, and demographic changes are all key drivers shaping global futures. As Laurence C. Smith powerfully captures in his treatise, *The World in 2050*, these drivers present enormous challenges and opportunities for Northern countries (Smith 2010). In responding to these forces, sustainable development is, at least in formal declarations, taken for granted today as a guiding principle of government policy and industry practice across the Circumpolar North. Russia is no exception. Over the past decade, the Russian government has enacted numerous measures at the national level in response to external drivers, with the goal of ensuring long-term sustainability in the North. Russia has also participated as a core member of international bodies such as the Conference of Arctic Parliamentarians and the Arctic Council; the founding principles of the latter are based on sustainable development. Furthermore, Russian industry has publicly embraced the notion of sustainable development. The oil company Rosneft, for instance, has produced annual sustainability reports since 2006, and the company contends that its activities are guided by a combination of economic, environmental, and social indicators.

Proclaiming the importance of sustainable development in Northern regions is, of course, not the same thing as implementing or achieving sustainable development. Success requires intent on the part of public decision makers and industry; it also requires capacity at the local and regional levels. Communities and regions need the human capacity—individual, institutional, and societal—to: participate in defining policy problems, particularly as they affect a region and its local communities; to identify, develop, and implement policy instruments, often in negotiating measures

with national authorities and securing requisite resources; and, finally, to evaluate and assess the effectiveness of measures at achieving policy goals.

This paper looks at the question of sustainable development in the Russian North through the lens of capacity building. It begins by defining the concept of capacity building, as well as its relationship to sustainable development. It then considers cases from around the Circumpolar North to draw out key lessons that may be applicable to other Northern regions, including Russia. Finally, the paper briefly examines Russia's capability to build capacity in the Russian North in order to meet the challenges of urban sustainable development.

### **What is Capacity Building?**

Capacity building (also known as capacity development), like many social science and public policy concepts, does not have a single agreed-upon definition. Some proponents have a fairly wide understanding of the term, most closely linked with the broader concept of community development. Others use a more narrow definition that focuses on the technical knowledge and skills individuals need to function within state institutions. At its core, capacity building focuses on the process and goals of strengthening human potential to participate in public decision-making and achieve public goals given the opportunities and constraints of the social, political, economic, and natural environment. In this regard, the United Nations Development Program (UNDP) provides a useful starting definition of capacity building: "a long-term continual process of development that involves all stakeholders; including ministries, local authorities, non-governmental organizations, professionals, community members, academics and more." Increasingly, the private sector, through private-public partnerships and through the direct investment of industry itself, is becoming one of the most important stakeholders. Although education and training are typically at the core of capacity building, it is important to stress that the process itself is often much broader, using "a country's human, scientific, technological, organizational, and institutional and resource capabilities." The goal of capacity building is to enable a country, region, or local community "to tackle problems related to policy and methods of development, while considering the potential, limits and needs of the people of the country [region, or local community] concerned."

Capacity building also needs to be understood at multiple levels: individual, institutional, and societal. According to the UNDP, the levels have the following characteristics:

- Individual Level - Capacity-building at the individual level requires the development of conditions that allow individual

participants to build and enhance existing knowledge and skills. It also calls for the establishment of conditions that will allow individuals to engage in the “process of learning and adapting to change.”

- Institutional Level - Capacity building at the institutional level should involve aiding pre-existing institutions in developing countries. It should not involve creating new institutions, but rather modernizing existing institutions and supporting them in forming sound policies, organizational structures, and effective methods of management and revenue control
- Societal Level - Capacity building at the societal level should support the establishment of a more “interactive public administration that learns equally from its actions and from feedback it receives from the population at large.” Capacity building must be used to develop public administrators who are responsive and accountable.

Working within the perspective above, capacity building means building the human potential of individuals to tackle important local and regional issues; introducing, adapting, or strengthening local, regional and national institutions and legal frameworks, in ways that are culturally appropriate, to achieve public goals; and fostering responsive governing institutions and processes built on an base of engaged citizens, with both institutions and processes drawing on networks within and across national borders.

If we accept the basic premise of the drivers identified by Smith (2010) in shaping Northern regions to meet their current and future needs, then no Circumpolar nation today can fully meet the constraints and opportunities precipitated by these drivers. Sustainable development, “development that meets the needs of the present without compromising the ability of future generations to meet their own needs,” will require individuals with new knowledge and skills; institutions; and legal frameworks to respond to these changes, as well as a broader policy environment that is responsive to local and regional needs. “Sustainable development is the goal. Capacity building is a means to achieving it.” Among the nations of the Circumpolar North, the significant challenges of territorial expanse, the impact of climate change on basic infrastructure, demographic challenges, and the imperative for capacity building may be greatest in Russia.

## **Comparative Lessons**

Capacity building has been a central premise of Northern development strategies for some time. The next section of the paper highlights recent capacity building initiatives—individual, institutional, and societal—in

Norway, Sweden, and Canada that may have applicability for the Russian North.

### *Individual Level*

Historically, capacity building in Northern regions has focused heavily on resource development mega-projects and short-horizon approaches to skills training. Capacity building for sustainable development inherently requires a multi-generational approach. A comprehensive approach from K-12 through adult education and post-secondary training that is locally/regionally based has the greatest impact on individual capacity building with positive consequences for regional development. Climate change, demand for Northern resources, and the globalization of the knowledge economy make investment in individual capacity building even more urgent, as the gap between large urban centers in the South and smaller, more remote Northern communities is widening.

The Nordic countries have long understood the connection between investment in human capital, on the one hand, and sustainable development and wealth generation, on the other. Norway, for instance, with a modest population of about 5 million people, has 8 universities, 9 specialized university institutions, 20 university colleges, 2 national academies of the arts, 16 private colleges, and vocational training programs.

Not surprisingly, the proportion of the population with university degrees has increased from 8% to 20% over the last four decades. However, it is important to stress that the capacity building assets are not located only in southern urban areas, but rather distributed across the country. There are 2 universities, as well as 4 university colleges, in the Norwegian North, including Sami University College, which serves the indigenous Sami population. It is also important to note that much of the post-secondary programming is not simply a generic clone of southern models, but instead meets the social, economic, and environmental priorities of the North.

One of the most important recent developments was the creation of the University of Northern British Columbia, located in Prince George, British Columbia, Canada. Prior to its opening in 1994, the province of British Columbia had one of the lowest participation rate in post-secondary education in Canada and the north had the lowest participation rate in the province. With access to programming in Prince George, as well as three satellite campuses, the participation rate turned around dramatically. Most importantly, 70% of those educated in the North stayed in the North, breaking decades-long cycles of skilled personnel coming to the North for a couple of years and, when they left, taking the institutional memory of

key public and private institutions with them. Individual capacity is translating into stronger local and regional institutions.

### *Institutional Level*

Universities and colleges play a role in building not only individual capacity but also institutional capacity, including the institution of an innovative market economy. A consistent finding in studies of regional development in Scandinavia and other places is that those municipalities and regions that have access to higher education and research institutions do far better than those that do not.

Studies in Sweden, including studies of the policy of decentralization of the university system across non-core regions, demonstrate that newly established institutions have a significant and positively correlated increase in regional productivity. Of a range of policy instruments, investment in regional colleges and universities appears to have the greatest impact. One study of the effectiveness of Swedish regional policies found that:

“When we analyzed the government’s investments in regional colleges as a natural experiment, systematic significant evidence was found that the resulting increase in the number of patents and productivity gains were larger in regions in which the new colleges and universities are located than in the regions with old universities, although from a lower starting level. We found the effects of university-based researchers to be considerably larger than the effects of the size of the student body.”

(Andersson 2005, 831)

The latter point is important to any expansion of the college system in or introduction of new universities to the Northern regions. Although per capita student costs are likely to be much higher in the North, given the smaller student numbers (creating understandable apprehension about investing in costly individual capacity building), the return on investment may be even greater in the North in terms of institutional-level capacity building.

Along with the state, one of the most important stakeholders in building capacity at the institutional level is the private sector, often in partnership with the public sector. There are examples, particularly in Scandinavia, where the combination of national and local governments, individual businesses, and community business organizations has proved to hold great promise. The development of substantial high technology and new economy centers in Tromsø and Bodø in Norway, Umeå and Luleå in Sweden, and Oulu and Rovaniemi in Finland are cases in point. In these cases, local and national government played important roles, particularly in coordinating commercial activities and supporting necessary investment.

The Norwegian High North Strategy, for instance, has undertaken a number of specific initiatives that combine public and private investments to ensure that Norway remains globally competitive and environmentally sustainable, not only in traditional economic sectors such as offshore oil and gas but also in cutting edge sectors such as bioprospecting. One of its major investments has been in NORUT, the Northern Research Institute: the Institute is majority-owned by the University of Tromsø, but stakeholders also include Narvik University College and Finnmark University College, as well as more than a dozen industry and government partners. NORUT has 130 employees and an annual turnover of about 125 million NOK. Importantly, not all of the research and commercialization expertise is located in Tromsø (a city of about 70,000 residents, slightly smaller than a city like Prince George), but also in two smaller and more remote communities, Narvik (pop. 18,000) and Alta (pop. 19,000). The Norwegian government has also made a substantial investment in the development of the MabCent-SFI centre—one of the country’s Research-Based Innovation Centers, funded by the Research Council of Norway—at the University of Tromsø, in northern Norway. The focus of MabCent-SFI is to search for compounds in bioactives from Arctic and sub-Arctic organisms for the purpose of internationally competitive innovation and commercialization. Along with government investment, the centre has four industry partners in the areas of pharmaceuticals, nutraceuticals, and research tools.

The importance of capacity building at the institutional level is demonstrated in other jurisdictions. Those that have this capacity are able to evaluate opportunities, pursue viable ones, and undertake the necessary planning. The city of Luleå in northern Sweden has actively pursued new economic opportunities by leveraging the advantage of being northern. Facebook will base its European servers, scheduled for completion in 2014, in Luleå because of the year-round cold climate and dependable infrastructure. The Luleå Facebook data center is enormous and will host three 300,000-square foot (28,000-square meter) server buildings. The energy consumption will be considerable, reportedly on the order of 120 MW. Here again, Luleå will draw on its geographic advantage: the data center will run on hydropower. The estimated construction costs are in the neighborhood of 5 billion SEK (\$760 million). Another example is Uminova, an impressive science research park located in the northern city of Umeå, Sweden. One of the areas in which Umeå is particularly strong is the biotechnology sector, organized through the innovation cluster entity, Biotech Umeå, with more than 60 industry and government partners.

One of the most important lessons of the Nordic experience is that institutional level capacity building can lead to tremendous opportunities. Frankly, it is hard to imagine how the above examples could have been realized with a focus on individual level capacity building alone.

### *Societal Level*

Capacity building at the societal level is increasingly important, particularly in an era of globalization. The Nordic countries offer perhaps the best models of capacity building and sustainable development at the societal level.

One of the best examples of capacity building at the societal level is the Strategic Environmental Assessment (SEA) process employed in Norway to manage its offshore petroleum resources. Globally, most environmental assessment processes operate on a project-by-project basis, without long term strategic planning, without comprehensive ongoing monitoring of cumulative impacts, and without ongoing engagement with civil society and local communities. Norway is one of the few instances where the public sector, industry, and local and regional concerns are built into an ongoing environmental assessment process. This ensures that industry will consistently attract significant investment; it also builds local public confidence because environmentally sensitive sectors, such as fisheries, are well-protected.

The Norwegian government also recognizes that capacity building at the societal level requires international engagement and that “a long-term approach is needed to develop strong centres of expertise and sustainable cooperation.” Narvik, a small city in Northern Norway, has been a leading international hub for cold climate technology for more than two decades and has developed expertise in hydropower, solar power/solar panel production, wind power, and bioenergy, as well as technological research on structures, materials, infrastructure and operations for use in cold climates. It has a budget of 75 million NOK and international partners from Sweden, Canada and Russia. It is also embarking on research on LNG technology and the viability of Narvik as a commercial port, further strengthening its capacity to build a sustainable future.

The Nordic world offers a multitude of societal-level capacity building initiatives, including fostering Barents regional cooperation in educational, municipal and business collaboration. The strategy is deliberate and the politics of small size may be an unintended advantage. Small countries need a high degree of public sector responsiveness if they are to be successful—everyone knows everyone. At the same time, small countries need to take cooperative approaches if they are to succeed on the global stage, as they do not have the power and resources to go it alone. Whatever the origins of these approaches, they provide models that are instructive for all Northern countries, including Russia.

## **Concluding Thoughts: Capacity Building and the Russian North**

Russia has by far the largest territorial expanse among the eight Circumpolar countries; it also faces by far the largest challenges to the sustainable development of Northern urban communities. The impact of climate change on physical transportation infrastructure, housing stock, and resource development are simply colossal. At the same time, investments during the Soviet period in higher education and research institutions across Siberia and the Russian North provide a profound base to engage in capacity building at the individual and institutional levels. But this base is highly variable. Large urban centers are in a far more advantageous position than smaller and more remote urban centers in the North. Cultural, political, and economic globalization also provide greater opportunities. But globalization is a double-edged sword. Massive subsidies for the North have largely disappeared; market prices have become much more the norm. The gap *within* the North has widened. This will place enormous strains in the North and many of its urban centers. At the same time, governance frameworks regarding natural resources and environmental management are likely to matter greatly in the long run. Capacity building at the institutional and societal levels will become increasingly important. In some areas of the North, how smaller indigenous communities are accommodated may have important consequences for the sustainability of nearby larger urban centers. Approaches such as strategic environmental assessment may prove to be models worth exploring. Whatever policies decision-makers pursue to ensure sustainable development of Northern urban centers, capacity building needs to be central to deliberations. Otherwise, policies on paper will remain just that – on paper. If they are central to deliberations, the North itself will play a leading role in addressing challenges and seizing opportunities for a more sustainable and prosperous future.

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# AN ECONOMIC RESOURCE? THE NORWEGIAN – RUSSIAN BORDER ON THE OUTER EDGES OF THE SCHENGEN

BJARGE SCHWENKE FORS AND AILEEN A.

ESPÍRITU

THE BARENTS INSTITUTE AT THE UNIVERSITY OF TROMSØ – THE ARCTIC  
UNIVERSITY OF NORWAY  
(2015)

From the very inception of the Barents Region in the early 1990s and with the ratification of the Kirkenes Declaration in 1993, the Norwegian state has seen its border with Russia as a resource – both economic and socio-political. What has developed over the last two decades in the cross-border region between Russia and Norway is a robust geopolitical space of policy experimentation; economic opportunities won and lost; and cross-border practice characterized by bordering and debordering (Van Houtum and Van Naerssen 2002). This border region on the outer reaches of the Schengen exemplifies both of the ideal types of borders as economic resource: the geo-economics of cross-border relations and that of territorial integration. We analyze economic practices on the asymmetric Norwegian-Russian border as both business and government stakeholders attempt to transform the Kirkenes-Nikel-Murmansk corridor into a politically-invested economic region.

This draft research communication is excerpted from a much larger case study report for the EU-FP7 research project “European Regions, EU External Borders and the Immediate Neighbours. Analysing Regional Development Options through Policies and Practices of Cross-Border Co-operation (EUBORDERREGIONS).” The main objective of the project is to identify challenges to economic, social, and territorial cohesion, as well as regional development potential, in different borderlands at the EU’s external frontiers. Here, we focus only on economic relations in the Norwegian-Russian border region encompassing the small towns of Kirkenes, Norway and Nikel, Russia.

We examine cross-border cooperation (hereafter referred to as CBC)

in the Russian-Norwegian borderland in the far north of Europe, on the outer edges of the Schengen territory. Although the Russian-Norwegian border is not formally an EU border, it shares, in many ways, the characteristics of the eastern external EU border to the south. Although not a member of the union, Norway is to a large extent integrated in the EU community through its membership in the European Economic Area and, importantly, as a signatory to the Schengen Acquis that came into force in 2001.

### **The border, the border region, and the border traffic zone**

The Russian-Norwegian border was established in 1826. The border is 196 kilometers long. The largest section of it (153 kilometers) follows rivers and lakes. The border can only be crossed at one point, the Storskog-Borisoglebsky border-crossing. A visa (or, for border residents, a border traffic permit) is required for travelers crossing the border from either side.

The Russian-Norwegian border region is, in our research, defined as Finnmark County (Norwegian: *Finnmark fylke*) (48,637 km<sup>2</sup>/ 74,710 inhabitants) on the Norwegian side of the border and Murmansk Region (Russian: *Murmansk oblast*) (144,900 km<sup>2</sup>/ 772,500 inhabitants) on the Russian side. Finnmark County is the only Norwegian county bordering Russia and Murmansk Region is the only Russian region bordering Norway. The border region is located in the central part of the Barents Euro-Arctic Region (BEAR).

### **Economic relations between Norway and Russia**

Norwegian-Russian trade represents approximately 2.2 billion EUR (2012), equally divided between export and import. The two countries account for an insignificant part of each other's foreign trade: Norway accounts for 0.3% of Russia's total turnover, while Russia accounts for approximately 1.5% of Norway's turnover. In 2012, Russia was Norway's eleventh-largest trade partner, while Norway was Russia's seventeenth-largest trade partner.<sup>1</sup> Russian-Norwegian trade is considerably smaller than trade between Sweden and Russia or Finland and Russia. Russian-Norwegian trade declined in 2009, primarily as a result of the international financial crisis. In 2010, trade between the two countries began to grow slowly once more, but it has since substantially diminished due to the political trade embargo imposed by the EU, Norway, and other NATO countries in protest of the Russian annexation of Crimea in March 2014.

Prior to the embargo, Russian-Norwegian trade was dominated by a few sectors. 67% of Norway's export to Russia consists of fish and other seafood products. Russia is currently the biggest market for Norwegian seafood (having recently surpassed France). In 2012, Norway exported seafood valued at about 0.8 billion EUR to Russia, an increase of 10% from

2011 (Norges Sjømatråd). In recent years, as much as 50-70% of Russian exports to Norway have been metals, particularly raw aluminum. The balance of import and export between Norway and Russia remains stable.

Russian companies have not made any major investments in Norway. Their presence in Norway has mainly been limited to representative offices. Norwegian investments in Russia have been more significant. The Norwegian telephone company Telenor is, for instance, the largest foreign investor in the Russian telecommunication market. The Norwegian petroleum giant Statoil and the DNB bank have also invested in the Russian market. Norwegian interests in Russia are mainly confined to Moscow and St. Petersburg. Outside these regions, the Norwegian presence is minimal, except from in the regions of Murmansk and Arkhangel'sk.

Norwegian-Russian trade is regulated by the Agreement on Mutual Investment Protection of October 1995 and the Agreement on Trade and Economic Cooperation of March 26, 1996. A declaration on partnership for modernization was signed by Norway and Russia in 2011. The declaration is intended to "promote investment and the establishment of new businesses in Russia and to ensure the active engagement of the private sector." The joint Russian-Norwegian Commission on Economic, Industrial and Scientific-Technical Cooperation is the main forum for issues relating to bilateral trade within important fields such as fisheries, energy, transport, communication, and tourism.

Russia's accession to the World Trade Organization in 2012 is expected to have a positive impact on the trade relationship between the two countries. The custom barriers will ideally be reduced, for instance, and this will benefit the export of aluminum from Russia as well as the export of seafood products from Norway.

WTO membership is also expected to ensure a more predictable and transparent business climate and security for those involved in cross-border trade between the two countries. The European Free Trade Association, of which Norway is a member, began free trade negotiations with Russia in January 2011. Met with optimism, Russian membership of the WTO was meant to be a boon to export and trade of goods globally, and especially to and from the EU. The current trade embargo placed by Russia on agricultural, technical, and other products from the EU had negative consequences initially, but the EU's quick reaction – subsidizing the production of certain goods and finding alternative markets for EU products – has meant that the embargo has had little impact in the EU (Ratso 2015).

The Norwegian-Russian Chamber of Commerce (NRCC) was established in 2003. The NRCC is a non-profit, non-governmental organization. The NRCC currently has 170 members from both Russia and Norway, making it the biggest chamber of commerce in Norway. The aim of the NRCC has been to "stimulate and improve business relations between

Norwegian and Russian companies regarding import, export, shipping, business development, tourism or investment activities,” as well as to “enhance the understanding of each other’s business culture, market developments and other socio-economic developments of importance.” (NRCC) The NRCC is today an important forum for Russian-Norwegian business networking. The chamber frequently organizes various events, seminars, and courses. Every year, the NRCC also arranges a Russian-Norwegian Business Forum.

### **Economic relations in the border region**

Economic CBC in the border region has very little significance for the national economies of Russia and Norway. First, as we have seen, overall Russian-Norwegian trade relations are insignificant, except in a few sectors. Second, the border region is economically marginal compared to the southern and central regions of Norway and Russia.

In 2011, business with Norway amounted to 4.2% of the value of export and import combined for Murmansk Region. Norway was the main foreign investor in Murmansk Region in 2012 (at 30% of total investment, or \$6.24 million) (Nord-news 2013). Norway was thus ranked 4th, behind the Netherlands, the United States of America and China. Imports to Murmansk Region from Norway were worth \$88 million in 2012 (14% of the region’s total imports). In 2012, exports from the three North Norwegian counties (there are no statistics for Finnmark only) to Russia totaled 400 million EUR. Seafood products accounted for as much as 80% of these exports (Statistics Norway).

Inertia is the hallmark of Russian-Norwegian economic CBC within the border region today. Some years ago, CBC in the region was somewhat more intense because of great anticipation of the development of the Shtokman gas field. During the early 2000s, several Norwegian companies established offices in Murmansk. The majority of these companies specialized in supplies and services to the oil and gas sector. As the Shtokman project was indefinitely postponed, however, many of these companies pulled out. The number of Norwegian companies with employees in the Russian parts of the Barents Region has decreased by 25% since 2006. Today, 30 Norwegian companies – with a total of 945 employees – are active on the Russian side. The Norwegian companies are mainly involved in banking, real estate, hotels, consultancy services and fisheries (Rautio, Bambulyak and Hahl 2013). All Norwegian companies on the Russian side operate from Murmansk. Perhaps surprisingly, there is not a single Norwegian company operating in the border municipality of Pechenga.

There are only 14 active Russian companies in all of Northern Norway (the counties of Nordland, Troms and Finnmark). These companies are

small, employing less than 30 people in total. The Russian companies in Northern Norway are mainly involved in the sectors of fisheries, aquaculture and tourism. The investors are predominantly from Murmansk (Rautio, Bambulyak and Hahl 2013). Russian investment in Northern Norway is considerably smaller than in the southern parts of the country.

For Norwegian companies, CBC with Russian partners is generally not considered to be an asset. Cooperation with Russian partners is regarded as much more challenging than cooperation with partners from Sweden and Finland or from other EU countries.

Within the framework of the 'twin town' cooperation between Sør-Varanger and Pechenga, a few seminars intended to stimulate CBC between companies from the two border municipalities have been organized. The Association of Businessmen of Pechenga and Kirkenes Næringsshage (Business Park) have been taking part in these seminars. The seminars have not, however, resulted in any concrete plans or strategies. In the town of Kirkenes, local business actors do not see the need for cooperation with partners from Pechenga, except for cooperation that could increase the number of Russians available for work in Norway. The Pechenga enterprises are regarded as being too weak to become true business partners.

### **Informal and illegal trade in the border region**

Informal and illegal cross-border trade is not very prevalent in the Russian-Norwegian border region. There are currently no major social problems (prostitution, drugs, etc.) related to border traffic. Criminality in the region is not related to its proximity to the border.

In the 1990s, Russian prostitutes were active on the Norwegian side of the border. Today, due to stricter regulations on the Norwegian side and a comparatively much better standard of living on the Russian side, prostitution has almost disappeared from the borderland. Smuggling of drugs and other illegal products has never been a big problem along this border, according to the Norwegian and Russian police.

The lack of illegal trade across the Russian-Norwegian border can be explained by three factors. First, the border is located in a peripheral area, far away from any big city with great demand for illegal products like drugs. Second, the border is not easy to penetrate illegally, owing to the many barriers (fences, sand traps, etc.) and extensive surveillance on both sides. Moreover, the border guards and customs officers on both sides act professionally and communicate well with one another.

A certain informal cross-border trade has existed since the early 1990s. Russian trader-tourists regularly cross the border to buy large quantities of goods in demand on the Russian side (for instance, diapers; special

brands of coffee and tea; ice cream; sports gear; and various luxury goods). The goods are brought into Russia in private cars or minibuses where they are sold through various networks (Tvedt and Sørensen 2013). The importance of this trade is hard to assess but it is probably not very significant for the overall economy of the border region.

### **The labor market**

The Russian-Norwegian border region is neither destination for nor origin of any significant labor movement. That Norway is a signatory of the Schengen Acquis stipulates that citizens of the EU Schengen area must have the first right to jobs that may be available in Norway. This may, however, change if major industrial developments (either in the petroleum sector or in the mining industry) take place. The current low commodity prices of oil, gas, iron ore, and other minerals have led to no changes in hiring policies.

There is currently a labor shortage in the border region. On the Russian side, there is a lack of skilled as well as unskilled workers. On the Norwegian side, where unemployment is extremely low, there is a lack of workers in most fields. On both sides of the border, ‘brain drain’ is a problem. Young specialists and graduates tend to leave for the south.

The labor market on both sides of the border is generally well regulated. The level of illegal work is very low on the Norwegian side of the border. On the Russian side, illegal labor is more widespread. The most common type of illegal labor is unregistered freelance work.

There is hardly any labor commuting taking place across the Russian-Norwegian border. Owing to the lower salaries in Russia and the low unemployment at home, Russia is hardly an option for Norwegian workers. Some Russians (mainly men) from Murmansk Region go to Norway to work, either in the petroleum industry (usually far away from the border region) or in the fish processing industry in one of the coastal towns of Northern Norway. In some places, like the town of Båtsfjord in Finnmark, Russian workers have contributed significantly to the local economy over the last few decades. Kimek in Kirkenes, which offers services in the fields of ship repair and ship services, has been actively recruiting and training around 60 Russian welders for jobs on installations in Norway as well as abroad.

Russians’ interest in finding work in Norway is, unfortunately, exploited by criminals. Reportedly, fake agencies that promise their customers assistance with finding jobs in Norway have been set up in Murmansk Region.

Work permit regulations are the main obstacle to labor mobility across the border. EU regulations make it very difficult to employ Russian

workers in Norway. In 2009, Norway did, however, start issuing two-year work permits for unskilled workers from the Russian parts of the Barents Region (including Murmansk Region). Work permit rules for skilled workers have also been eased in recent years. Russia's rather complicated regulations for work permits continue to cause trouble for the Norwegian companies operating there. Here, too, however, the situation has improved: Russia introduced a simplified application system for foreign skilled workers in 2010.

The need to increase labor mobility across the border has been acknowledged by the municipal authorities of Sør-Varanger and Pechenga. Since 2006, the labor and welfare administrations of the two municipalities have actively cooperated, and several joint planning meetings have been organized. NAV (the Norwegian labor and welfare administration) in Sør-Varanger has introduced a special trainee program to recruit school or kindergarten teachers from Pechenga.

There is also ongoing cooperation at the regional level between NAV and the State Employment Service Department of Murmansk Region.

## **Tourism**

The Russian-Norwegian border region is, in a European context, not an important destination for mass tourism. In 2013, the number of nights spent in Finnmark by all visitors was 379,958. For Murmansk, the number was 537,087 (Patchwork Barents). Finnmark and Murmansk receive a much lower number of tourists than the neighboring Finnish region of Lapland (2,403,104) or the Swedish county of Norrbotten (2,152,202). Only a few destinations, like North Cape in Finnmark and the alpine resort of Kirovsk in Murmansk Region, attract a considerable number of tourists every year.

The tourists visiting the Russian part of the borderland are mainly from Russia, while those visiting the Norwegian side come from all over the world, including Russia.

Since 2005, the number of Russian visitors to North Norway has increased nearly four times (Statistics Norway). Between 2011 and 2012, the number doubled. In 2012, Russian tourists stayed 28,000 nights in North Norway. Still, the number of Russian tourists in Norway is only about one-tenth the number of Russian tourists visiting neighboring Finland.

Russian visitors are most prevalent in Kirkenes. The town has become an important destination for Russian cross-border shoppers from all over Murmansk Region. On the Russian side of the border, in Pechenga, tourism is not very developed. There are, however, plans to build a tourist village here. The complex, called Russkaya Sloboda, will be located on the shore of a small lake only a few kilometers from the Norwegian border



(see Barents Observer, November 12, 2012). The village will, if realized, become the biggest investment project in the area. The project has a private investor, but it will also receive financial support from the Murmansk regional government.

So far, CBC within the field of tourism has not been developed much. In 2012, however, during the Russian-Norwegian Commission on Economic, Industrial and Scientific Cooperation meeting in Moscow, the Russian Federal Agency for Tourism and Innovation Norway's tourism department signed a joint action plan for tourism. The plan includes such areas as tourist exchange, tourism promotion, tourism legislation, tourism investments, and tourism safety (Joint Action Program 2012). On both sides of the border, tourism is seen as a field with potential for future CBC on a bilateral level.

The twin city cooperation agreement between Pechenga and Sør-Varanger refers to common tourism development as a "field of priority". There is currently some cooperation between Radius, one of the tour operators in Kirkenes, and Barents Travel, a tour agency in Pechenga. Radius brings tourists across the border, either for a snowmobile trip or for a visit to a typical Russian "dacha". On the Russian side, Barents Travel takes care of all the practicalities. Both partners are so far very satisfied with the cooperation and express a wish to develop it further.

For some time, there have been discussions about establishing a regular cruise line connection between Norway and Russia. The Ministry of Transport and Communications of Murmansk Region and the Federal Agency of Sea and River Transport, together with private investors, are now working to realize the 'Arctic Harbor' project, which will facilitate cruise ship traffic to Murmansk. According to the plans, the pier for long-distance cruise liners should be ready to accommodate vessels with a length up to 160 meters by 2016 (Flashnord 2013).

Tourists visiting the Norwegian part of the borderland rarely cross the Russian border, even if they would very much like to do so. The border itself represents a considerable barrier to tourism development. Firstly, the visa regime makes border-crossing a cumbersome, time-consuming, and costly process. Secondly, the entire Russian border zone is a restricted area, accessible only with special permits from the FSB (*Federal'naiia sluzhba bezopasnosti Rossiiskoi Federatsii* or Federal Security Service of the Russian Federation), Russia's primary security agency. This regulation makes cross-border tourism along the border difficult, if not impossible.



## **Fisheries and hydroenergy – two success stories**

Economic cooperation in the borderland seems to work best when there is a clear and uncomplicated win-win situation for both parties. Two fields where we observe such a mutual benefit are hydroenergy and fisheries.

Hydroenergy is another field where Russian-Norwegian economic CBC has been successful. Norway and the Soviet Union signed an agreement for joint utilization and development of Pasvik River hydropower as far back as 1959. During that time there was an increasing need for energy on both sides of the border. Hydropower development began in the 1960s. Over the course of two decades, no fewer than seven power plants were built in the Pasvik river system (Pasvikelva). The two sides agreed to share and jointly distribute the energy produced by the plants. Today, two energy companies – the Russian TGK-1 (a daughter company of “Gazprom”) and Norwegian “Varanger Kraft” – cooperate in running the hydroelectric plants along the Pasvik River.

Since the 1990s, the Russian trawler fleet has been delivering fish to Norwegian port facilities and using them as places of repair. Norwegian ports are considered to be more cost-effective and less bureaucratic than Russian ones. The deliveries from the Russian fleet have been important for several smaller ports along the coast of Finnmark. Russian customers have been crucial for the economic development of Norwegian companies specializing in port related services.

## **Barriers to economic cross-border cooperation**

Many stakeholders mention poor infrastructure as the main barrier to economic CBC. There is a need for improved cross-border infrastructure and transport links: better roads; a border-crossing point with increased capacity; and regular cross-border flights or regular public transportation between Sør-Varanger and Pechenga.

Another barrier that is often mentioned is the current legislation on work mobility in the two countries. Norwegian companies in the borderland would like to see the law changed so that Russian citizens can freely commute across the border, live on the Russian side and work in Norway.

Stakeholders repeatedly mention differences in regulations and laws, business climate, and business culture as reasons for the current lack of economic CBC. The differences are indeed great, and they make it very challenging to do business on the other side of the border. According to interviewees it “takes years of practice and failing” to get to know how things actually work on the other side. Legal requirements for establishing an enterprise in Russia are, according to Norwegian actors, too demanding and bureaucratic. Russians say the same about the Norwegian system. On both sides, there is generally very little knowledge of the other’s system.

Corruption is not a big problem in Norway but on the Russian side of the border it seems to be an obstacle for foreign investors. Norwegian companies frequently complain about the “unpredictability”, “lack of transparency” and “lack of a rule of law” on the Russian side.

The unpredictability of the Russian side may in fact encourage Russian companies to establish themselves in Norway. One Russian businessman we spoke to mentioned that the lack of security on the Russian side was the main reason for his decision to move some of his business activities to the Norwegian side.

Language is another major obstacle. There is a considerable language gap between the two sides. Russians lack the necessary knowledge of English and very few Norwegians command Russian well enough to use it professionally. Larger companies can, of course, overcome these challenges, but for small enterprises they represent a considerable barrier.

The business structure of the region is another obstacle to fruitful cross-border economic development. In the border region we find very few large and resourceful companies. Most companies (on both sides of the border) are small or medium-sized enterprises that lack the know-how and resources necessary for successful internationalization.

Lack of funding is rarely mentioned as a reason for the lack of economic CBC. A recent report on economic CBC in the Barents Region concludes that

“with an average of 900 000 EUR per year directly to commercial enterprises, and 1.5 million EUR per year to promote Norwegian business and cross-border business cooperation in the Northwest Russian market, the situation for Norwegian businesses can hardly be considered as very difficult.” (Rautio, Bambulyak and Hahn 2013).

According to the same report, the Norwegian companies that are most active on the Russian side of the border have (with few exceptions) received little financial support from public funding mechanisms. Economic CBC has been encouraged through several Norwegian funding programs. In the last few years, the funding instruments of the Norwegian Ministry of Foreign Affairs, the Norwegian Barents Secretariat, Innovation Norway, Kolarctic ENPI, and the Norwegian counties have spent about 24 million EUR financing 476 business development projects, including 171 commercial ones in the Russian part of the Barents Regions (Rautio, Bambulyak and Hahn 2013). Furthermore, SIVA, the Industrial Development Corporation of Norway, has established a branch in Murmansk that aims to increase Russian-Norwegian economic cooperation in the border region. The corporation has organized so-called “business safaris” for Russian companies to Northern Norway and organized “matchmaking events” for companies from both sides of the border.

On the Russian side of the border, the situation is very different. Here, there are no available funding mechanisms for companies seeking internationalization. The only financial support from the Russian side goes through the country's financial contributions to the Kolarctic ENPI. Thus, if Russian enterprises want to develop cross-border ties, they unfortunately depend, to a large extent, on Norwegian support. Consequently, Russian companies involved in CBC have to rely on the support their Norwegian partners can access.

### **The future of economic cross-border cooperation**

Russian-Norwegian economic CBC, because of its poor state, is more often referred to in terms of *potentiality* than reality. Long-term hopes for development rest, to a large extent, on the development of so-called "mega projects", particularly of petroleum development projects and the Northern Sea Route.

The Treaty on Maritime Delimitation and Cooperation in the Barents Sea and the Arctic Ocean is considered an important step toward the exploitation of the rich petroleum deposits in the Barents Sea. The development at sea will also have an effect on land, as there will be a need for supply ports and transport infrastructure along the shore. Petroleum is a field where Norway and Russia would have a lot to gain from working together, and the treaty itself in fact encourages such cooperation. It will, however, take a long time (10-20 years) for full production to be instigated in the area. The Northern Sea Route represents another opportunity for the future, but it is still uncertain if the route will ever be realized.

The mining industry is developing rapidly on both sides of the border. The need for effective shipment of extracted minerals could lead to a more efficient cross-border infrastructure in the High North.

Finally, tourism, particularly cross-border tourism, is frequently mentioned as an economic sector that could grow significantly in the future. However, tourism development faces many challenges: lack of infrastructure, cumbersome visa regimes, inaccessible border zones, etc.

### **Perceptions of the border, the border location and regional development**

The border location is generally perceived as something favorable, providing the region with special opportunities for development. From a Russian point of view, the border location is favorable because it provides easy access to Europe. The proximity of the Norwegian border also helps to make the Murmansk Region more "European" (which here is to be understood as "civilized", "modern" and "developed"), at least according to some Russian stakeholders. On the Norwegian side, the border location is referred to as

something exciting and exotic that makes the region attractive. People we have interviewed see opportunities for cooperation and/or consumption on the other side of the border. The border location gives unique access to the neighboring country's goods and services, and offers special opportunities for economic, cultural and institutional CBC. According to our interviewees, the border location is a factor that makes life richer and more interesting. The proximity of the border makes it possible to "enter another world just outside your doorstep," as one respondent put it.

Stakeholders perceive the border as a bridge, but they also acknowledge that it has divisive functions. They do not fail to mention the cumbersome visa regime; the long and thorough border control; and the fact that the Russian border zone is closed. Still, our respondents generally see the border as an opportunity rather than a hindrance. In Kirkenes, the proximity of the border is often mentioned as an asset in the competition with other towns for tourists and workers.

No major negative aspects of border location have been identified. Nevertheless, on the Norwegian side, some stakeholders express concern about pollution (including radioactive pollution) on the Russian side and worry about current political developments in Russia.

Some people on both sides of the border feel more insecure since the border has been opened. On the Russian side of the border, in Pechenga in particular, some interviewees expressed a certain nostalgia for a time when the border was closed. At that time, there were "no drugs and crime" in the town, it was "nice and quiet," they claimed. In Kirkenes, too, such attitudes are sometimes expressed, especially among elderly people.

On the Norwegian side, some people involved in CBC worry about political developments in Russia, which many claimed had taken an "authoritarian" turn. Some fear that this may lead to a re-securitization of the border. A few informants also mentioned concerns that petroleum development may harm the fragile environment of the region.

Borderlanders perceive the border in a more positive way now than five years ago, and certainly in a more positive way than 20 years ago. (Espiritu and Viken 2012). The image of the border as a "bridge" has been strengthened. In recent years, the liberalization of the visa regime (the introduction of special visa regulations for citizens of Murmansk oblast (Pomor Visa), the establishment of the BTZ, and the new visa centers in Kirkenes and Murmansk have had a positive effect. The twin town agreement between Nikel and Kirkenes has also had an important symbolic effect. European integration may indirectly be considered a factor. Transnational integration and region-building in the north, particularly the establishment of the Barents Euro-Arctic Region in 1993, was very much inspired by parallel region-building processes instigated by the EU.

Interviewees on both sides of the border believe that a more open

border, perhaps an extended BTZ, will stimulate CBC. Several described a common Russian-Norwegian labor market as a desirable possibility. Much regional development depends on political support for cross-border cooperation as well as on bilateral dialogue and negotiations. There is, therefore, hope for continued interest and support from national as well as regional and local authorities.

In regional-level strategic documents, our informants on both sides referred to the border as an asset and an opportunity. In the current investment plan of Murmansk Region, the proximity of the border is, for example, mentioned as the foremost advantage and most attractive feature of Murmansk Region. Both the Norwegian and Russian governments acknowledge that they must enhance economic cooperation with each other as well as globally. There is hope for turning the border region into a shipping hub on the Northern Sea Route from Europe to Asia, as well as into a petroleum province of global importance. These developments are expected to be sparked by and, in turn, spark CBC.

### **The role of the European Union in the borderland**

Membership in the European Union is now, and for the near future, highly unlikely for Russia as well as for Norway. The support for membership is very low in both countries and neither Norway nor Russia has any plans to join the union. The role of the EU is therefore also very limited in the Russian-Norwegian border region. Bilateral (Norwegian and Russian) policies are much more important than EU policies for regional development.

The Barents Euro-Arctic Region is (by far) the most important framework for cross-border cooperation in the Russian-Norwegian border region. A large number of smaller CBC projects are financed through the Barents cooperation, mainly by the Norwegian Barents Secretariat. The EU plays, however, the role of facilitator for regional cross-border cooperation through the Kolarctic ENPI program. The Kolarctic is one of the EU's ENPI financing instruments that are being implemented along the external borders of the union. The Kolarctic program area roughly corresponds to the Barents Euro-Arctic Region. Kolarctic ENPI has granted financing to a total of 50 projects during the program period 2007-2013. The program supports public and private organizations involved in CBC in a wide range of fields. During the last program period, three project priority areas were defined: "economic and social development"; "people-to-people cooperation and identity building"; and "common challenges" (Kolarctic ENPI).

The Kolarctic initiative has had a limited but positive effect on CBC, making it possible to realize several larger and important CBC projects in the region. It has been a successful instrument for increasing CBC,

particularly among actors such as research institutions.

To this date, the Kolarctic program has been mostly relevant for CBC practitioners of a certain size and importance who cooperate on a regional level. These partners are usually not from the near borderland, but from the larger cities of the wider Russian- Norwegian border region, like Murmansk, Arkhangel'sk, and Apatity on the Russian side, or Bodø and Tromsø on the Norwegian side. All Russian-Norwegian Kolarctic projects have to involve an EU (Swedish or Finnish) partner as well. Kolarctic projects are therefore more complicated to initiate than projects that just involve Russian and Norwegian partners.

On the municipal level, EU funding has very little (if any) effect. On the Russian side, actors tend to have very little knowledge about the possibilities of taking part in EU-funded projects. Some of them are not even aware of these possibilities. On the Norwegian side, knowledge of these forms of funding is slightly better and a few people even have experiences in applying for them, but their capacity and expertise in applying for and winning funding is low, especially when compared to their Finnish neighbors.

Since 2001, Norway has been part of the Schengen area. The Russian-Norwegian border is thus currently a Schengen border. The Schengen agreement limits, to a certain extent, the possibility of pragmatic border regulations that would take local and regional interests into account. Many local actors would, for instance, like to see a more free flow of labor across the border and believe that this would lead to good development for the region as a whole. Some stakeholders criticize the Schengen regulations for hampering cross-border integration (that is, work migration and free movement across the border).

## **Policy Options**

In conclusion, we propose these recommendations based on our findings and interviews with CBC practitioners in the Norwegian-Russian borderland:

- Border crossings in both directions should be made more smooth and effective. The waiting time for travelers crossing the border should be reduced. The capacity of the border crossing-point should be increased.
- Many CBC stakeholders mention the need for improved cross-border infrastructure and transport links: better roads; a cross-border railway from Russia to Kirkenes; regular cross-border flights; and regular public transportation between Sør-Varanger and

Pechenga. The infrastructure in the border region (border infrastructure, road, air, planes, and sea routes) should be improved in order to facilitate further CBC.

- There is a need for desecuritization of the near borderland. The closed zones surrounding the border should be removed. This will encourage increased cross-border activities, including tourism.
- CBC actors tend to refer to the visa regime as the main obstacle for cross-border contacts. Many of them express a wish for the lifting of the visa requirement. The authorities on both sides of the border should strive to make the visa application process as efficient, inexpensive, and easy as possible. The visa-free BTZ should ideally be expanded to include all of Finnmark County and Murmansk Region.
- There is a need for a more pragmatic labor market regime in the border. Several CBC actors would like to introduce a common Russian-Norwegian labor market or, alternatively, a more restricted common labor market within the BTZ.
- Currently, Norwegian-Russian CBC is, to a large extent, funded solely by the Norwegian side (i.e. the Norwegian MFA through the Norwegian Barents Secretariat). Increased Russian contributions to CBC projects would ensure more symmetric cross-border relations. Russian informants would like to see a better integration of the CBC programs with regional and federal funding programs.
- There is a need for more intensive economic CBC in the region. Funded programs and projects focusing on economic CBC should be encouraged by private businesses as well as public institutions.
- EU involvement in the region should be increased (as for now it is minimal). The ENPI Kolarctic program is a good starting point for further EU involvement. The EU should become more visible and active in the region.
- There is relatively little knowledge about the EU in the border region. Awareness of EU programs and policies among CBC actors in the region should be raised.
- CBC actors on both sides of the border lack the knowledge and skills necessary to apply for EU funding and thus to participate in EU projects with EU partners. Competence- and capacity-building among active CBC participants should therefore be prioritized.

<sup>1</sup>Information from the Russian embassy in Oslo and Statistics Norway ([www.ssb.no](http://www.ssb.no))

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# DEALING WITH DECLINING CITIES: EXPERIENCE FROM THE US

BRENT D. RYAN

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

(2013)

In many nations around the world, cities are “shrinking” (Oswalt 2005) or losing population and building stock. While there are many reasons for such ‘urban shrinkage’, including natural disasters, warfare, and environmental change (Vale and Campanella 2005), by far the most prevalent cause of such losses is deindustrialization, or the shift from a manufacturing-based economy focused on production to a service-based economy focused on service provision.

Such transitions began in the United States and United Kingdom as early as the 1960s (Bennett and Bluestone 1982). Deindustrialization’s dominant role can be seen in the geographical patterns of shrinkage (Oswalt and Reinerts 2006): the highest numbers of shrinking cities are found in formerly industrial areas of North America and Europe, particularly the American ‘rust belt’ of the upper Midwest and the industrial belts of the United Kingdom and Germany (see Figures 1 and 2).

Such economic shifts, while dominant, cannot be dissociated from social, political, technological, or other forces. In the United States, scholars have argued that racism and ‘white flight’ also played a role in urban population losses (see, for example, Sugrue 1996; Gamm 1999), while in Eastern Europe and the former Soviet Union, substantial sociopolitical changes, including the reunification of Germany, the shifting of populations between former Soviet states, and smaller family sizes, operated in tandem with deindustrialization to drive population losses and housing abandonment in certain cities (see, for example, Shrinking Cities Project 2004). Elsewhere, as in the United Kingdom, urban population losses may have been driven more by technological change that permitted the suburbanization and decentralization of the city (Peach 2000).

In tandem with the dominant deindustrialization model of urban shrinkage, scholars of political economy and planning have argued for a more or less unified model of political and policy response to urban problems and revitalization in the developed world. Central to this literature

is the work of political scientist Susan Fainstein. In a series of works (1983, 1991, 2001), Fainstein and her colleagues argued that a neoliberal politico-economic structure called the “urban regime” drove redevelopment decision-making after the state-driven planning model declined in the 1970s and 1980s. This theory, first put forward in the 1980s, has maintained such traction that Altshuler and Luberoff could account for no other in their study of contemporary development politics (2003). Other scholars have made similar arguments (Logan and Molotch 1987; Stone 1989; Frieden and Sagalyn 1989).

**Figure 1.** Shrinking cities are a worldwide phenomenon, particularly in the older industrial nations.



Source: Oswald and Reinerts 2006.

**Figure 2.** In the United States, shrinking cities are concentrated in the ‘Rust Belt’ of the northeast and Midwest. Detroit and Flint are located in the north center of the country.



*Source: Oswalt and Reinerts 2006.*

### **The American Shrinking City Experience: Typical, yet atypical**

Evidence from American shrinking cities partially reinforces Fainstein’s urban regime theory. In the two largest such cities, Detroit and Philadelphia, political regimes operating in partnership with developers or corporations motivated – and often partially financed – redevelopments from the 1970s onward (Thomas 1997; Ryan 2012), driving large-scale development like reconstructed automobile factories (Thomas 1997, 161-66); new professional baseball and football stadiums; convention centers (Ryan 2012, 128-32); and casinos (Ryan 2013). The redevelopment policies, and politics, of these shrinking-city urban regimes were analogous to the 1980s and ‘90s redevelopment politics of New York and London examined by Fainstein (2001). In both growing and shrinking American cities, the state retreated after the 1970s, permitting private-sector decision-making to have a larger role. Expanding beyond the Anglo-American sphere, other scholars (e.g. Sassen 2001) have argued for a parallel ‘diminution of the state’ across the world as a result of globalization and the expanded role of capital.

At the same time, evidence from American shrinking cities also indicates a determinative role of the built environment in shaping urban policy, due to the abundance of abandoned structures and vacant lots that these cities possess. Abandonment drives shrinking-city policymakers to confront the built environment through a range of actions, including large-scale demolition; vacant land management and disposition; and redevelopment of new neighborhoods in vacant or semivacant areas. In Detroit, for example, the city's relatively low-density fabric of wooden and brick detached houses permitted policymakers' and developers' transformation of disinvested neighborhoods into automobile-dependent enclaves modeled after the suburbs during the 1990s and early 2000s (Ryan 2012, 95-108) (Figure 3).

**Figure 3.** In the 1990s and 2000s Detroit neighborhood redevelopment policy focused on capturing middle-class buyers with emulations of suburban housing, such as Victoria Park (shown).



*Photograph: Author, May 2013.*

In Detroit, this redevelopment model was heavily subsidy-dependent and was abandoned after the 2007-08 recession that led to a crash in housing values and fiscal crises for the private developers constructing the new enclaves (Ryan 2012, 113-120). While Philadelphia, like Detroit, pursued

traditional downtown redevelopment policies in the post-1970s period, the city also undertook novel policy-driven rebuilding initiatives in its most deprived area, North Philadelphia, constructing several subsidized neighborhoods of housing whose architecture mediated between the city's rowhouse context and the low-density suburban environment preferred by low-income homeowners (Ryan 2012, 76-79) (Figure 4). The results were not visually compelling but did set a precedent for policy-driven redevelopment – accompanied, of course, by necessary fiscal contributions from the Federal government. Such contributions grew increasingly scarce in the post-2008 climate of recession and government cutbacks (Scoggin 2011).

**Figure 4.** Philadelphia's redevelopment policy paralleled Detroit's, except that much housing was publicly subsidized, intended for low-income homebuyers, and partially imitative of neighborhood context. Shown here are the Poplar Nehemiah Homes



*Photograph: Ellie Brown, December 2010.*

### **Post-Recession Strategies for Shrinkage: the experience of Flint**

Flint, Michigan (2012 population about 100,000 [Longley 2012]) provides an illustrative case of how midsize rustbelt American cities are confronting persistent deindustrialization, economic decline, and housing loss in the severely straitened post-2008 economy. Well-known as the city where General Motors (GM) was founded, Flint enjoyed great prosperity until



the 1970s. The oil shock of 1973 marked the start of decades of restructuring and shrinkage for the company, culminating in the company's 2008 bankruptcy and buyout by the Federal government. The closure of two GM plants particularly impacted Flint neighborhoods.

In 1990, GM began closing buildings at its "Chevy in the Hole" complex due west of downtown (see Figure 2). Most structures in the complex were demolished in the late 1990s, and in 2004 the last employees were moved off the site (Longley 2011*a*). Even worse, a publicly-controlled development corporation took ownership of the site in 2008 in a misguided economic development effort. With environmental cleanup costs, responsibility, and development potential uncertain, the corporation transferred the negative-worth site to the city in 2011. Reuse of this highly visible and now publicly-owned site is a major policy priority for the city (Longley 2011*b*) (Figure 5).

**Figure 5.** Flint, Michigan's "Chevy in the Hole" site, formerly a Chevrolet automobile plant, exemplifies the challenges of redeveloping a publicly owned brownfield in a fiscally straitened city.



*Photograph: Author, November 2012.*

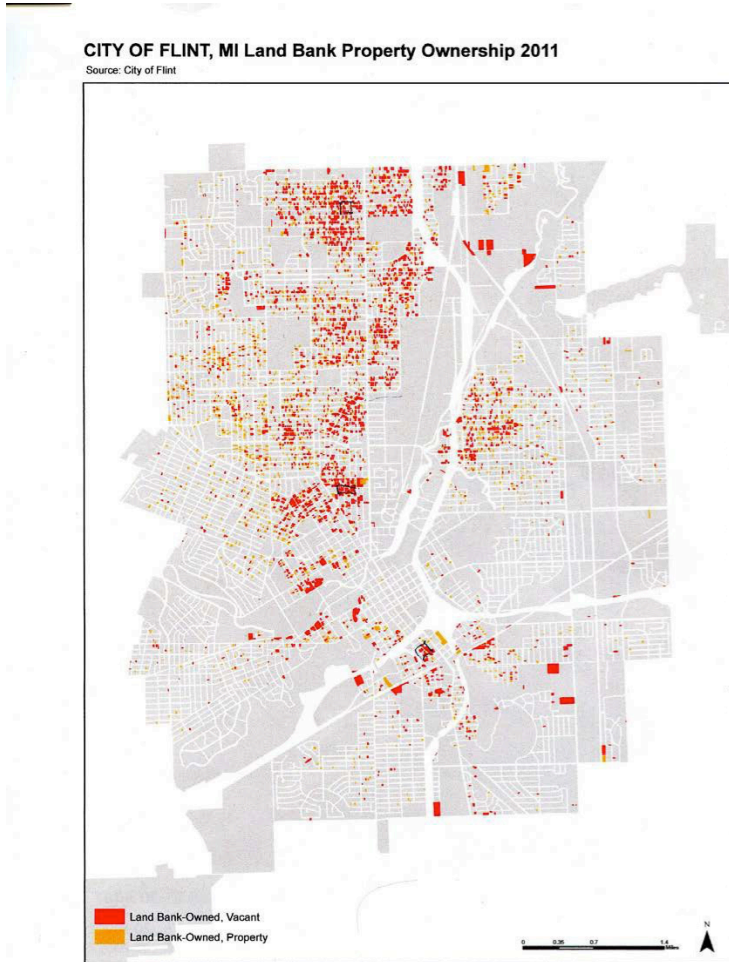
Equally dramatic was the closure of "Buick City", a major manufacturing plant on the city's near North Side that manufactured the iconic Buick



automobile for over 80 years (Highsmith 2009*a*, 626-27). GM renovated the facility in the mid-1980s (Highsmith 2009*a*, 626), but the plant closed nevertheless due to chronic structural problems at GM. Buick's departure left its founding site behind, but in this case the city avoided assuming ownership of the site: after GM declared bankruptcy in 2008, the nonprofit RACER trust assumed ownership, remediation, and marketing responsibilities for the site (Fonger 2011*a*; RACER 2012). But marketing the site was a challenge: even a GM-sponsored industrial park adjacent to the site, created in the 1970s for suppliers to locate near Buick City (Highsmith 2009*b*), remained mostly vacant. As of May 2013, some redevelopment interest existed for portions of the site (Walling 2013, pers. comm.)

In the early 2010s, Flint had an additional reason to be uncertain about its future. Apart from a record high unemployment level, the city was confronting not only near bankruptcy but an ongoing wave of housing abandonment. The 2010 national census indicated that Flint had about 10,000 vacant housing units (Harris 2012). In a city with only 55,000 housing units in 2000 (Dewar 2009, 26), this was a recipe for crisis. But Flint was extremely fortunate to have a public policy initiative – in the form of a regional land bank, the Genesee County Land Bank – that was broadly perceived as being a nationwide leader in the challenge of confronting vacant property (Government Innovators Network 2007; Dewar 2009). The chief innovation of the land bank was in preventing the routine practice where speculators would purchase foreclosed properties and profit from their resale before the new owners proceeded to let their properties go into foreclosure again. Instead, the Land Bank ‘bundled’ properties to make them unattractive to speculators, and then transferred unsold properties to the Land Bank (Dewar 2009, 11-12). The strategy was successful; by 2012, the Land Bank owned more than 8,000 parcels in Genesee County (Fonger 2012), of which approximately 5,500 were in Flint (City of Flint 2012) (Figure 6). Approximately 2,300 of these Flint parcels contained buildings, which were usually abandoned.

**Figure 6.** The Genesee County Land Bank owned over 5,500 parcels of land in Flint, but it was a victim of its own policy success: by 2011, financing even basic maintenance of the properties was a problem.



*Map by author, map illustration by Laurel Donaldson.*

The existence of the nonprofit Genesee County Land Bank, an institution that was still a dream for most American shrinking cities, did not resolve Flint's struggle with its abandoned housing stock. Market values remained

so low in Flint that the vacant land bank properties were worth little or nothing. Speculation and profiteering was defeated, but the lots were not necessarily repurposed; instead, they became a public responsibility and expense. And as the number of vacant Flint lots under Land Bank ownership proliferated, the original Land Bank strategy – to have county funds and land bank sales finance the maintenance of low-value lots in Flint – began to backfire. In 2011, budget problems bedeviled the Land Bank (Fonger 2011*b*), and a mix of Federal and County funds were required in 2012 to “keep up with grass and weed cutting,” as the Land Bank director put it (Fonger 2012). What had seemed like a clever policy idea to devolve costs away from Flint and transfer them to the county faced increasing difficulties in the face of county, state, and Federal budget crises.

Apart from high-cost policy initiatives like the Land Bank, Flint was also entrepreneurial in engaging cultural talent and actors to activate highly visible vacant spaces downtown and at the former Chevrolet plant site. The Flint Public Art Project, a new cultural organization founded in 2011, undertook a series of activities in the city, ranging from nighttime events to conferences to design competitions to public festivals (Flint Public Art Project 2013). Each of these events engaged cultural actors, artists, and scholars from outside Flint who created ephemeral works of art and raised citizens’ awareness of the possibilities that existed for the city’s vacant sites. What the Public Art Project could not achieve, of course, was the permanent improvement of the sites. Nor did it have the ability to address Flint’s persistent vacancy problems at any degree of scale. A new master plan, underway at the time of writing, promised to address some of these issues.

### **Confronting the American shrinking city: a summary**

American cities are peculiarly disadvantaged in their planning efforts by a variety of factors, with fiscal independence, persistence class and race barriers, and social skepticism toward government perhaps chief among them. All of these factors are exaggerated, even chronic, in shrinking cities. To wit: both Detroit and Flint are in fiscal receivership due to structural budget problems; Detroit is both racially isolated and economically disadvantaged; and neither regional planning nor public condemnation of land have much traction in Michigan thanks to voter skepticism. Due to America’s decentralized state government, these factors vary somewhat from state to state, but the fundamentals, unfortunately, remain the same. Any planner, policymaker, or urban designer intending to confront the problem of the shrinking city in America must acknowledge the peculiar structural circumstances that have caused these cities’ current conditions before formulating any actions that might alleviate, never mind reverse,

these circumstances. As I have previously argued (Ryan 2012, 183-185), there are some reasons for optimism: electoral cycles persistently elect optimistic and capable leaders, such as the current leadership of Flint; policy decentralization permits and even encourages innovation at the local level; and the relative disinvestment of capital leaves space for cultural and informal actors (Ryan and Campo 2013).

The situation of the American shrinking city is thus dramatically different than that of cities in, say, Germany. Many informed observers would also agree that the American urban condition is worse. In Germany, very substantial federal funding (the *Stadtumbau* program), social tolerance of government action, and a tradition of cultural institutions such as the IBA have led to a plethora of rich ideas and implemented actions (see, for example, Oswalt and Mittmann 2010). Neither this funding nor this level of government action is ever likely to occur in the United States. On the other hand, countries like Russia present even greater policy difficulties and challenges for planners. Russia's tremendous scale, the spatial isolation and climactic extremes of many of its cities, and an erratic quality and capacity of government place America's urban problems in perspective. The differences between the condition of shrinking cities in the US, Germany, and Russia remind policymakers that the global problems of deindustrialization and demographic change assume different forms in every country according to the local forces of history, politics, and social structure. Research can identify meaningful commonalities and differences, and frame policy resolutions within these particular national contexts.

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# СОЦИАЛЬНО- ЭКОНОМИЧЕСКАЯ ДЕЯТЕЛЬНОСТЬ СССР И НОРВЕГИИ В АРКТИКЕ (НА ПРИМЕРЕ ШПИЦБЕРГЕНА В XX ВЕКЕ)

АЛЕКСАНДР КОНСТАНТИНОВИЧ ПОРЦЕЛЬ  
МУРМАНСКИЙ ГОСУДАРСТВЕННЫЙ ТЕХНИЧЕСКИЙ УНИВЕРСИТЕТ  
(2016)

**Ш**пицберген предоставляет уникальную возможность проанализировать и сравнить опыт социально-экономической деятельности представителей различных государств в одном месте Арктики на протяжении длительного периода. Это позволяет исследовать и выявить некоторые закономерности данной деятельности.

В работе представлен отечественный и норвежский опыт, связанный с функционированием угольных рудников. Это связано с тем, что с конца 20-х гг. XX века лишь эти две страны ведут активную экономическую деятельность на архипелаге и имеют там крупные постоянные поселения.

Особое внимание уделяется трем основным аспектам: экономической деятельности, социальному развитию и системе управления.

## **Добыча угля на Шпицбергене**

Основным видом экономической деятельности на архипелаге с начала XX века является добыча угля. На рубеже XIX-XX вв. создавать угольные предприятия на Шпицбергене активно начали многие страны.

### *Опыт России*

Россия позже других включилась в процесс добычи угля на архипелаге. Первые российские геологоразведочные экспедиции на Шпицберген (В.Ф. Држевецкого в 1911 г. и В.А. Русанова в 1912 г.) были организованы на государственные средства, выделенные из

специального правительственного фонда по прямому указанию императора. Но формально экспедиции носили частный характер.

Первые русские угольные компании для добычи шпигбергеновского угля - «Груммант» и «Русское шпигбергеновское акционерное общество» - возникли в 1913 г. Обе были частными, но правительство оказало им поддержку, приняв решение о том, что поставляемый ими уголь имеет российское происхождение и потому освобождается от ввозных пошлин (Российский государственный исторический архив).

В период Гражданской войны основные пайщики русских компаний оказались в эмиграции. В 1918 г. директор «Грумманта» продал акции в Англии русскому предпринимателю Г.Х. Нахимсону; в 1920 г. часть акций приобрели англичане. Общество получило наименование «Англо-Груммант». Что касается «Шпигбергеновского акционерного общества», то оно вынуждено было продать свои участки голландцам.

С 1920 г. Совет Антанты возобновил экономические связи с «русским народом», но не с советским правительством. Созданный в 1921 году трест «Северолес» (государственное объединение лесной промышленности Северо-беломорского района) сыграл роль прикрытия государственного участия и в закупке, и в добыче шпигбергеновского угля: в 1923 г. «Северолес» стал пайщиком «Англо-Грумманта».

В 1931 г. англичане продали свою долю акций, и шахты стали советской собственностью. Все дела, связанные с исследованием и разработкой полезных ископаемых на Шпигбергене, передали вновь созданному государственному тресту «Арктикуголь».

В годы перестройки (1985-1991 гг.) по всей стране активно внедрялись новые формы организации производства, менялась форма собственности. Коснулось это и «Арктикугля»: с 1989 г. трест перешел на хозрасчет и стал работать в условиях самофинансирования.

После распада СССР экономическая активность «Арктикугля» стала снижаться. В постсоветское время трест несколько раз подвергся реорганизации. Был законсервирован в 1998 г. рудник Пирамида. Сократилось население Баренцбурга. Начиная с 1991 г., объемы отгрузки угля стали сокращаться.

В 1997 г. «Арктикуголь» получил статус государственного унитарного предприятия и является головной российской организацией на Шпигбергене. К началу XXI в. стало очевидным, что добыча угля на Шпигбергене должна быть дополнена иными видами деятельности. Генеральный директор треста «Арктикуголь» Александр Веселов считает, что в скором будущем туризм станет более значимым, чем добыча угля (Bjørke and Engås 2015/2016, 27). В связи с этим был создан Центр арктического туризма «Груммант». Другим направлением является научная деятельность. В Баренцбурге



расположились российские научные объекты, российские ученые проводят на архипелаге исследования в областях геофизики, сейсмологии, археологии, гляциологии, биологии, геологии, метеорологии и мониторинга окружающей среды.

### *Зарубежный опыт*

В 1900 г. пионером норвежской добычи угля на архипелаге стал С. Закариассен (Søren Zachariassen). Из норвежских угольных компаний, начавших в начале XX в. работу на Шпицбергене, без государственной поддержки не выжила ни одна. В годы Первой мировой войны возникли компании «Store Norske» (1916 г.) и «Kings Bay» (1917 г.). Обе они не смогли обойтись без государственной поддержки.

Немцы создали на архипелаге до начала Первой мировой войны три компании: первая («Seefischerei Verein») возникла в 1898 г., две другие («Norddeutscher Lloyd» и «Graf Zeppelin») - в 1910. Но к работе они так и не приступили.

В 1904 г. американец Д. Лонгйир основал «The Arctic Coal Company». Компания развернула ширококомасштабные работы. Но, не имея государственной поддержки, Лонгйир был вынужден продать ее в 1916 г.

Почти одновременно с американцем создали свои первые компании на Шпицбергене англичане – «The Spitsbergen Coal and Trading Company» в 1904 г. и «Spitzbergen Coal and Mineral Ltd» в 1905 г. Обе компании закрылись в 1908-1909 гг. Третья английская компания («The Northern Exploration Company») возникла в 1910 г. Но, несмотря на государственную поддержку, она обанкротилась в 1929 г.

«Шотландская Шпицбергенская компания» («The Scottish Spitsbergen Syndicate Ltd.») была создана в 1909 г., но лишь в 1919 г. заложила первую шахту на архипелаге. Дальше промышленной разведки дело не продвинулось.

Голландцы попробовали начать добычу угля на Шпицбергене в годы Первой мировой войны – в 1915 г. возникла компания «Hollandsch-Noorsche Mijnbouw Maatschappij» («Северо-Голландское горное общество»). Через несколько лет она свернула работу. В 1920 г. здесь возникла новая голландская компания - «Nederlandsche Spitsbergen Compagnie» (Nespiko). Однако в 1925 г. она была вынуждена законсервировать свой рудник Баренцбург.

С 1916 г. на архипелаге начал работу шведский рудник «Свеагрува», но в 1923 г. шведы закрыли его. На участке Пирамида они провели лишь разведочные работы.

История угольных рудников Шпицбергена в XX веке показывает, что частные компании, независимо от их национальной

принадлежности, не могут без государственной поддержки успешно вести разведку и разработку полезных ископаемых в Арктике, и эта деятельность всегда является убыточной. Поэтому участие государства является необходимым условием осуществления хозяйственной деятельности в Арктике.

## **Социальное развитие поселков Шпицбергена**

### *Советский/российский опыт*

Перед началом Второй мировой войны на Шпицбергене трудились ежегодно 1 650 - 1 900 советских граждан (Государственный архив Мурманской области *с*). Договор заключался на два года. Но многие оставались и на более долгий срок. Грумант и Баренцбург превратились в благоустроенные поселки. В них жили вместе с родителями порядка 60 детей. Были организованы детские сады и школы. С 1932 г. работала радиостанция. Проблемы питания помогало решать развитое подсобное хозяйство, где разводили скот и выращивали овощи. Кроме работы, полярники активно занимались спортом, организовывали спектакли и концерты. Здесь впервые выступила на сцене Майя Плисецкая – дочь начальника рудника М. Плисецкого.

Во время войны в 1943 г. немецкая эскадра разрушила поселки Шпицбергена. В 1946 г. было решено восстановить советские рудники на Шпицбергене. Их восстановлением руководил начальник треста И. Наумкин. Благодаря героическому труду полярников в 1949 г. были восстановлены Баренцбург и Грумант. В 1950 г. начал работу рудник Пирамида (Государственный архив Мурманской области *а*). В 50-е гг. на Шпицбергене жили и работали ежегодно 2 500 – 2 900 советских граждан (Государственный архив Мурманской области *б*). Действовали школы, детские сады и ясли, бани, клубы. Возобновили выпуск газеты «Полярная кочегарка», которая выходила еще в довоенные годы. В 1948 г. вновь заработала радиостанция.

В 1981 г. на архипелаге проживали около 2 500 советских граждан (для сравнения, там находились менее 1 500 постоянных норвежских жителей) (Знакомьтесь: это Свальбард 2014, 10). *В поселках были построены благоустроенные многоэтажные многоквартирные дома, новые дома культуры, школа, детский сад, спортивный комплекс, проложены хорошие дороги. В 1984 г. началась трансляция телепередач из Москвы.*

Сейчас в Баренцбурге живут и трудятся ежегодно около 400 человек (в 2015 г. – 471) (Key figures for Svalbard). Ведутся большие работы по его благоустройству. Доступна мобильная и спутниковая

связь.

### *Норвежский опыт*

Население норвежской общины с 90-х гг. стало быстро увеличиваться и к середине нулевых годов стабилизировалось. Сейчас норвежцы составляют основную часть населения архипелага. Почти 60% взрослых жителей норвежских поселков составляют мужчины (Там же). Наблюдается значительная текучесть населения: ежегодно его состав обновляется примерно на четверть. В среднем норвежцы живут на архипелаге около 6,6 лет, затем возвращаются на материк. Тех, кто прожил здесь более 10 лет, около 25% (Знакомьтесь: это Свальбард 2014, 11; Знакомьтесь: архипелаг Свальбард 2009, 11).

В начале XXI в. основными отраслями, в которых занято население коммуны, становятся туризм и научные исследования. Постоянно увеличивается количество охраняемых объектов культурно-исторического наследия, что способствует притоку туристов. Создана разветвленная инфраструктура, обслуживающая туристический бизнес.

До 80-х гг. XX в. всю жизнедеятельность поселков обеспечивали угольные компании. С начала нынешнего столетия решение социально-экономических вопросов перешло в ведение созданных здесь органов местного самоуправления. Расходы на содержание его органов частично финансируются правительством Норвегии.

В норвежской коммуне Свальбарда создана разветвленная социально-бытовая инфраструктура. На ее содержание государство выделяет значительные дотации. В Лонгйире расположены больница, три детских сада и средняя школа, спорткомплекс с плавательным бассейном, библиотека, центр культуры, кинотеатр. Имеется банк, гостиницы, несколько музеев. Издается еженедельная газета «Свальбард постен». В Лонгйире также есть общественный транспорт – автобусы и такси.

К началу XXI в. норвежцы создали разветвленную сеть систем связи, обеспечивающую нужды предприятий, учреждений и жителей. Постройка аэродрома обеспечила круглогодичное сообщение с материком. Но роль морского завоза остается ведущей в снабжении общины и предприятий. Подсобное хозяйство в норвежской общине практически отсутствует.

Университетский центр Свальбарда (UNIS) является основным научным учреждением на Шпицбергене. Норвежцы составляют лишь около половины всех студентов этого центра, остальные – иностранцы. Этот центр наряду с Полярным институтом возглавляет всю научную

деятельность, которую ведут на архипелаге как норвежцы, так и иностранцы (за исключением россиян). В начале нынешнего столетия все активнее осуществляются здесь международные научные проекты, наиболее известным из которых стало создание «Глобального Банка Семенных Фондов».

Таким образом, развитие угольных рудников на Шпицбергене в XX веке привело к формированию крупных населенных пунктов с постоянным населением и развитой социальной структурой, аналогичной национальным социальным структурам на материке.

## **Система управления на Шпицбергене**

### *Российская система*

Система организации управления советскими рудниками и поселками на Шпицбергене сложилась еще в 30-е гг. Советская модель строилась по ведомственному принципу: администрация треста «Арктикуголь» осуществляла все управленческие функции и контролировала любую отечественную деятельность на архипелаге, включая дипломатическую работу. Так был реализован принцип централизации управления и единоначалия.

Однако уже в последние предвоенные годы наметилась тенденция разделения полномочий: консульская служба хотя и взаимодействовала с руководством рудников, выделилась в самостоятельную структуру. (Кстати, Россия – единственный участник Парижского договора, имеющий на Шпицбергене свое Генеральное консульство. Это обусловлено тем, что другие страны (кроме Норвегии) не ведут здесь широкомасштабной деятельности).

Значительной самостоятельностью обладали также партийные структуры в системе «Арктикугля».

В результате на архипелаге постепенно сложилась сложная система руководства, выразившаяся в системе тройного подчинения структур «Арктикугля»:

- по хозяйственной линии - центральным органам в Москве (Главсевморпути или Министерству угольной промышленности);
- по дипломатической линии – министерству иностранных дел;
- по партийной и комсомольской линии – Мурманским обкомам КПСС и ВЛКСМ.

Но приоритетную роль всегда играло руководство «Арктикугля», поэтому система оставалась, по сути, отраслевой.

С конца 70-х гг. кроме сложной структуры осуществления полномочий на самом архипелаге, требовавшей координации усилий нескольких ведомств, сложилась и необходимость координировать их работу с деятельностью заинтересованных хозяйственных субъектов в водах архипелага – рыбодобывающими флотами.

В постперестроечный период государство ограничило свое участие в экономике. Соответственно, и деятельность различных субъектов на архипелаге (хозяйственных, научных и т.д.) приобрела большую самостоятельность. В результате возникла разбалансированность в действиях этих субъектов.

С 1998 по 2004 г. координацию экономической и научной деятельности российских организаций на архипелаге осуществляла Межведомственная комиссия по обеспечению сохранения российских интересов, производственной и научной деятельности на архипелаге Шпицберген. В апреле 2007 г. была образована Правительственная комиссия по обеспечению российского присутствия на архипелаге Шпицберген. Возглавляет ее заместитель Правительства РФ. Практическая работа осуществляется через структуры «Арктикуглы», который сохранил в своих руках всю сложившуюся здесь инфраструктуру.

### *Норвежская система*

Норвежский суверенитет над Шпицбергенем установлен Парижским договором 1920 года. Этот договор и Горный устав являются приоритетными законодательными актами на архипелаге. Норвежские законы, действующие на Шпицбергене, не должны противоречить этим документам.

Губернатор Шпицбергена обеспечивает единство в действиях всех организаций на архипелаге, как норвежских, так и иностранных, в соответствии с положениями Парижского договора, являясь высшей властной инстанцией на архипелаге. Он, в свою очередь, подчиняется норвежскому Министерству юстиции и полиции. Полномочия губернатора весьма широки.

Коммуна Шпицбергена имеет самостоятельность в ряде вопросов, касающихся обустройства внутренней жизни. Но она координирует свои действия с губернатором и контролируется им. Формируется местное самоуправление Шпицбергена по образцу аналогичных структур материковой части королевства.

Руководство угледобывающих компаний в своих действиях самостоятельно, но контролируется администрацией губернатора в части соблюдения положений международных договоров.

Финансирование провинции Шпицберген осуществляется на основании отдельного документа, утверждаемого параллельно с государственным бюджетом. Бюджет Шпицбергена складывается из собственных доходов, налогов и государственных дотаций.

Отечественная и норвежская модели, сложившиеся на Шпицбергене, несмотря на многие схожие черты, имеют и серьезные различия.

Норвежская модель управления основана на координации действий различных ведомств при верховенстве губернатора, который является представителем правительства и обеспечивает норвежский суверенитет над архипелагом.

В «советско-российской» модели доминирует отраслевой принцип управления. Первоначально все вопросы решал руководитель хозяйственной организации – глава треста «Арктикуголь». Он совмещал решение и хозяйственных, и дипломатических, и политических, и социальных вопросов. Затем постепенно дипломатические вопросы перешли в ведение специального консула, а вопросы политико-просветительской работы – под контроль представителя партийных структур. Сейчас всю деятельность координирует специальная правительственная комиссия, реализующая свою деятельность через структуры «Арктикугля».

## **Краткие выводы**

- Успешное осуществление экономической деятельности в условиях Арктики невозможно без государственной поддержки, которая может осуществляться в различных формах.
- Экономическая деятельность начинается с развития какого-либо одного вида производства, но по мере снижения его эффективности должна дополняться альтернативными видами деятельности. В современных условиях наиболее перспективными из них становятся туризм и научные исследования.
- Функционирование рудников на Шпицбергене показывает, что в Арктической зоне возможно создание крупных населенных пунктов с постоянным населением, которое характеризуется сложной половозрастной структурой и полиэтничным составом.
- По мере роста численности населения этих поселков возникает разветвленная социальная инфраструктура.
- Возможны различные варианты организации управления

социально-экономическими процессами в Арктической зоне. В тоже время управление является эффективным при условии создания единого координационного центра, в функционировании которого значительная роль отводится государству.

## **Источники**

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# **RUSSIA'S ECONOMIC DEVELOPMENT AND TRANSPORTATION**



# **DYNAMICS OF A COUPLED SYSTEM: MULTI-RESOLUTION REMOTE SENSING IN ASSESSING SOCIAL- ECOLOGICAL RESPONSES DURING 25 YEARS OF GAS FIELD DEVELOPMENT IN ARCTIC RUSSIA**

**TIMO KUMPULA**

UNIVERSITY OF EASTERN FINLAND

**BRUCE C. FORBES**

UNIVERSITY OF LAPLAND

**FLORIAN STAMMLER**

UNIVERSITY OF LAPLAND

**NINA MESCHTYB**

UNIVERSITY OF LAPLAND

(2013)

**H**ydrocarbon exploration has been underway in the north of West Siberia for several decades. Giant gas fields on the Yamal Peninsula are expected to begin feeding the Nord Stream pipeline to Western Europe. Given the increasing development of energy resources on the peninsula, many have raised concerns about the impacts of extraction on native communities.

Using spatial analysis techniques, we assessed the resilience of the Yamal Peninsula and its indigenous inhabitants, giving insight into the dynamic relationship between resource extraction and community sustainability.

Employing a variety of high- to very high-resolution satellite-based

sensors, we have followed the establishment and spread of Bovanenkovo, the first and biggest field to be developed. Extensive onsite field observations and measurements of land use and land cover changes since 1985 have been combined with intensive participant observation of indigenous Nenets reindeer herders and long-term gas field workers during all seasons in the periods 2004–2007 and 2010–2011. Time series and multi-resolution imagery was used to build a chronology of the gas field’s development. Large areas of partially or totally denuded tundra and most forms of expanding infrastructure are readily tracked with Landsat scenes (1985, 1988, 2000, 2009, 2011).

SPOT (1993, 1998) and ASTER (2001) were also used. Quickbird-2 (2004) and GeoEye (2010) were most successful in detecting small-scale anthropogenic disturbances as well as individual camps of nomadic herders moving in the vicinity of the gas field. For assessing gas field development, the best results are obtained by combining lower resolution with Very High Resolution (VHR) imagery (spatial resolution <5 m) and fieldwork.

Overall, the Yamal Peninsula has proved to be a strongly resilient social-ecological system. Nenets managing collective and privately owned herds of reindeer have proved adept at responding to a broad range of intensifying industrial impacts at the same time as they have been dealing with symptoms of a warming climate. Here we detail both the spatial extent of gas field growth and the dynamic relationship between Nenets nomads and their rapidly evolving social- ecological system. While the expansion of industrial activities has impacted many aspects of indigenous life in the region, both natives and outsiders have begun to adjust to each other’s presence, leading to a more sustainable set of agreements and land use principles.

# ACCESS IN FLUX: OPPORTUNITIES AND UNCERTAINTIES IN ARCTIC TRANSPORT AND DEVELOPMENT

SCOTT R. STEPHENSON  
UNIVERSITY OF CALIFORNIA, LOS ANGELES  
(2013)

The IPCC-projected warming of 1.8-4°C (Solomon et al. 2007) globally over the next century is expected to precipitate unprecedented environmental change. This global temperature increase is likely to be strongly amplified in the Arctic (+2-9°C by 2100) as melting sea ice and reduced snow cover allow solar radiation to be increasingly absorbed by polar seas and landmasses (Anisimov et al. 2007). As a result, the Arctic is often viewed as a bellwether for global climate change, as thawing permafrost, melting glaciers and ice sheets, and sea ice recession signal the beginning of a warmer climate regime in the high latitudes (ACIA 2004a). These physical changes have powerful implications for both marine and land-based transportation systems in the Arctic.

Economic development in the Arctic depends critically on access to remote resources and communities. Because resources are necessarily tied to specific places, development requires reliable and cost-effective connections between extraction sites and consumer markets. These connections are mediated by a dynamic, rapidly changing physical environment and sparse, environmentally sensitive infrastructural networks. Understanding accessibility in this region requires attention to two climatically sensitive transportation systems: marine transport and ice and terrestrial winter roads. Changes to these systems have important implications for community resupply (inward transport) and resource exploitation (outward transport), leading some Arctic settlements to become increasingly integrated with global economic networks while others become less integrated and effectively more remote.

This paper will critically examine the economic implications of

recent and future changes in Arctic accessibility in response to a warmer climate regime. While marine navigation seasons are expected to lengthen with continued sea ice recession, the degree to which increased access will enable economic and urban development in the region is highly uncertain. Furthermore, climate change may decrease terrestrial access in winter due to reduced winter road potential. First, this paper will review the scientific basis underpinning projections of growing Arctic marine accessibility and the implications for resource extraction and transit shipping. The paper will then discuss the physical and economic challenges impeding Russian Arctic oil and gas development and transit shipping, followed by examining the impact of reduced terrestrial winter access on northern development and quality of life. The paper will close with a discussion of future development scenarios in Arctic Russia and infrastructural requirements for the creation of a transit shipping network based on the Northern Sea Route (NSR).

### **The “opening” of the Arctic?**

There has been a growing consensus over the past decade that reduced sea ice extent will increase maritime access throughout the Arctic (ACIA 2004a; Arctic Council 2009).

Satellite data collected since 1979 reveal a robust downward trend in summer ice extent and thickness (Maslanik et al. 2007; Comiso et al. 2008; Stroeve et al. 2012b), with record lows in 2007 and 2012 (NSIDC 2012). Despite adverse consequences for the global environment, reduced sea ice is often portrayed as promoting economic opportunity and integration for the region. Projections of an ice-free Arctic in summer some time in the next few decades (Wang and Overland 2009) have fueled interest in trans-Arctic maritime routes linking major world markets. While the NSR has been utilized commercially for decades, recent research suggests that new theoretical “trans-polar” routes representing the shortest marine distance between Europe and East Asia may become technically viable by mid-century (Smith and Stephenson 2013). Circumnavigating overland canals and other narrow waterways such as the straits of Malacca and Hormuz bestows the added advantage of avoiding strategic “choke points” that may be blocked for political reasons or unreliable due to pirate activity.

Oil and gas are currently produced in four Arctic states (Canada, Norway, Russia, and the US), which together account for approximately 28% of world oil and 46% of gas output (BP 2011). A widely-cited USGS study estimates that the Arctic contains 13% of the world’s undiscovered oil and 30% of its gas, approximately 84% of which is under exclusive state control less than 200 nautical miles from shore (Bird et al. 2008; Gautier et al. 2009). One-third of the undiscovered oil (30 billion barrels) is in Alaska,

while one-third of the undiscovered gas is in Russia's West Siberian Basin. In aggregate, Arctic hydrocarbons represent one of the most significant remaining unexploited sources of nonrenewable energy.

In response to new economic prospects, sea traffic in the Arctic has increased in recent years to levels unprecedented in the post-Cold War era. Resource exploitation, community resupply, and tourism are expected to increase considerably over the next decade (Arctic Council 2009). Voyages via the NSR are occurring increasingly later in the navigation season, as demonstrated by the first-ever transit by an LNG carrier in November 2012 (McGrath 2012).

Using modeled sea ice concentration and thickness, Stephenson et al. (2011; 2013) showed that large areas of the Arctic are projected to rise in accessibility to Polar Class vessels by mid-century, including a majority of the Russian coastal seas in summer. Navigation season in the NSR is projected to exceed 3 months on average throughout the 21<sup>st</sup> century using such vessels, while winter access will remain limited to ice-strengthened vessels, as even the most aggressive climate models predict winter ice cover throughout the 21<sup>st</sup> century (Stroeve et al. 2012a).

### **Tempering optimism**

While a seasonally ice-free Arctic appears likely in the coming decades, whether attendant marine access will enable economic and urban development in the region is highly uncertain. Arctic oil and gas plays remain among the most expensive to develop in the world and carry considerable environmental risks, particularly offshore (Mulherin et al. 1996; ACIA 2004b). Data from Alaska's North Slope indicate that the cost of drilling an onshore well in the Arctic may be as much as 640% higher than the US average (EIA 2008). Furthermore, costs have risen sharply in the last decade as new exploration has turned toward increasingly remote and marginal fields. From 2000 to 2005, onshore drilling costs in Alaska rose 564%, compared with 165% for the US as a whole (American Petroleum Institute, 2006). Offshore wells are many times more expensive in the Arctic (~\$60 million in the Chukchi Sea) than at lower latitudes (~\$7 million in the Gulf of Mexico) (Østreg 2012). Where infrastructure is underlain by permafrost, climate change-induced subsidence and thickening of the seasonal active layer increase construction and maintenance costs further (Streletskiy et al. 2012a; Streletskiy et al. 2012b).

Climate change also presents numerous challenges to navigation and regional accessibility, even as it reduces overall ice extent. A longer ice-free season may increase the likelihood of storms and ice velocity in coastal waters due to increased wind fetch (Barber et al. 2010). The risk of ice collisions in such environments may be greater than in calm,

ice-covered seas in which ice drift is relatively slow and predictable. Remaining multi-year ice may move from the central Arctic Ocean toward shipping lanes, creating a hazard to all but the most ice-strengthened ships (Melling 2002; Howell and Yackel 2004). Warmer temperatures also promote higher humidity, resulting in fog and reduced visibility. Furthermore, ports and other land-based infrastructure will have to contend with coastal erosion caused by permafrost thaw, limiting the support available to passing vessels.

The environmental impact of an oil spill in the Arctic would be especially severe. Sea ice, low visibility, high winds, rough seas and cold temperatures complicate all aspects of spill response (Pew Environment Group 2010). Oil may remain on or within sea ice after a spill only to be released months later (Atlas et al. 1978; Martin 1979). Such “trapped” oil is difficult to track and cannot be reclaimed using conventional methods (AMAP 2007; Pew Environment Group 2010). Furthermore, vulnerability to spills is not limited to areas of extractive activity or oil shipment corridors. Many vessels, particularly those operating in the eastern Arctic, continue to rely on low-cost heavy fuel oil (HFO). Accidents involving these ships may cause spills regardless of the cargo on board (Det Norske Veritas 2011).

The fate of new oil and gas development in Russia is ambiguous. New unconventional deposits such as shale gas, shale oil and oil sands, as well as new conventional production made possible by horizontal drilling techniques, have dramatically increased supplies from fields relatively close to markets and transport infrastructure. Such plays are meeting demand that would otherwise have justified Arctic investment. The Shtokman project, for example, had been intended to supply LNG to the US but has been delayed indefinitely, since hydraulic fracturing has become widespread in North America. The project may be revived for export to East Asian markets, but the necessary transport infrastructure and LNG plants have not yet been built.

New conventional and unconventional supplies from around the world, combined with the high costs and long lead times of Arctic production, mean that Arctic hydrocarbon development will be highly dependent on oil and gas prices determined, in large part, by global demand. In light of these challenges, Russian cities hoping to capture a share of the revenue from petroleum and transit activities must adjust expectations toward a reality of persistent high operating costs and an uncertain pace of development. While Arctic marine traffic is certain to increase as the navigation season expands, Russian claims that the NSR will soon rival the Suez Canal as a global shipping corridor are exaggerated. In the near term, Arctic routes will be ill-suited to container shipping, which prioritizes reliability and economies of scale over speed and is increasingly



driven by just-in-time production models. Shipping schedules on Arctic routes must account for unpredictable weather and ice conditions, leading to delays and supply chain disruptions. Traffic related to within-Arctic resource extraction is likely to constitute the vast majority of Arctic shipping activity in the first half of the 21<sup>st</sup> century.

## **Winter roads**

Climate change also has powerful implications for terrestrial accessibility in the north. Because of the scarcity and high cost of permanent roads in the Arctic and sub-Arctic, terrestrial access is often made possible by seasonal (winter) ice roads, constructed either by removing snow from frozen land and water bodies and applying water in layers to form smooth ice (Cardinal 2011) or by packing snow to construct a workable driving surface (Adam 1978). Land that is impassable from spring to fall, such as boggy muskeg and peatlands covering vast areas of northern Russia and Canada, becomes accessible in winter in this way. The substantially lower cost of winter roads (~\$5000/km vs. ~\$1 million/km for permanent roads) makes them attractive as precursors to permanent roads in industrial operations or long-term solutions in remote communities (Guyer and Keating 2005; Zaitsoff 2011). As a result, winter roads have become a vital part of the resource development sector throughout the Arctic and sub-Arctic.

Winter roads are also used extensively for community resupply. In Russia, such connections (usually called “ice roads”) often take the form of river ice crossings (Tananaev 2013). For example, an ice road crosses the Ob River, linking Labytnangi and Salekhard in the Yamalo-Nenets Autonomous Okrug. Yakutsk is connected south to the Amur region via the Lena Federal Highway and east to Magadan via the Kolyma Federal Highway by ice roads that cross the Lena River. These highways are open year-round and connect to Yakutsk by ferry in summer and by ice roads in winter. Hundreds of such crossings link communities throughout Siberia; of these, 30 to 40 are opened officially every winter in Yakutia. Ice roads are normally open from December to April, with the northernmost roads closing in early May. After closing, winter roads return to an impassable state and resupply can take place only by air or river barge.

Use of winter roads depends on sub-zero temperatures to maintain ground strength and ice thickness. Warmer temperatures can delay the start and advance the end date of winter road operation; therefore, a trend of long-term warming implies a future of shorter winter road seasons and reduced terrestrial access. Stephenson et al. (2011) modeled the impact of future warming on winter road access and found a broad pattern of winter road suitability loss from October to May in all Arctic states by mid-century, particularly in Russia and Canada. Losses are especially pronounced

in April and November, months representing the “margins” of the operating season in which winter roads typically open and close, respectively. These projections suggest longer travel times near Arctic settlements, especially when combined with rugged terrain and infrastructure scarcity.

Reduced winter road access has numerous negative consequences for communities and industry. Often, winter roads are the only land links around and between remote settlements, such as Olenek and Mirny in northwestern Yakutia (Tananaev 2013). A shortened winter road season implies higher costs in these impacted areas. When winter roads fail, overland travel may become dangerous or impossible, as drivers may become trapped in muskeg or fall through river or lake ice. Unless located near a navigable waterway, communities face steep price increases when winter roads close, as supplies must be delivered by air. Likewise, mining, energy and timber interests face shorter time windows to transport necessary equipment and product. This may lessen the attractiveness of exploitation in remote areas, potentially requiring costly investment in permanent roads and/or maritime port facilities. Interannual variability in winter road season length may complicate supply chain coordination, leading to production inefficiencies that may render industrial activities uneconomic. Thus, companies that use winter roads must be able to adapt to both interannual variability in season length in the short term and a truncated average season in the long term.

## **Infrastructure and future development**

Given the aforementioned climatic and economic uncertainties, one might envision several scenarios of development in Arctic Russia. One is that persistent and unpredictable sea ice conditions and rising global oil and gas supplies stymie the creation of an Arctic marine transit network based on the NSR. An opposing scenario sees the rapid decline in ice extent and the attendant expansion of the navigation season, combined with high oil prices, precipitating massive investment in infrastructure and build-out of Arctic ports, leading to rapid oil and gas development. In this latter scenario, such investment will occur where economic incentives are present and where infrastructure fulfills a strategic or commercial objective. The concentration and seasonal duration of sea ice then become mitigating factors, rather than primary determinants, of shipping, as demonstrated by the rapid construction of an LNG export plant in Sabetta on the Yamal Peninsula coast. Even though ice is present most of the year in the Ob Bay, construction is ahead of schedule due to government investment exceeding 47 billion RUB, with the goal of more than doubling total Russian LNG output (Staalesen 2012). Similar future infrastructural expansions will depend on the existence of a market basis for investment, bolstered by

proximity to resources and existing supply lines. It is thus plausible that Naryan Mar, situated on the seasonally ice-free Pechora Sea with close proximity to the Varandey oil terminal and Prirazlomnoye offshore oil field, will be the target of future investment while Tiksi, located far from planned hydrocarbon projects and potential NSR transshipment hubs, will not. Whereas NSR infrastructure in the Soviet period was developed to be independent of international commodity flows, new infrastructure will be built to capitalize on opportunities created by these same flows. In this way, NSR infrastructure is likely to expand as a series of targeted, concentrated investments rather than a proliferation of ports following historical settlement patterns.

If shipping related to both transit and petroleum activities continues apace, substantial infrastructural upgrades will be required throughout the NSR. Many ports and much support infrastructure along the NSR fell into disrepair following the collapse of the Soviet Union, and the communities that maintained these facilities experienced severe outmigration (Heleniak 2008). This infrastructure would have to be rebuilt or repaired, with a replenished workforce, in order to sustain a concentrated expansion of NSR shipping. Such upgrades at ports include deepwater berths; cranes; refueling stations; intermodal transfer facilities; storage tanks and warehouses; worker accommodations; and medical facilities. Weather and ice monitoring, firefighting, and rescue stations will be required throughout the NSR to help prevent and respond to emergencies. Drilling platforms, disaster response vessels, and spill cleanup equipment that operate year-round must be built to withstand ice impacts. Building such infrastructure may require buy-in from foreign companies in the form of capital and expertise. Buoyed by the widely-hailed 2010 Barents Sea boundary agreement, Russian and Norwegian companies are signing joint ventures to develop Russian fields in the Barents Sea (Kolyandr 2012). Such partnerships make sense in light of the considerable technical advantages Norway possesses in the oil and gas sector (Stephenson 2012).

## **Conclusion**

Transportation systems in the Arctic will undergo profound changes in the coming decades. Observed and projected trends in sea ice recession have made it increasingly apparent that marine access will continue to increase throughout the Arctic for most vessel types in summer, while vessels with some icebreaking capability will have expanded access year-round. However, considerable uncertainties about the economic impacts of these changes remain. Resource extraction and transit shipping remain risky and expensive enterprises in the Arctic, owing to high infrastructural costs, commodity price fluctuations, navigation season uncertainty, and

potentially severe environmental impacts. Furthermore, climate warming presents an economic vulnerability to inland northern communities and industry by reducing the terrestrial accessibility afforded by winter roads. Resource development and transit shipping will require considerable investments in infrastructure in order to operate safely and adapt to the needs of a changing global economy. While shipping is likely to continue to increase in the near term, it may be many years before Arctic cities become fully integrated within global resource and transportation networks. The dual uncertainties of climate change and resource economics form a critical backdrop against which questions of Arctic development will continue to evolve.

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# REMOTENESS AND MOBILITY: TRANSPORTATION ROUTES, TECHNOLOGIES, AND SUSTAINABILITY IN ARCTIC COMMUNITIES

MATTHEW BERMAN  
UNIVERSITY OF ALASKA, ANCHORAGE  
(2013)

Across the Circumpolar Arctic, the scarcity of permanent roads is a common geographical theme. A cold climate prevented agriculture from spreading across Arctic regions as it had across the more southerly reaches of Europe, Asia, and North America. Instead, traditional livelihoods evolved around hunting and nomadic herding. Both of these livelihoods require large undeveloped expanses within which animals and people can travel freely, foraging as they move seasonally across the landscape. Without widespread agriculture and its accompanying dense rural settlement, the economic base and social need never arose for a network infrastructure for interior surface transportation.

Arctic regions also share a history of colonization by temperate-zone capitals. In modern times, formal colonization has given way to varying degrees of integration with more southerly nation-states. However, the colonial legacy lives on through economic dependence on public spending financed by the south for education, healthcare, and local public services, as well as on global markets driven by southern need for Arctic resources. A third common characteristic of Arctic regions is their physical remoteness from the southern political and financial capitals that control their fate. With the exception of Europe, the Arctic lies 2,000 km or more from any city with a population of at least 1 million. Travel by air from an Arctic settlement to the national capital may involve a flight of more than 5,000 km, potentially taking considerably longer than the time needed to fly from the capital city of any one Arctic state to another, even across continents.

The common themes of remoteness, sparse settlement, and history of external domination that characterize Arctic regions reveal themselves in stylized patterns of local and long-distance mobility. Arctic transportation

system technologies and routes have imprinted themselves on rural livelihoods and social relations, with important consequences for mobility and economic viability.

While the system made perfect sense in a context of inexpensive petroleum fuels, the prospect of continued high oil prices and the need to curb greenhouse gas emissions call into question the sustainability of the entire structure of modern Arctic social systems.

### **Arctic as a remote region**

The Arctic as a circumpolar region is often defined in geophysical terms – north of the Arctic Circle, average July temperature at or below 10 degrees Celsius – and sometimes as an ecological boundary: the northern limit of treeline (NSIDC). The Arctic Council uses a somewhat more complex definition (AMAP 2013), but one which is still based on the natural environment. For a definition based on human geography, the Arctic would be better termed the remote region occupying the northernmost expanses of Asia, Europe, and North America. Huskey and Morehouse (1992) described a remote region as an area with a unique combination of features. Remote regions

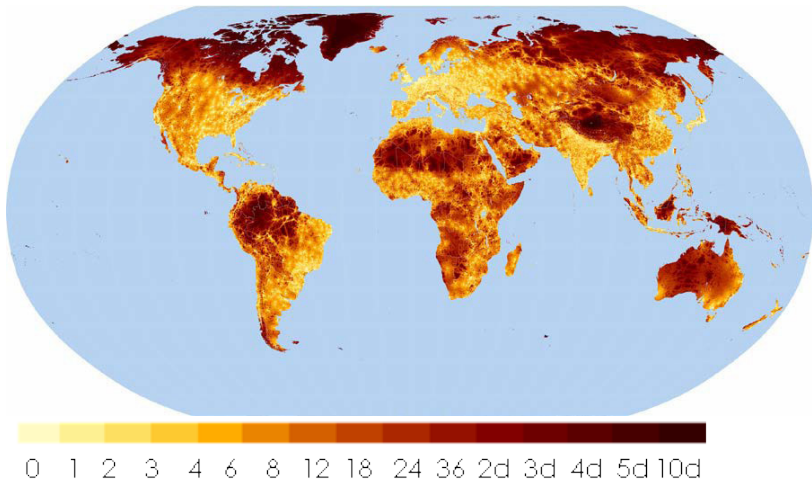
... are remote geographically, economically, and politically. They are distant from large, urban industrial and political centers, and they are sparsely settled. Most of them contain Native or indigenous populations as well as non-Native immigrants, and they have a mix of traditional and Western institutions. 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..” (Huskey and Morehouse 1992, 129).

On this definition, the Circumpolar Arctic is the archetype of a remote region. Huskey and Morehouse describe geographic remoteness as having both external and internal references. While the European Arctic lies relatively close to major political and financial capitals, large portions of the North American and Asiatic North remain as inaccessible to cities – whether measured in terms either of travel time or distance – as any inhabited area of the earth (Figure 1). Arctic regions appear remote by this measure both because there are few cities and because there are few roads. Low population density and the expense of building surface transportation infrastructure on permafrost has meant that roads are largely absent in the Arctic (Figure 2). Air transportation provides the main access mode for



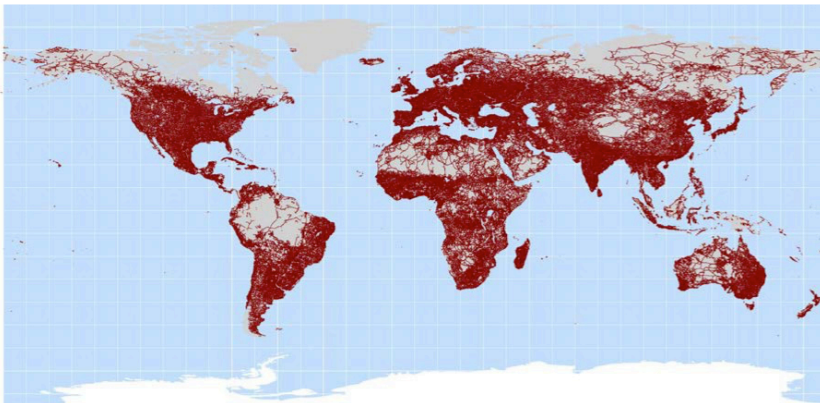
long- distance travel and shipping, except for seasonal access to the coast and along large rivers during the short ice-free summer months.

**Figure 1.** Travel time to major cities in hours and days (d) and shipping lane density.



Source: Nelson (2008)

**Figure 2.** Global network of roads and tracks



Source: European Commission, Joint Research Centre Land Resource Management Unit, <http://bioval.jrc.ec.europa.eu/products/gam/sources.html>

## **Colonization and Integration with Southern Nation-States**

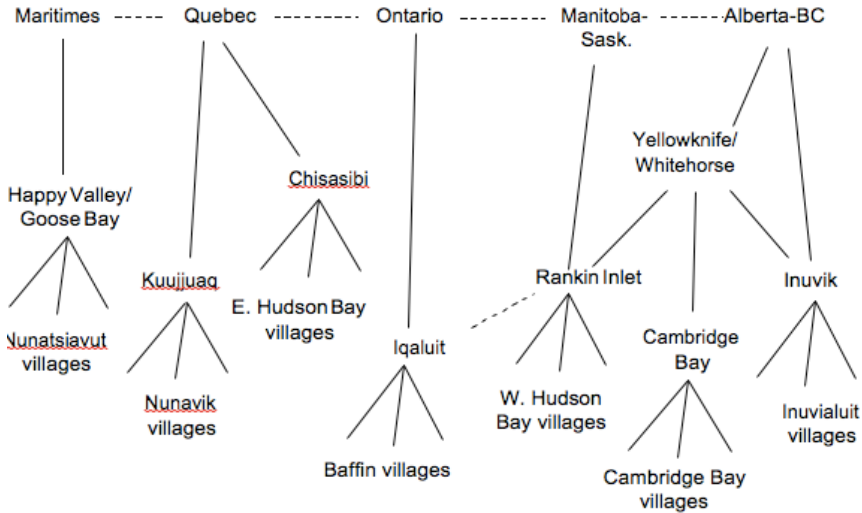
On Huskey and Morehouse's (1992) definition, remote regions not only lack physical access but are also remote from centers of commerce and the levers of political power. Limited political economy is associated with a history of colonization by adjacent temperate-zone nation states, which seek to control resources and establish security on their northern frontiers. Both resource development and geopolitical security issues depend on global forces that rise and fall with the times. Unlike other historical frontiers, which inexorably pushed across continents as modernization progressed, the Arctic frontier moves erratically out and back, giving resource exploitation and military bases a more intermittent character. Geographer David Sugden (1982) described waves of development sweeping across regions of the Arctic pushed by one particular global resource need. The waves typically subsided until replaced by a new wave driven by a new set of external needs.

Transportation across the Arctic was originally based primarily on water, along the coasts and major rivers, and only seasonally available in many places. Transportation infrastructure constructed in the North was often designed around the export of a single mine or petroleum deposit or intended to provision a single military installation from the south. Arctic towns and cities built around the exploitation of nearby resources such as gold mines tended to be highly seasonal and ephemeral. The few non-indigenous communities that did become permanent often owed their staying power directly to national government policies, either as centers of colonial administration of the territories – such as Whitehorse, Nuuk, and Magadan – or as priority areas for national defense or industrial policy, like Murmansk, Noril'sk, and Anchorage (Armstrong et al. 1978; Sugden 1982).

Once reliable air transportation became available, commercial air service quickly became the dominant means of transporting people as well as most goods (other than fuel and bulk commodities). Major Arctic resource extraction projects typically had their own single-purpose infrastructure for transporting their bulk products directly to world markets. Air transport networks, in contrast, tended to develop to meet the needs of the colonial administration. The pattern of settlement of Arctic indigenous peoples occurred largely as a consequence – intentional or inadvertent – of colonial air access policies, constructed by states that governed these regions from distant capitals. The network of direct flights in Arctic Canada (Figure 3) illustrates this principle through the north-south axis of major air routes, with minimal connections across the North except from villages to local hubs. If two Arctic communities with historical cultural connections are served from different administrative hubs, the air network

often separates these communities from one another by greater distance, in terms of both flight time and costs, than from the southern city that serves each community's local administrative hub.

**Figure 3.** Colonial Legacy: Air Transportation Network for Arctic Canada



Arctic Alaska shows the same general pattern of north-south connections (Figure 4), but with an important difference. Anchorage serves as the gateway for nearly all direct flights in and out of Arctic Alaska; flying from an Arctic Alaska community to another U.S. state generally requires changing planes in Anchorage. As an air transportation hub for all communities in Alaska, Anchorage lies much closer to Arctic Inuit communities than any southern Canadian city lies to Inuit communities in Canada. Consequently, it is much less costly and takes much less time for a resident of an Alaska Arctic community to fly to Anchorage, or through Anchorage to another Alaska Arctic community, than for a Canadian Arctic resident to fly to a city or community in a different area of Arctic Canada



way to travel between the two towns.

Colonial patterns of Arctic connectedness and disconnectedness became entrenched in regional education, health care, and social service administration. The prominence of these government services in local economies (Armstrong et al. 1978; Knapp and Huskey 1988; Goldsmith 2007) virtually ensured that the historical patterns would reproduce themselves over time, as both government and private enterprise built supply networks around the logistics of air travel. Social, family and business ties followed connections opened up by administration and commerce. Electronic media and the internet have the capacity to mitigate the relative remoteness of communities embedded in the transportation system to some extent, but have little prospect of undoing decades of historical inertia.

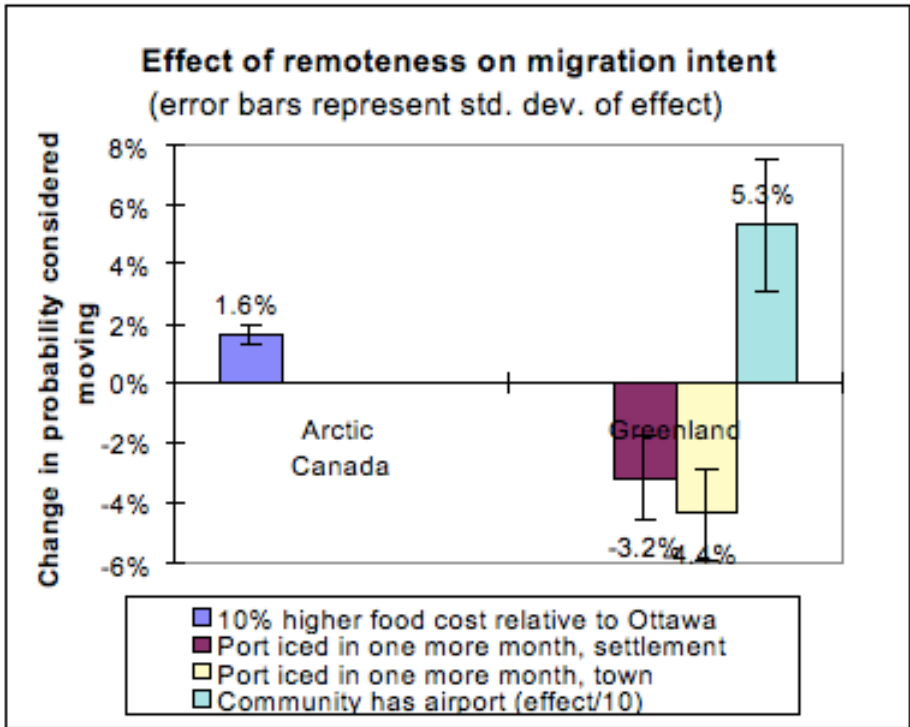
The colonial Arctic transportation networks and the moving costs they impose have a demonstrated effect on population movements. Two related studies of mobility of Inuit people in Alaska, Canada, and Greenland – one of desired mobility, or place-specific migration intent, the other of actual place- to-place migration – quantify this effect. Both studies rely on a model of voluntary individual and household mobility (Huskey et al. 2004), in which households decide whether or not to move and where to move by comparing well-being potentially available in different places with the cost of moving. Well-being attainable from living in a particular community derives from potential traditional and modern livelihood opportunities as well as amenities affecting the local quality of life.

The study for the analysis of remoteness on migration intent (Berman 2012) used data from the Survey of Living Conditions in the Arctic (SLiCA) (Kruse et al. 2009; Poppel and Kruse 2009), which asked respondents whether they had “considered moving away within past 5 years.” More than one-fourth of SLiCA respondents in each of the four regions summarized in Poppel et al. (2007) had considered moving away from their community within the past five years. The results obtained by Berman (2012) suggested that remoteness was associated with reduced mobility if the effect was to increase moving cost, and with increased mobility if it impaired living conditions in the community.

Higher cost of living relative to a national benchmark level – an indicator of commercial remoteness in Arctic communities – was strongly associated with moving intent in Canada (the only region where sufficient data were available to test for this effect). For every 10% rise in the cost of living relative to Ottawa, migration intent increased by 1.6% (Figure 5). In Greenland, sea ice isolates some communities by making them inaccessible by boat for most of the year. Only larger communities typically have airports. Both these community attributes were associated with significantly lower rates of migration intent, after controlling for other relevant factors (Figure 5). No significant effects for relative living costs

on migration intent were found for Alaska SLiCA respondents.

**Figure 5.** Effect of remoteness on migration intent.



*Source: Estimated from probit equations evaluated at sample means (data from Survey of Living Conditions in the Arctic).*

The study of actual moves among communities (Berman and Howe 2012) used individual census responses for Inuit people in Alaska and Canada for mobility from 1995 to 2000 and from 1996 to 2001, respectively. While higher relative cost of living did not appear to affect migration intent for Alaska Inuit, it did strongly (negatively) affect the choice of destination for those who did move. (Figure 6). In Canada, indicators of lower moving costs – jet service and a winter iceroad connection – showed strong positive effects on the choice of destinations, while the number of air segments between the origin and destination had a strong negative effect. A community with jet service from the origin had a 90% higher odds ratio of being selected, while the iceroad connection was associated with a three-fold increase in the odds ratio for the three Inuvialuit communities served by

the winter road. Each air segment required to reach a community reduced its odds of selection by 48%. The variables for one step up or down the hierarchy refer to the transportation tree (Figure 3), in which regional hubs lie between southern urban destinations and more remote communities. Residents of remote communities can move one step up the hierarchy to a hub, while non-Arctic residents can move one step down to an Arctic hub. Residents of hub communities such as Iqaluit, Rankin Inlet, and Inuvik, can move both up and down the hierarchy. Quantitatively, the effects of moving one step up or one step down on the probability of choosing a particular destination were roughly equivalent and large enough to offset the negative effects of several additional air segments. The results provide strong statistical support for the effect of the colonial transportation legacy on mobility choices.

**Figure 6.** Statistically Significant Associations in Mobility Patterns of Canada and Alaska Inuit

	Arctic Canada	Arctic Alaska
<i>Equation for likelihood of moving</i>		
Older adult	-	-
Female respondent		+
Children at home		-
Inuit language used at home		-
Pct old housing in community	+	
Pct new housing in community		-
“Inclusive value” of destinations	+	+
<i>Equation for predicted destination</i>		
Predicted earnings	+	+
Predicted harvest	+	+
Poor housing	-	
Cost of living		-

Number of air segments	-	
Jet service connection	+	
Winter iceroad connection	+	
Move up one level	+	+
Move down one level	+	+

*Source: estimated with individual interview data from Canada Aboriginal Peoples Survey (2001), 2001 Canada Census, 2000 U.S. Census, and Survey of Living Conditions in the Arctic*

+ (red background) -- Indicates statistically significant positive association with decision to move or with predicted destination if a move took place.

- (blue background) -- Indicates statistically significant negative association with decision to move or with predicted destination if a move took place.

Mobility for Canada Inuit is over the period 1996-2001; mobility for Alaska is from 1995-2000.

These studies provide quantitative empirical evidence for the lingering effects of national colonial development policies on contemporary patterns of mobility and resettlement in Arctic regions.

Transportation networks implemented decades ago to facilitate colonial administration of the northern territories created a path-dependent dynamic for population movement in each region.

### **Local transportation**

Until the mid-20th century, Arctic residents moved around the local landscape for much of the year using sleds pulled by reindeer or dogs. The settlement of indigenous people in permanent communities made these modes of transportation nonviable, both because pursuit of traditional livelihoods required people to cover a greater distance more quickly and because providing food for reindeer and dogs required people to spread out across the land. People living in settlements were generally able to continue traditional livelihood pursuits. However, locally self-sufficient animal-powered transportation systems providing logistical support for these activities gave way to mechanized transport technology dependent on imported petroleum fuels.

The two-cycle gasoline engine became the technology of choice for rural residents powering snow machines, all-terrain vehicles, and outboard motors of river boats. Relatively simple, easily maintained, and often repairable in the bush, the two-cycle engine appeared to be the ideal



solution to the problem of reliable off-road local transportation in an environment with few roads. Unfortunately, the two-cycle engine was highly inefficient in terms of fuel consumption, emitting as much as a third of all fuel into the atmosphere unburned. In Soviet Russia, whose autarkic planned economy proved unable to manufacture two-cycle engines, state enterprises provided helicopter support to move reindeer herders back and forth between town and pasture lands. This practice involved even greater fuel intensity, made possible only through massive fuel subsidies.

The historic rise in oil prices since 2000 cast into relief the petroleum dependency of Arctic communities in general, and the fuel-inefficient local transportation systems in particular. Because fuel for local needs must be brought over long distances to the Arctic and distributed among dispersed communities, the rise in local fuel prices was much greater than the fuel price increases seen in urban areas, creating severe hardship for residents across the Circumpolar North. The local social and economic effects were particularly brutal in Russia, with the oil price spike coming soon after the collapse of the Soviet planned economy. Households served by state farms were largely left on their own to get by without the large subsidies they had received in the past to support the logistics of rural livelihoods while living in settlements. Many Arctic residents with cultural and family ties to non-Arctic regions left – as much as 25% of the population in some regions — although most indigenous residents remained (Heleniak et al. 2011). The fact that more people did not leave is likely due in part to the fact that the cost of air travel to leave the Arctic also rose substantially, due to the same market and political forces.

### **Conclusion: implications for sustainability**

Across the Arctic, the lack of surface transportation infrastructure has led to a reliance on air carriers for long-distance movement of people and goods, and two-cycle engines and helicopters for local mobility. Colonial policies of settlement of indigenous peoples in permanent communities, connected by an air transportation network designed for colonial administration rather than internal connectedness, has left a legacy that lives on in established modes of mobility and commerce. Arctic residents follow the historical air routes as they move between small rural communities, where they maintain social and cultural ties, and urban areas offering better opportunities for higher education, healthcare, and wage employment. Small engine technologies have played a critical role in enabling Arctic indigenous peoples living in permanent settlements to maintain traditional rural livelihoods.

The extremely fuel-intensive nature of these modes of mobility creates severe challenges to community sustainability in an era of sustained

high oil prices. The growing pressure to limit the use, or increase the cost, of fossil fuels in order to reduce greenhouse gas emissions could further intensify the problem Arctic communities face, and adds urgency to the search for solutions. Of course, transportation represents only one part of the fuel dependency of Arctic communities; however, other energy challenges appear more easily solved. Known engineering options exist for building design and construction, water and sanitation, and renewable electricity that could greatly reduce overall fuel use. For these energy challenges, the challenge is only for institutions and policies to catch up with technology. Unfortunately, the expense of the transportation systems alone presents a severe challenge to community sustainability, and engineering solutions remain to be found. Modern aircraft designs are only marginally more fuel-efficient. Four-cycle engines are available for snow machines and boats that are more fuel-efficient, but these heavier and more complex technologies are much more difficult to maintain in a remote, rural setting. New technologies are needed, but the Arctic provides a small market on a global scale, discouraging innovation and private investment in research and development.

As higher fuel prices make air transportation to small communities increasingly difficult, some have raised consolidation of the rural population into regional centers as a solution. I would argue that such a consolidation, while it would save administrative costs for social programs, is also unsustainable. If communities grow larger, traditional livelihoods that require spreading out on the land become nonviable. These livelihoods are critical to sustaining the population and nurturing indigenous cultures. Their demise could invite depopulation of the hinterlands, turning the Arctic into little more than an expensive expanse of colonial enclaves overseeing local resource extraction and promoting state security.

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# CENTRALIZED POWER AND THE PROSPECTS FOR SUSTAINABILITY IN THE RUSSIAN ARCTIC

ROBERT ORTTUNG  
THE GEORGE WASHINGTON UNIVERSITY

(2013)

Many observers have pointed out that Moscow is the key player in Russia's centralized political system, and Arctic policy tends to be made in the capital with very little participation from regional interests. This paper will examine the consequences of this centralization for promoting sustainability. It will do so by examining a case study of the Yamal Nenets Autonomous Okrug (YNAO). While there are several Russian Arctic regions that deserve attention, YNAO is important because it is the center of Russia's natural gas industry and an area of burgeoning growth where 84.9% of the population lived in urban areas in 2010.

My central argument is that while, in theory, centralized decision-making could lead to sustainable development of the region, the current development process is not geared toward such a goal. Rather, decisions are made in Moscow for reasons that promote the ruling elite's political and economic goals, with results on the ground that do not always promote rational development. Environmental and social costs are primarily felt at the regional level and do not seem to influence thinking in Moscow.

The paper will proceed in the following way. First, it will lay out the interests of the key players at the federal level, the regional and local levels, and among corporations. Second, it will examine the evolution of center-periphery relations between Moscow and the regions. Third, it will examine the evolution of decision-making in YNAO. Finally, it will draw conclusions about the implications of these political processes for sustainable urban development in the region.

## Defining the Interests of the Key Players

The key players involved in Russia's Arctic policy-making and implementation are in the federal and regional levels of government and within the corporate sector.

### *Federal*

At the federal level, there are a variety of players with a wide range of interests. The key figure in the policy-making process for Russia's energy sector and Arctic policy is President Vladimir Putin. He sees energy development as central to maintaining the power and vitality of the Russian state and takes a personal interest in the development of the energy industry and the distribution of the money that it generates. He plays a personal role in all large deals and important decisions that are made.<sup>1</sup> Many of these decisions are made behind closed doors and for reasons that are not made public, in a system that Russians call "manual control (*ruchnoe upravlenie*)."

The interests of the president in energy and the Arctic are focused on ensuring his continued political power. In difficult economic times and under conditions where the president's popular approval rating is deteriorating, the government needs a large and reliable source of money to support its current policies. Since gaining the presidency in 2000, Putin has centralized power in the Kremlin, significantly reducing the ability of the regional governors and energy business leaders to act independently. A key aspect of this centralization process has been to gain much stronger federal control over the financial flows generated by the energy industry and redirect them away from regional governments and independent private companies into Kremlin control, to be redistributed according to priorities established by Putin and his closest advisers. Accordingly, any type of tax reform in the Russian energy sector that would change this basic system is unlikely as long as Putin remains in office (Renaissance Capital 2012). In particular, the government will want to maintain a high mineral extraction tax (MET) in order to ensure that it has the financial resources to support projects it deems important.

### *Regional*

Regional and local leaders naturally protest against the centralization of resources and decision-making power in Moscow and try to bring as much back as possible. While the federal government may see the Arctic as a source of income that can be redistributed throughout the country, the regional leaders in YNAO have sought to keep as much of this money as possible at the regional level in order to improve the standard of living for

residents there and support their own client networks. In this regard, the regional governments must work closely with the federal government and relevant corporations while seeking to ensure that some of the profits from the resource development projects remain in the region. Tax revenues from oil and gas production account for more than 90% of regional revenue for YNAO, and about 70% comes from Gazprom and affiliated companies (Kusznir 2006).

During the period when citizens directly elected their governors, regional leaders could play a relatively independent role in negotiating with the federal government and corporations. In particular, they could favor one corporation over another by providing access to land rights, using their influence to direct more resources to the regional level. Since the YNAO governor is now appointed by Putin, he has a strong interest in pleasing the Kremlin, rather than catering to the needs of local residents, in order to retain power.

### *Corporate*

Corporations see the Arctic as a place to make large profits by developing resources. The 2008 law on subsoil resources defines a category of “strategic” hydrocarbon fields and allows only Russia’s state-controlled energy champions – Gazprom and Rosneft – to develop the lucrative off-shore resources that are expected to provide the energy sources of the future. Novatek is an independent gas producer that is active in YNAO and is responsible for about 20% of Russian gas production. Its key owner has close personal connections to Putin, who seems to use the company as a lever for exerting pressure on Gazprom. Gazprom is crucial to the Russian government because its massive profits (on the order of \$40 billion a year) provide a key source of funding for the state budget and most of this production comes from YNAO.

Because output is dropping at the traditional gas-producing fields of the Nadym-Pur-Taz Basin (and its three super-giant fields: Medvezhe, Urengoy and Yamburg – see Overland 2008), corporate attention is now focused on the Yamal Peninsula and its vast untapped gas fields. Gazprom launched production from the Bovanenkovo field on October 23, 2012, as part of its Yamal mega-project, which includes development of the Bovanenkovo deposit; construction of the Bovanenkovo-Ukhta pipeline (which will feed into the Nordstream pipeline to Germany); the airport; the new 572 km railroad line Obskaya-Bovanenkovo; and social infrastructure. By 2017, the deposit is planned to account for as much as 115 billion cubic meters per year, 23% of Gazprom’s current output (RIA Novosti 2012). Additionally, on July 20, 2012, Novatek began construction (with

France's Total, which holds a 20% stake in the project) to develop a \$20 billion LNG facility to be fed by the South Tambeyskoye field, with a port near the village of Sabetta (Novatek 2012). Novatek has excellent lobbying connections to get support for its project from the government – in 2011, Putin claimed that the government would provide up to 1 trillion rubles for the Sabetta port. However, it remains unclear if Novatek will be granted an export license (only Gazprom currently has one) and what level of mineral extraction tax it will have to pay.

Given the need to build new facilities north of previous production sites, all of the companies face rising production costs and naturally lobby the government to lower tax rates. Russian gas producers are also facing increased international competition from the development of shale gas in the US, more LNG production in the Middle East, the resulting drop in gas prices, and a lawsuit brought by the EU to force Gazprom to change the way that it prices its gas for sale in Europe. On the positive side, Russia hopes to open new markets in Asia and develop ways of using natural gas in the transportation sector.

### **Evolution of Center-Periphery Relations in Russia Since 1991**

Since the collapse of the Soviet Union, the relationship between the federal government, regional governments, and Russia's largest corporations has evolved through a variety of stages. The main driver of change in this evolution is the strength of the federal government. Throughout most of the 1990s, the federal government was relatively weak, and that allowed regional governors and corporations to play a much more autonomous role. After Putin's election to the presidency, he was able to consolidate power relatively quickly and placed considerable constraints on the governors and corporations.

Whereas Yeltsin had allowed the citizens of each region to elect their governors beginning (with some exceptions) in 1996, Putin overturned the system in 2004, restoring the president's right to appoint governors. This changed the fundamental political calculus for Russian governors. No longer was their main aim to please their constituents to win re-election; instead, they now sought to please the Russian president so that he would continue to allow them to remain in their posts. However, the longer Putin stays in power, the less popular he becomes with the electorate. While declining popularity does not threaten his ability to hold on to his office, it does put into question his ability to rule effectively. In the wake of the December 2011 protests about the lack of fairness in the State Duma elections held that month, then-President Medvedev announced that Russia would return to a system of electing governors. The first elections were held in five carefully selected regions in October 2012. While the restored



regional elections are far from free and fair, they suggest that power is returning to the regions to some extent.

Control over the money flows between the federal government and the regional governments reflects a similar trajectory to the overall distribution of power. Accordingly, the situation of the regions depends heavily on the development policies adopted in the center, which determine how much money flows to which regions, the level of investments in those regions and the situation of the population.<sup>2</sup> In simple terms, shortly after the Soviet collapse, the regional governments were able to control a substantial amount of the taxes generated on their territory. Through 2001, for example, the law on subsoil resources stipulated that the taxes collected from resource extraction would be divided so that 40% went to the federal government, 30% to the regional government, and 30% to the local government of the resource-producing region (Kryukov, Tokarev and Yანიkeyeff 2011, 265).

However, in the late 1990s, the federal government began to exert intense pressure on the regions. After 2001, tax and budget legislation, not the subsoil law, defined the distribution of resource rents between the federal and regional governments, and since these were federally controlled, the distribution began to heavily favor the federal government. A new law in the late 1990s allowed Russian corporations to pay taxes in Moscow, where their headquarters were located, rather than in the regions where they actually worked. This law had a major impact on the development of Russia because it drew money out of the regions and concentrated it in the capital. Beginning in 2005, federal law limited the rights of the autonomous okrugs, a change which required YNAO to sign an agreement with Tyumen Oblast that allowed it to preserve its ability to work with its own budget while also transferring money to the oblast.

The government introduced the mineral extraction tax in 2002. Initially, the federal government received 80% of the revenue and the regional governments received 20%. During the 2000s, the regional share of this income dropped (Kryukov, Tokarev and Yანიkeyeff 2011, 276). Since 2010, all funds from this tax have flowed directly into the federal budget. In order to compensate for this loss, Moscow began to provide subsidies to regions like YNAO. While in 2010 this income will almost fully compensate for the lost income, such compensation is being phased out over four years and will eventually end. As Natalia Zubarevich points out, the structure of the transfers from the federal budget to the regional governments and the criteria for making them are not transparent. In 2011, YNAO was one of the largest recipients of the most opaque form of federal subsidy, receiving 15 billion RUB (11% of budget income) under the category “other grant income.”

At the same time that YNAO started to lose income from the mineral

extraction tax, the authorities changed the system of taxation for large corporations, requiring them to pay their taxes in the areas where they worked rather than where their headquarters were located. This new law went into effect at the beginning of 2012 and will be implemented over several years. Since Gazprom is one of the largest taxpayers, its payments in the YNAO should increase while cities like Moscow, St. Petersburg, and Tyumen, the homes of many head offices, will be the main losers (*BOFIT* 2012).

### **Evolution of Yamal Politics**

The key player in YNAO politics during most of the 1990s and 2000s was Governor Yury Neelov. He had a long history in Siberian politics, working his way up through the Komsomol and CPSU. Yeltsin appointed him governor in 1994, and he subsequently won reelection in 1996 and 2000. Although Neelov did not wield much political clout personally, he gained power by picking leaders to follow in Moscow (Ortung, Lussier and Paretskaya 2000, 632-8). In the 1990s, he criticized Moscow's role in the regional economy, complaining that the federal government made it difficult to attract investment to develop the region's resources. He argued that the federal government abused its power to suppress the initiatives and activities of the regions (*Segodnya*, July 4, 1997).

Given the scope of its wealth and activities in the region, Gazprom plays a major role in YNAO politics.<sup>3</sup> In the 1993 State Duma elections, the region voted for a candidate critical of Gazprom because the company at that time had not paid salaries or made its social contributions. In order to regain its footing, Gazprom backed Neelov, the newly appointed governor, and made him a member of the Gazprom board of directors. When Gazprom registered in Moscow and began to pay the bulk of its taxes there, the reduction in income angered Neelov, and he began to favor other companies and give them licenses to work in the region. Accordingly, Neelov's relations with Gazprom soured; he was not reelected to the Gazprom board in 1999. Instead, he focused his attention on oil companies, such as Rosneft and Sibneft, and small independent gas companies. In particular, Deputy Governor Iosif Levinson helped nurture the development of Novatek, which went on to become a major player (as noted above). Neelov's victory in the 2000 gubernatorial election showed that he had a powerbase independent of Gazprom. After 2000, Gazprom bought up many of the other companies working in the region (including Sibneft), though Novatek remained independent. As a consequence of the Gazprom acquisition spree, the regional economy once again became dependent on the gas monopolist, particularly as Gazprom's share of taxes comprised over 70% of budget revenue in the mid-2000s. Putin's return to a system

of gubernatorial appointments substantially reduced Neelov's leeway in appointing his own subordinates, and he had to dismiss Levinson. As Julia Kuznir has pointed out, the relationship between Gazprom and the governor is what determines the nature of the interactions between the other political and economic players. In short, between 1994 and 1999, Neelov cooperated with Gazprom; between 2000 and 2005, he tried to build relations with other companies; and between 2005 and 2010, the close ties between Gazprom and the federal government weakened the governor and expanded Gazprom's influence in the region (Kuznir 2006).

Medvedev replaced Neelov as governor in 2010, installing Dmitry Kobylkin. Kobylkin, in contrast to Neelov, came out of the Novatek hierarchy, having been the director of Purneftegazgeologiya, at the time a Novatek subsidiary. From October 2005 until his appointment as governor, he served as head of the Pur Raion. While Medvedev did not explain why he appointed Kobylkin as governor, analysts speculated that the appointment was an effort to boost Novatek in a region dominated by Gazprom. In any case, Kobylkin maintained the late-Neelov policy of working closely with Gazprom and continued to sign annual cooperation agreements with the monopolist. Perhaps the federal authorities supported him because he did not have the lobbyist contacts in Moscow that his predecessor had developed over time and would therefore be easier to manage from Moscow. An October 2012 rating of governors listed Kobylkin as one of the most secure governors in Russia (*Peterburgskaia politika* 2012)

YNAO is a donor region, meaning that its budget has its own sources of revenue and does not depend heavily on transfers from the federal government. Given the high level of energy production in the region, the main sources of revenue are the corporate profit tax (approximately one-third), income tax on individuals (approximately one-quarter), corporate property tax (one-quarter), and others. Table 1 lists the expenditures of the YNAO budget, showing which areas it prioritizes. Crucial for our analysis of sustainability, direct spending on protecting the environment is particularly low.

**Table 1.** Expenditures in the YNAO 2012 Regional Budget (thousand RUB)

National Economy (roads, agriculture, forestry, etc.)	28,479,707
Housing	20,623,037
Education	17,397,144
Healthcare	16,263,631
Subsidies to regions and municipalities	16,262,813
Social Policy	12,557,855
State Administration	3,307,183
National Security and Law Enforcement	2,350,453
Culture and Cinematography	1,907,648
Physical Education and Sport	1,422,602
Media	1,245,092
Protecting the Environment	627,927
National Defense	17,326
<b>Total</b>	<b>122,462,418</b>

Source: [http://www.xn--80ansfm8f.xn--p1ai/control\\_activities/budget/](http://www.xn--80ansfm8f.xn--p1ai/control_activities/budget/)

### **Conclusion: Implications for Arctic Urban Sustainability**

The centralization of power in Russia makes it hard to pursue urban sustainability in practice because concerns about the local environment and social standards in cities are a regional rather than federal concern. The federal leaders are focused on preserving the power of the current elite. Regional leaders in the Arctic would like to devote more resources to regional development, but have little ability to do so because they lack financial resources, which are largely controlled by the center. Only a decentralization of power will improve the northern regions' ability to address sustainability issues.

<sup>1</sup> See the discussion of Putin in Gustafson, Thane. 2012. *Wheel of Fortune: The Battle for Oil and Power in Russia*. Cambridge: Harvard University Press, Chapter 6.

<sup>2</sup> Natalia Zubarevich, program director for the Moscow-based Independent Institute for Social Policy (*Nezavisimyi institut sotsialnoi politiki*).

<sup>3</sup> This account draws heavily on Kuznir, Julia. 2006. "Gazprom's Role in Regional Politics: the Case of the Yamalo-Nenets Autonomous Okrug." *Russian Analytical Digest* 1 (June).

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# URBAN POLICIES IN RUSSIA





# DRIVERS SHAPING RUSSIA'S ARCTIC CITIES

COLIN REISSER  
THE GEORGE WASHINGTON UNIVERSITY  
(2013)

Several change drivers are combining to shape the future of northern cities (see, for example, Gore 2013; Sustainability of Arctic Communities Project; Smith 2011). The most important of these are:

- Energy development;
- Political centralization and state intervention in corporations; and
- Climate change

All of these forces intersect in the cities of the Russian North, leading to a dynamic, though uncertain, future.

## **Energy**

The economy of Siberia has long centered on exporting resources to the more populated regions of Russia and the rest of the world, though the commodities for export have changed over time. The discovery of large oil and gas resources in Western Siberia in the 1960s transformed the Soviet economy, and energy resources have since become Russia's most valuable export. As the older fields that were heavily exploited during the 1960s and 1970s decline in productivity, the industry has gradually moved northwards, increasing its presence in the Arctic and Subarctic regions of the country. The industry's impact on northern urbanization has been marked, and changes in the industry will greatly affect northern urbanism in the coming years.

The Soviet model of industrial expansion into Siberia and the Far North called for the construction of cities to support industry, so planners built centers such as Novyi Urengoi (1975) and Nefteugansk (1967) from the ground up, while others – such as Surgut and Salekhard – were expanded once oil and gas fields were discovered nearby. These energy cities have been some of the few urban areas in the remote regions of Russia to continue to experience growth after the collapse of the Soviet Union, demonstrating their importance to the energy industry as a whole. Despite this, no large settlements have been constructed since the dissolution of

the USSR. Rather than constructing new cities in virgin territory, the strategy of the large energy companies has been to rely increasingly on shift workers to supply labor to the fields of the north.

Recent expansions of the energy industry in the far north have moved away from the previous urban centers established during the height of Soviet energy exploration, with special focus on the more remote reaches of the Yamal Peninsula. The new projects in the region have brought large infrastructural investments to aid in the expansion of development, though the towns of the region have yet to expand prodigiously. The Obskaya-Bovanenkovo Railway, which connects the Bovanenkovo gas field to Labytnangi, is one of the largest investments to date, and the presence of permanent transport infrastructure in this previously unsettled area could allow for a degree of urbanization as the local oil and gas industry continues to expand. Further plans, such as Novatek's approved plan to build a large liquefied natural gas (LNG) export facility at Sabetta, could provide the impetus for a greater degree of settlement.

## **Politics**

Throughout the settlement of the Arctic and Russian Far North, the role of the state has been one of the most important factors, from the imperial period to the present. The near-withdrawal of the Russian state from the industrial cities of the far north after the disintegration of the USSR was a catastrophic blow for the region, as subsidies and state companies had been the linchpin of the economy. With the renewed strengthening of federal power under Vladimir Putin, the state has once again become a major player in the cities of the far north.

While regions may in theory have a degree of control over their own affairs, federal policy up through the 2013 "Strategy on the Development of the Arctic Zone of the Russian Federation" leaves little room for independent decision-making at a local level (Pravitel'stvo RF 2013). Concurrently with increasing the power of Gazprom and the central government in Yamal, there has been an increase in funding for social projects and infrastructure improvements that has likely resulted from increased cooperation with Moscow. Increased energy revenues and tighter ties with the federal government may facilitate a degree of urban redevelopment in the far north, though progress has been more limited in more economically-depressed regions.

The Russian federal government has become more directly involved in the affairs of northern cities and regions in recent years, particularly since Russia's regions lost the ability to directly elect governors in 2004, triggering a number of high-profile shifts in regional administration. The removal of the longtime governor of the Yamalo-Nenets AO, Yuri Neelov,

and his replacement with the less independent Dmitry Kobylkin is a prominent example of the Kremlin's desire to maintain a tighter degree of control over the economically important provinces of the country (Kusznir 2006).

In addition, the Kremlin effectively maintains a proxy presence in certain regions through the representation of state companies. In the parliament of the Yamalo-Nenets Autonomous Okrug, 36.4% of seats are held by representatives with direct ties to Gazprom, for example, and state companies have generally been given low tax rates or granted complete tax exemptions (Kusznir 2006). The incredible energy resources of regions such as Yamal make a tight relationship with the central government inevitable; the okrug supplies more than 80% of Gazprom's total extractive wealth, while tax revenue from energy companies makes up in excess of 90% of the region's budget (Kusznir 2006).

## **Climate**

The interaction between the energy industry and the federal government has been, and will certainly continue to be, a major force shaping the Russian Far North, yet the future of cities in the region is certain to be driven by the more uncertain outcomes of climate change. Climate change has already begun to make its presence felt in the Arctic due to its increased speed and strength there – the so-called “Arctic amplification” (Jeffries et al. 2012). While it is clear that climate change is taking place, the exact ways in which it will influence urban life in the far north are not as well understood. Certain effects of warming promise to increase transit accessibility and mitigate some of the difficulties of Arctic settlement, yet others have more ominous implications for the future of northern cities.

While the effects of temperature on the livability of the Arctic may prove to be a significant driving force for change in the future, one of the most immediately apparent climatic factors in the Arctic and Far North is the way in which transit accessibility is changing. The lack of affordable and reliable transit access to the Arctic has been a crucial obstacle to the development of the region, with transit and supply subsidies from the Soviet and Russian governments, the so-called “Northern Shipment,” consuming up to 6% of the national budget at different points in history (Heleniak 2001). The partial loss of these subsidies after 1992 and the resulting economic and demographic decline is indicative of how crucial the provision of transport is to the Russian Far North. Climate change is certain to play a defining role in the changing nature of transit, though it is unclear how two diverging trends – increasing sea access and decreasing land access via ice roads – will combine in terms of their effects on cities.

Sea transit along the Northern Sea Route (NSR) has been a consistent drain on resources in the USSR and Russia since the route was first used.

Icebreakers are required for safe and reliable transport, leading costs in cities lacking other transit alternatives to remain consistently high (Hill and Gaddy 2003). The progress of climate change has already reduced sea ice along the NSR significantly during much of the year, leading to increased accessibility, and predictions of warming by 2050 show that sea-based transit in the Arctic may be greatly facilitated (Stephenson et al. 2011). The energy and mining industries of the far north already rely heavily on the western NSR for much of their economic livelihood, but the costs of icebreaking and the seasonality of transport are significant economic drains (Ragner 2000). Whether or not this increased accessibility will result in a greater degree of urbanization in the far north is difficult to tell, though reduced sea transit costs will certainly benefit industry in the region.

Tempering the increased sea accessibility of the far north is the reduction in land access, which is currently largely dependent on ice roads, as much of the region lacks permanent road or rail infrastructure (Hill and Gaddy 2003). Warmer temperatures have begun to reduce the length of time during the year when ice roads can be used for transport in remote areas, and the significantly warmer temperatures predicted by most climate models are certain to exacerbate this effect. In marshy tundra areas, ice roads are the only alternative to air transport for much of the year, and industrial activities such as oil and gas drilling are often completely dependent on ice roads. According to climatic analysis and forecasting, Russia is expected to lose 618,000 km<sup>2</sup> of ice road capability in the coming decades, a decline of 13% of the national total (Stephenson et al. 2011). Regions in which ice roads remain viable will still contend with a transport season that becomes shorter as warming progresses, compounding the already problematic seasonality of northern industry. A decline in the ice road season could induce a steady rise in transit costs for many northern settlements, unless mitigated by cheaper and more reliable sea access. Non-coastal settlements are likely to be the hardest-hit by this trend, as air transit is prohibitively expensive for larger urban centers. Predicting how the changes in access will affect urban centers is difficult, and will be determined by the scale and pace of warming, as well as local geographic variation.

In addition to drastically changing the accessibility of northern cities, climate change promises to severely impact the physical integrity of the cities themselves. For cities constructed on permafrost (as many major cities of the Russian North, such as Noril'sk, Yakutsk, and Vorkuta, are), warming temperatures promise to increase the pace of permafrost thaw, with grave consequences for physical infrastructure. As the ground warms, the stability of building and road foundations decreases rapidly, leading to building deformation and even outright structural collapse (Mazhitova et

al. 2004). The pace of deformation increases with the scale of warming, so the projected increases of the coming decades are ominous for northern cities. For example, Noril'sk had 250 major deformations or collapses in the period up to 2003 alone, most of which have required complete building demolition (Ilichev et al. 2003). An analysis of bearing capacity change in Igarka and Noril'sk for 2041-2060 predicts declines of 61.5% and 40%, respectively, which would result in a catastrophic number of building collapses and deformations (Streletskiy 2012). For the extant larger cities of the far north, the rapid decline in infrastructural stability may be the most difficult and expensive problem to overcome in the coming decades. Despite awareness of the progression and risks of climate change within academia, federal government engagement with the topic has been sparse. In the most recent Russian policy document on Arctic development, climate change is acknowledged as a potential factor in the region, though no steps are outlined to mitigate its effects or adjust development accordingly (Pravitel'stvo RF, 2013).

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# RUSSIA'S POLICIES FOR ARCTIC CITIES: PROBLEMS AND PROSPECTS

ALEXANDER PILYASOV

CENTER ON THE ECONOMY OF THE NORTH AND THE ARCTIC

COUNCIL FOR THE STUDY OF RESOURCES

(2013)

## **Introduction (or, A Short Statistical Review of Russian Arctic Cities)**

Russian Arctic cities are known for the large size of their populations relative to the Arctic region in general. By far the majority of the biggest Arctic cities are located in Russia. Their large size stems from the Soviet-era “triumph of the cities,” and continues to be centered on a new knowledge economy oriented predominantly toward modern urban centers.

Archangel'sk is the largest of the Russian Arctic and subarctic cities, followed by Murmansk and Noril'sk. Two more cities, Noyabrsk and Novyi Urengoi, have populations of over 100,000. It is typical that cities in the western part of the Russian Arctic have larger populations than those in eastern regions.

According to employment indicators, there are two distinct groups of polar cities: in the first, the number of people employed nearly equals the number of shift workers on the local labor market, while in the second, the number of people employed is less than one third of the general population, in which case many local residents work in the labor markets of neighboring big cities. (Apatity and Murmansk are prime examples of this latter dynamic.)

The first group includes the cities of Novyi Urengoi, Salekhard, Naryan-Mar, Anadyr, Bilibino, and Pevek. The second group includes Olenegorsk, Kirovsk, Muravlenko, Monchegorsk, and Apatity. A special group is comprised of big urban centers like Archangel'sk, Murmansk, Noril'sk, and Vorkuta, in which the number of employed is slightly higher than the population. Cities in the first group mainly include workers who have migrated there to work in extracting energy and metals from nearby

deposits; the larger cities traditionally host a larger share of retired persons and children in comparison with single-industry cities.

The cities with the highest average salaries are the Yamal oil and gas cities, the single-industry city of Poliarnye Zori (Murmansk Oblast), and the administrative centers of Salekhard, Anadyr, Bilibino, and Naryan-Mar. In the biggest cities of the Arctic, the ratio of the maximum to minimum salaries is often a factor of three. The most attractive sectors in terms of salary are usually public policy, finance, and mining. In the single-industry cities, differentials between maximum and minimum salaries are usually greater, sometimes by a factor of six, but in extreme cases the difference between the best and worst paid can be as much as 13 times. In the smallest cities, financial service firms can extract monopoly rents (high profits) easily because they are the only players in a small local market.

The cities of Noril'sk and Novyi Urengoi have the largest municipal budgets, followed by big regional centers like Archangel'sk and Murmansk.

It is instructive to measure the level of entrepreneurial energy by indicators of small business development. The most neutral indicator here is the level of entrepreneurial taxes in the local budget per resident. The leaders here are the cities of Gubkinsky, Naryan-Mar, Salekhard, Labytnangi, and Anadyr. These cities give the greatest support to their small business communities. The cities that serve as the big administrative centers receive relatively less official budget revenue from small business because these cities have larger shadow economies.

## **Typology of Arctic Cities**

In addition to contrasting the kinds of employment in cities, we can develop a three-part typology of Arctic cities based on their industrial function. The first category comprises large administrative centers that boast a university, diversified economy, medium-sized industrial firms, a large municipal budget, active commuting by some workers to the nearest resource deposits, and modest levels of salary inequality on the local labor markets. The second type is the most numerous and is made up of single-industry cities of different sizes. These cities generally employ a considerable number of shift workers, are centered around one large industry, and suffer from high salary inequality on the local labor market. The future development of such cities is dependent upon world prices for natural resources and public support measures to diversify the local economy.

Two Arctic single-industry cities make for an interesting case study. The cities of Muravlenko and Gubkinsky are located in the southern part of the Yamal-Nenets Autonomous Okrug, are similar in age (they were



founded in 1984 and 1986, respectively); their industrial specialization (oil production); their population (25,000 and 33,000 inhabitants); the size of their municipal budgets (3.9 billion rubles and 3.3 billion rubles); and their falling oil production volumes over the last decade. However, the trajectories of the diversification of these cities' economies differ radically.

The key factor generating the differences is the **geographic location** of these cities relative to the sub-regional center, the city of Noyabrsk (109,000 inhabitants): Muravlenko is located just 120 km from Noyabrsk (a 1.5 to 2 hour journey by car), while Gubkinsky is about 240 km away (a 3.5 hour journey). This seemingly small geographical difference has resulted in a major **institutional** difference: Muravlenko has become an *institutional periphery*, and Gubkinsky an independent *subcenter*.

The key oil-producing enterprise of Muravlenko was managed by the Noyabrsk Neftegaz company headquarters in Noyabrsk until 2008 when a local branch, "Muravlenkovsk-neft," was formed. During the first six years of its existence, the city itself was an administrative part of the city of Noyabrsk, despite the distance of 120 km between them.

Initially, the main oil-producing enterprise of the city of Gubkinsky was also directed from headquarters in Noyabrsk, but due to the inconvenience of managing such geographically remote assets, it was converted in 1986 into an independent company with headquarters in Gubkinsky (Rosneft-Purneftegaz); the settlement almost immediately (in 1988) became an independent administrative unit.

These differing institutional positions resulted in the formation of different **relations of ownership and power**: in Muravlenko a *colonial model* developed (real control over local property and power are located in Noyabrsk), while in Gubkinsky an *embedded model* has developed.

In Muravlenko, under the conditions of the colonial model of ownership, an authoritarian **model of local government** has formed. Its characteristic feature is that it is oriented toward interaction with counterparts in Noyabrsk, meaning that it has devoted minimal attention to the **local community**. In Gubkinsky, a more democratic **model of local government** has developed. This is reflected, for example, in the number of public councils under the local government and its departments (17 in Muravlenko and 54 in Gubkinsky); better funding for the local museum (the museum in Muravlenko has 1 researcher, while the museum in Gubkinsky has 6 researchers, which results in 3.6 visitors per 10,000 inhabitants a year in Muravlenko and 9.1 in Gubkinsky, as of 2011). The local authorities of Gubkinsky are accountable to the local community; the local authorities of Muravlenko are accountable to their counterparts in Noyabrsk.

The most important indicator of whether the local authorities pay greater attention to external (Noyabrsk-based) bosses or to the local community is their attitude toward **small business**: in Muravlenko, public

support for small business is significantly lower than in Gubkinsky. Thus, in Gubkinsky, budget expenditures on the development of small businesses in 2011 were 25,500 rubles per enterprise and 1,700 rubles per city inhabitant. In Muravlenko, the corresponding figures were much lower: 2,200 rubles per enterprise and 100 rubles per inhabitant.

With its colonial model, Muravlenko's local government policy-making narrowed the window of opportunity for diversifying the single-industry city's economy. Conversely, in the conditions of an embedded model in Gubkinsky, the local authorities actively contributed to the development of the small business sector, which has become an important tool in diversifying this single-industry city.

Finally, the third type in the typology is the port cities, including Dudinka, Tiksi, Pevek, and some others. According to many indicators, these port cities have the weakest economies among Russia's Arctic cities.

### **Policy for Arctic Cities**

In the contemporary era, all Russian Arctic cities are attempting to meet the challenge of transforming their economic profile from industrial to service, modernizing old industrial enterprises, and becoming innovation centers for the surrounding area.

Restructuring of the urban economy for each type of Arctic city will follow its own scenario. For the big administrative centers, it is important to become innovative university centers capable of diffusing innovation to neighboring territories. For single-industry cities, it is crucial to overcome the industrial legacy and diversify the local social sphere and economy to create sustainable local development. For port cities, it is necessary to create intelligent logistical complexes, search and rescue centers that ensure maritime safety, and other marine services along the Northern Sea Route.

For cities of the first type and large industrial cities of the second type, a promising prospect can be to create Arctic urban agglomerations. Such a scenario is relevant to Murmansk, Archangel'sk, Bilibino, Anadyr, Salekhard, Noril'sk, and Vorkuta. Common global practice is to create mega-cities by integrating neighboring cities within a 60- to 90-minute drive by automobile. These new agglomerations can create larger united markets of labor, housing, and differentiated products.

The question is not only one of stimulating inter-municipal cooperation, but of doing it in a more powerful way: namely, forming unified institutions (norms) for small businesses, unified rules for housing markets and credit markets, and a coordinated schedule of office hours in the municipal governments of one agglomeration.

Urban agglomeration can decrease the number of duplicative

functions and save costs in the provision of services, for instance, by creating common service centers, specialized medical centers, and logistical centers. Integrative forces for agglomeration depend upon local conditions, and can be further stimulated by innovative zones, logistical complexes, or common recreation zones.

Another possibility for restructuring the economy of Russian Arctic cities is connected to business services and intellectual services: that is, adding elements of the information economy, resource management, and consulting firms to the local economy. Increasingly, the future of the Arctic relies on developing the region's intellectual resources.



# STRATEGIC PLANNING AND MANAGEMENT IN THE CITIES OF THE RUSSIAN NORTH AND THE ARCTIC

VLADIMIR DIDYK AND LARISA RIABOVA  
IES KSC RAS  
(2013)

Strategic planning and management are still regarded as innovative practices in the municipalities of the Russian Federation, despite almost three decades of international and more than one decade of domestic experience using these tools of territorial development. Today, approximately one-third of Russian cities with populations over 20,000 have strategic planning documents, and other elements of strategic management have begun to be implemented as well. In the Russian North, where there are many single-industry towns, the application of strategic management at the municipal level is particularly relevant as an important way for overcoming the negative trends associated with depopulation, as well as other socio-economic and environmental problems. Such strategic management is also crucial in achieving sustainable development goals in the vast area of the Russian North and the Arctic (Riabova 2010, 45-47; Riabova 2012, 42-48).

In the Russian Federation, the implementation of strategic management at the municipal level has certain peculiarities, mainly due to the fact that the subjects of management here are local governments that are not included in the state governmental system. The institution of local self-government has a dual nature: on the one hand, it is a form of public authority; on the other hand, it is an institution of civil society that provides self-management for local communities.

In recent years, the development of strategic planning documents at the municipal level in Russia was not particularly common, though it is quite widespread in municipalities with the status of urban districts (*gorodskoi okrug*). About one-third of Russian cities use one or another form of strategic planning in addition to their respective strategic documents (strategies or concepts of social and economic development, strategic plans or integrated programs). Additionally, strategic development plans have begun to be developed in municipalities with a two-tier structure,

i.e. municipal districts and urban communes included in these municipal districts. It should be noted that in the municipal districts and urban communes, due to the division (and in some cases overlap) of powers between their governing bodies within the same territory, contradictions appear between these governance structures. These divisions impede not only strategic planning and long-term development management, but also the resolution of current issues.

## **Strategic Plans**

Municipal districts often have strategic plans because they are required by higher-level regional authorities. Municipal districts largely function as administrative and territorial units of the Russian Federation's 83 regions, and their bodies largely continue to function as territorial bodies of the regional government, as it was in Soviet times. Despite the constitutional principle mandating independent local self-government, centralizing policies carried out over the last decade have actually 'embedded' the local authorities in the power vertical, hierarchically linking the federal, regional, and local governments both economically and politically (Starodubrovskaya and Glazychev 2011, 11). The growth in the number of municipalities in Russia practicing strategic planning is the result of the influence of federal government requirements imposed on regional authorities and other state governing bodies. Since 2007, laws and a number of other documents have required the adoption of plans.<sup>1</sup> As a result, to date, practically all the regions and republics of the Russian Federation have socio-economic development strategies

## **Obstacles to Planning**

Along with the factors that motivate cities and municipal districts to develop strategic planning and management, there are many obstacles to the use of these technologies at the municipal level. First of all, obstacles are associated with the difficulties in establishing local self-government in Russia – institutional, economic, and personnel-related. The imbalance between the functions imposed on local self-government and the available resources to implement these mandates, particularly the lack of finances, makes the municipalities heavily dependent on federal and municipal authorities. Tight budgetary constraints determine the situation when all available resources of municipalities are directed to solve urgent problems. This situation usually forces the municipalities to ignore issues of development, particularly from a long-term/strategic perspective (Didyk 2012, 142-144).

These and other common barriers to the implementation of strategic planning and management are aggravated in the North of Russia and its

Arctic zone by a range of factors that complicate the formation and realization of local socio-economic policies in this macro region. Among the most important factors are severe climatic conditions, remoteness from economic centers, and the settlements' underdeveloped transport and engineering infrastructure. These factors combine to increase the costs of living, as well as the current and capital expenditures of local budgets; cause demographic problems; and limit possibilities for the development of entrepreneurship and the introduction of innovations (Selin 2010, 21-23).

### **Planning in Practice**

According to the results of our research, in spite of difficulties and limitations, the municipalities of the Russian North and its Arctic zone have been involved in the development of strategic planning since the early 2000s. When studying the practice of strategic planning and management in the Russian northern and Arctic municipalities, we relied on empirical data obtained from an analysis of strategic planning documents and reports presented on the official websites of city and municipal district administrations. Our sample of municipalities consisted mostly of small towns with a population of 20,000 to 100,000 people, located on the territory of the Russian North. In total, 51 towns were surveyed. Of these, as of June 2011, 20 towns had approved strategic planning documents, while 18 (35% of the total) had published their texts on official websites (see table 1). The use of strategic planning in the northern and Arctic cities corresponds closely to the average level in Russia. Most of the cities with strategic planning documents adopted them in recent years (2009-2011). Accordingly, for such cities, it was only possible to analyze and evaluate the contents of the strategic documents. For those cities that adopted strategies several years ago, some results of their implementation could also be assessed.

**Table 1.** List of Russian northern cities with populations between 20,000 and 100,000 people that had adopted strategic planning documents as of June 2011.

№	Name of city, region	Population 2010 (thousand people)	Year of document adoption	Type of document
1	<b>Kostomuksha</b> , Republic of Komi	30.2	2002	Strategic plan
2	<b>Apatity</b> , Murmansk region	61.6	2002	Strategy
3	<b>Urai</b> , Khanty-Mansi AO	43.2	2004	Strategy
4	<b>Neryungri</b> , Republic of Sakha	63.2	2007	Integrated program
5	<b>Magadan</b> , Magadan region	99.0	2007	Strategic plan
6	<b>Dudinka</b> , Krasnoyarsk krai	23.9	2008	Integrated program
7	<b>Langepas</b> , Khanty-Mansi AO	42.2	2009	Strategy
8	<b>Okha</b> , Sakhalin region	23.0	2009	Strategy
9	<b>Raduzhnyi</b> , Khanty-Mansi AO	47.8	2009	Integrated program
10	<b>Pyt'-Yakh</b> , Khanty-Mansi AO	41.4	2010	Integrated program
11	<b>Kotlas</b> , Arkhangelsk region	59.0	2010	Strategy
12	<b>Usinsk</b> , Republic of Komi	43.6	2010	Concept
13	<b>Nyagan'</b> , Khanty-Mansi AO	56.5	2010	Strategic plan
14	<b>Pechora</b> , Republic of Komi	46.1	2010	Concept
15	<b>Megion</b> , Khanty-Mansi AO	57.9	2010	Strategy
16	<b>Sovetskii</b> , Khanty-Mansi AO	26.4	2011	Strategy
17	<b>Inta</b> , Republic of Komi	38.1	2011	Concept
18	<b>Muravlenko</b> , Yamalo-Nenetsk AO	37.3	2011	Strategy



One of the first northern cities to apply methods of strategic planning was Kostomuksha (Republic of Karelia). The ‘Strategic Plan for Social and Economic Development of Kostomuksha until 2015’ was developed and approved in 2002. Scientists from the Karelian Research Center of the Russian Academy of Science joined local government, business and community representatives in preparing the documents. In 2006, an upgraded version for the period up to 2020 was adopted, as first phase tasks had been implemented (Zamula). One of the areas of strategic development where institutions of local governing operate quite successfully in Kostomuksha is cross-border cooperation. Taking advantage of its border location, the town was able to engage in relevant programs supported by the European Union and obtain additional funding for projects that promote urban development. The amount of funding for projects supported in 2010, for example, exceeded 1 million EUR (Shapovalov 2010).

Another ‘pioneer’ of strategic planning is the city of Apatity in the Murmansk region – one of the regions of the Russian Arctic. Here, in 2002, ‘The Strategy of socio-economic development of the city of Apatity’ was adopted. The city administration won a grant from the program ‘Small Towns of Russia’ conducted by the Open Society Institute (Soros Foundation) and these funds paid for research and consulting services provided by firms that helped develop the plans.

Our analysis has shown that the content and organization of the strategy development process in Apatity largely met the methodological requirements for strategic urban development planning, including the organization of wide public discussion. However, one of the shortcomings was that the system of target indicators was not worked out. In addition, in the process of carrying out the plan, there was no transparent monitoring of the objectives and implementation of tasks, and adjustments in accordance with such findings were not made. The main objective factor inhibiting the realization of the strategy goals and objectives was a problem typical of most Russian municipalities: namely, a lack of resources for municipal project financing and a reliance on high budget subsidies. This outcome resulted from the lack of legislatively established sources of local budget revenue,<sup>2</sup> as well as the weak development of the local economy, including small and medium businesses. A key problem in the northern and, in particular, Arctic cities of Russia is that possibilities for their development are negatively influenced by the discriminatory mechanisms used to redistribute natural resource income away from the cities. The existing system works mainly for the benefit of the federal level and industrial corporations. It creates an artificial dependence on subsidies for many northern and Arctic regions and municipalities.

After the first experiences with strategic planning in the northern cities of the Russian Federation in the early 2000s – that is, before the entry

into force of Federal Law № 131 ‘On the Basic Principles of Local Self-Government Organization in the Russian Federation’, which was adopted in 2003 and entered into force in 2006 – several years passed. This law started the process of profound local government reform. Between 2003 and 2006, no municipalities developed strategic documents because of the ongoing municipal reform process.

One of the first northern Russian cities to adopt a strategic planning document under Federal Law №131 in 2006 was the city of Magadan. Its Strategic Plan was approved in 2007. An analysis of its content revealed that it contained all the basic elements of a strategic planning document. There are a number of positive aspects in the implementation design of the plan. First, all implemented target programs and activities are closely linked with the priorities designated in the strategy. Second, the city has tracked target indicators in the realization of the strategic plan, and placed the corresponding information on its official website. Information about the monitoring results includes not only successes, but also unsolved problems (the demographic situation, housing conditions, etc.), thereby focusing on realistic efforts to overcome them.

### **A Variety of Plans**

Our analysis of strategic documents adopted in 2009-2012 in other municipalities makes it possible to define a range of different groups. The first group includes the strategic documents of the Komi Republic municipalities – the city of Usinsk, the municipal district of Pechora, and the city of Inta. They have the same title: “The concept of socio-economic development of the municipality ‘...’ for 2011-2015 and for the period until 2020,” and were developed approximately at the same time. Their uniformity resulted from the fact that the development of these strategic documents was organized in accordance with the Decree of the Komi Republic Government, the execution of which was controlled by the Republic government. Obviously, the efforts of the Republic government were driven by a desire to accelerate the integration of strategic management into the governance practice of the local authorities. At the same time, forcing the process is hardly justified, as it does not create the conditions for involving the local population in the development of strategic documents, which is essential for effective strategic management at the local level.

Included in the second (and largest) group are seven cities of the Khanty-Mansi Autonomous Okrug (KMAO, see table above). The contents of the strategic documents of these cities differ significantly. For instance, the development strategy of the city of Langepas can hardly be regarded as a valuable strategic document. In its planning documents there is no attempt to link the objectives with measures to achieve them,

and the mechanism for implementing and monitoring the strategy is not defined, despite the fact that the document was developed by a specialized consulting company. It is obvious that one reason for the shortcomings in the development of strategic planning in this and other cities is the lack, among experts, of a generally accepted methodological foundation for municipal strategic planning.

Another common negative phenomenon associated with the elaboration of city development strategies is the poor quality of the documents prepared by third parties (research institutions, consulting companies, etc.), which receive contracts through tenders for working out strategic documents. It seems to quite often be the case that the winners of the tender are unscrupulous executives who win the tender by offering the lowest price and perform the work without a profound study of local conditions. The latter is especially unacceptable for the municipalities of the North and the Arctic, as these territories are highly specific and it is of great importance to ensure that elaborators of strategic documents are well aware of the territories' unique features.

Such shortcomings are not found in the strategic documents of the cities Megion and Nyagan. Of particular interest for the analysis was the Strategic Development Plan of the Nyagan municipality for the period until 2020, approved by the City Council in 2010. The following characteristics in the preparation and content of the document make it exceptional:

- Well-organized process for preparing the strategic plan. Its development was coordinated by the coordinating council of the city strategic plan, under the leadership of the head of the city and the deputy head of the administration of the governor of the Khanty-Mansiysk Autonomous Okrug. A large group of scientists, entrepreneurs, NGO representatives, and specialists from within the city administration were involved in the council. Within the framework of the Coordinating Council, six expert councils (one for each of the priority development areas) were established.
- A wide public discussion of the draft strategic plan. According to the mayor's statement in the introduction to the text of the strategic plan presented on the city's website (<http://www.admnyagan.ru/strateg/strateg.pdf>), a "huge number of suggestions and recommendations from citizens" were discussed and taken into account in the process of preparing the document. This process meant that the entire community had a stake in the document.
- In contrast to the existing guidelines of the Russian Federation Ministry for Regional Development, in a scenario-building exercise, Nyagan did not choose a target scenario; all four scenarios were regarded as equally possible.

It is worth highlighting one of the special cases of strategic planning practices in the Russian Arctic, the city of Dudinka in the Taimyr Dolgan-Nenets Municipal District (*Krasnoyarskiy Krai*). First, it is one of the few cities in Russia's Arctic zone with an existing strategic planning document. Second, as an urban commune (*gorodskoe poselenie*) within the municipal district (*raion*), its functions and economic base are relatively narrow compared to those of municipalities with the status of urban districts. However, the Dudinka strategic document contains virtually all the major elements of a strategy document (Integrated Program 2008). The city's local government succeeded in organizing the implementation of the intended plans, which have been realized quite successfully in some areas: namely, growth of the leading sectors of the economy (gas extraction and heat and fish production) and reduction of the unemployment rate (from 6.3% in 2007 to 3.7% in 2010). Living conditions are improving, but at a slower pace than was indicated in the targets. However, some other targets of the integrated program have not been achieved. This relatively meager success in reaching the goals is not attributable solely to objective difficulties in addressing the problems of socio-economic development in the extreme conditions of the Arctic. Organizational discrepancies arise from imperfections in the legal regulation of relations between the local governments of the urban commune and the municipal district, especially in planning and executing the budget.<sup>3</sup>

## Conclusions

According to our analysis of the strategic planning and management practices in the cities of the Russian North and Arctic, the following conclusions can be made:

1. The first cases of strategic planning in the cities of the Russian North appeared in the early 2000s. By 2010, this management method had reached about one-third of North and Arctic Russian cities, which corresponds to the national average.
2. Despite considerably improved methodologies for the preparation of strategic planning documents, their content remains utterly diverse, due to the lack of generally accepted methodological strategic planning principles at the local level, within the expert community, and approved at the federal level.
3. Third-party research and consulting organizations frequently developed strategic plans. Such authors can produce a positive result only where the local community is actively involved in the process of developing and implementing the strategic plan. In practice, this requirement is by no means always followed,

which in many cases discredits the plan by limiting one of its main effectiveness factors.

4. To ensure the realization of the strategic goals and objectives, it is necessary to address the problem of a lack of resources for municipal project financing and the reliance on budget subsidies. Local budget revenues should be enshrined in legislation, making local governments more independent of regional and federal governments, and conditions for the development of local economies, including small and medium businesses, should be improved.

5. Fundamentally, in order to achieve the strategic goals of sustainable development in the cities of the Russian North and the Arctic, it is necessary to end the discriminatory mechanism of income redistribution derived from northern and Arctic natural resource extraction. It is necessary to change the tax and non-tax systems of income redistribution and to improve inter-budgetary relations between the federal center and the regions in such a way that the federal level and industrial corporations are not the only ones to benefit from the northern and Arctic resources but the amount of funds remaining at the regional and, especially, local level also increases.

<sup>1</sup> 'The requirements for a strategy of socio-economic development of the subject of the Russian Federation.' Approved by decree of Ministry of the Regional Development of the RF № 14 on February 27, 2007.

<sup>2</sup> After changes in tax and budget legislation in 2006, the number of local taxes was reduced from 5 to 2. Several statutory transfers and fees paid to local budgets from federal and regional taxes were abolished or reduced. For example, fees for local budget revenues from taxes on corporate profits (a federal tax) and from property tax (a regional tax) were abolished, and statutory transfers from the personal income tax were reduced from 50% to 30%.

<sup>3</sup> Head of the Dudinka urban commune A. Diachenko provided a detailed analysis of the legal and practical collisions of relations between the local governments of the urban commune and the municipal district in his paper published in the Collection of Materials of Hearings in the Federation Council as of November 25, 2010. <http://www.severcom.ru/analytics/>.

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# MEGA-PROJECTS AS A SOLUTION TO THE CHALLENGES FACING RUSSIA'S ARCTIC CITIES

NADIR KINOSSIAN

UNIVERSITY OF TROMSØ

(2013)

While there is consensus among the Russian political elites on the need to attract investment, achieve technological modernization and strengthen Russia's global competitiveness (see Putin 2012), there has been less clarity about the priorities of spatial development. Numerous government policies have failed to reverse the existing trends of growing disparities, spatial polarization and fragmentation (Syssoeva 2010, 19).

In the absence of a clear and coherent regional policy framework, the federal government uses mega-projects – the 2012 APEC Summit in Vladivostok, the 2014 Winter Olympics in Sochi, and the Skolkovo Innovation Centre near Moscow, among others – as tools of regional development. Recently, the Russian Ministry of Regional Development (hereafter, Minregion) has resumed work on the proposal to concentrate industries and population in 20 “urban agglomerations” (or city-regions), an approach which is expected to boost economic productivity and restructure the economy inherited from the USSR (EBRD 2012), as well as the spatial organization of the country (Hill and Gaddy 2003).

As political and economic resources are increasingly concentrated in the federal center, government-led projects, special economic development programs and projects implemented by state-controlled corporations play a leading role in urban and regional development. Although these projects generate massive investment, they are not without their own serious problems, especially in terms of implementation, spatial justice and environmental impact.

This paper will examine the role of mega-projects as tools of regional development in the Russian Federation. First, it will discuss the preparation of Russia's regional policy. Second, it will introduce mega-projects used by the federal government to promote regional development. Finally, it will draw some tentative conclusions about the implications of regional

development policies for sustainable urban development.

### **The preparation of a new regional policy**

In 2000, a period of economic stabilization and growth began, leading to the revival of state involvement in regional planning. In September 2004, President Putin created Minregion. One of the tasks of the new ministry was to prepare a national policy for the regions under the new economic conditions. In 2006, Minregion drafted the “Concept Strategy for Socio-Economic Development of Russia’s Regions.” It proposes a radical turn from the leveling-out approach to a new approach aimed at stimulating growth in a number of the most economically advanced regions where investment would produce the best economic effect. According to the document,

the principle of polarized (or ‘focused’) development will replace the principle of equalization of the levels of regional development and will concentrate financial, administrative, managerial, human and other resources in the ‘core regions’ (the ‘poles’ or ‘locomotives’ of growth) with subsequent diffusion of innovative activities to other regions. Therefore, intensive economic growth, entrepreneurial activities and innovations in the core regions will also affect other areas that do not belong to the ‘core’ (Minregion 2006, 27).

The proposal’s explicitly pro-market stance immediately sparked criticism. According to one expert, polarized development would lead to “the division of the country into the regions of the first and the second class,” the emergence of “dead zones” and even work as a catalyst of the country’s “degradation and disintegration” (Kynev 2005, 10). In February 2008, in his address to the State Council, President Putin urged that regional policy must provide for real equality among the regions. Equality would allow every region to have the necessary and sufficient resources for decent living conditions, development and the diversification of the regional economy (President 2008).

Following the presidential address, the Ministry of Economic Development of the Russian Federation adopted the “Concept for Long-term Socio-economic Development of the Russian Federation for 2020” (Pravitel’stvo Rossiiskoi Federatsii 2008). The Concept strongly defends the need to reduce inter- and intraregional disparities and achieve a balanced pattern of socio-economic development (Pravitel’stvo Rossiiskoi Federatsii 2008, 102). The document recognizes the role of old industrial centers, urban agglomerations, large cities, and export-oriented sectors in securing economic growth.

On the other hand, it calls for the modernization of existing industrial centers; the creation of new centers of accelerated growth around the



existing network of Siberian cities; the creation of new centers of exploration of mineral deposits in the Russian North, East Siberia and the Far East; the construction of new ports in the Arctic; and new transport corridors, including the Northern Sea route, in order to unlock the development potential of new areas and tackle the existing disproportions (Pravitel'stvo Rossiiskoi Federatsii 2008, 104-105).

The latest draft policy — “The Concept of Improving Regional Policy in the Russian Federation for 2020” — was prepared by Minregion in 2011. The concept lists the main goals of regional policy in Russia as, among other things, balanced socio-economic development of the regions and reduction of regional disparities in living standards (Minregion 2011, 7). The concept completely abandons previous proposals to grant special economic rights to the few most advanced regions on the view that these “locomotives of growth” would eventually generate enough wealth to pull the lagging regions from their current backwater conditions. At the same time, it faces (and leaves unresolved) the same dilemma as all previous proposals: that is, how to achieve equal standards of living in all regions without imposing too much fiscal burden on the strongest regions where most wealth is created.

Large national corporations view the absence of a national policy framework for the regions as an obstacle to their development plans. For example, Russian Rail President Vladimir Yakunin stated that “one of the serious problems of regional development has been the absence of long-term spatial development planning for the country as a whole and for every specific region” and called for better coordination between monopolies’ business development strategies and regional territorial development schemes, which are currently “coordinated poorly” (Yakunin 2008, 19).

### **The proliferation of urban mega-projects**

If the national priorities of regional development remain poorly defined and continue to change – from the pursuit of spatial agglomeration to equalization and back again – one of the clearest trends is the growth of selective government interventions to promote mega-projects in certain areas. For example, the draft “Strategy for Development of the Arctic Zone of the Russian Federation and National Security for 2020” lists the implementation of several large investment projects as a developmental priority for the Arctic zone. In the Arctic, high development costs require large-scale mega-projects in order to fully benefit from the economy of scale (Minregion 2010, 29).

The preparations for the 2012 APEC Summit in Vladivostok involved a massive redevelopment of the city, including the construction of new roads, bridges, water treatment facilities and a new campus of the

Far Eastern Federal University (Kalachinsky 2010). Upon its implementation, the project has undergone an unexpected “discursive shift” from symbolizing the growing power of the Russian state in the Far East to being emblematic of state inefficiencies, massive budget excess and failure to tackle corruption (Richardson 2012). In Sochi, all construction works for the 2014 Winter Olympics have been conducted by a special development corporation, established by the central government and subordinated directly to the Deputy Prime Minister and Office of the President (Muller 2011, 2096).

Although mega projects vary in terms of their scale and goals, their common feature is the leading role played by government agencies or development corporations acting on behalf of the presidential administration or the federal government. Lavish government funding and a lack of transparency and public scrutiny create opportunities for financial irregularities and embezzlement, which occurred on an unprecedented scale in the case of preparations for the 2014 Winter Olympics, according to numerous media accounts. Other common characteristics of mega-projects include: 1) limited opportunities for public participation; 2) special planning and investment regimes; 3) a very important role for the visual aspects of development; and 4) significant environmental impact (Blinnikov and Dixon 2011).

## **Urban agglomerations and polarized development**

During Medvedev’s presidency (2008-2012), the push for modernization provided an additional impetus to territorial restructuring and identification of the key areas of growth and investment. Then it seemed that the government was going to make a drastic move back to its initial vision of “polarized growth”.

According to *Vedomosti*, the Office of the President proposed creating 20 “urban agglomerations”. Unlike small mono-industrial towns with little potential for growth, agglomerations would concentrate the intellectual resources vital for the knowledge economy, allowing the creative city to take off (Pismenskaya and Kostenko 2010).

The idea of concentrating resources in a limited number of “poles of growth” or “agglomerations” has not received yet a coherent policy framing. The ongoing policy “paralysis” has contributed to skepticism about the role of the center in regional development. According to *Vedomosti*, the vice-governor of a Siberian region had this to say about the latest regional policy proposals:

“They could produce ten more programs, regions would benefit from that anyway. They should hand tax revenues over to us...Minregion would then monitor the implementation of the goals. Now there are

too many words for nothing” (Pismenskaya 2013, 4).

## Conclusions

A national policy for the regions has been fluctuating between different priorities. Growth-oriented plans aim to stimulate investment in the most affluent areas in anticipation of a trickle-down effect. Other, more traditional approaches aim to level off development disparities. Although there are strong indications of greater centralization, the spatial development priorities have yet to be clearly stated. The policy-making process has reached a stalemate; it is locked between two competing visions of the country’s spatial organization. In the absence of a regional policy framework, decisions have been made on an ad hoc basis, allowing the further concentration of growth around existing urban centers, an approach that has added to environmental problems and aggravated spatial polarization.

The ‘policy palette’ of the federal government is based on a selective use of western models, such as development corporations, special economic zones, economic clusters and innovation centers. These arrangements have not been the result of devolution of power to regions but of direct intervention by the central authorities at the regional and local levels, sometimes with little awareness of local conditions. As these policy arrangements are often ‘immune’ to public scrutiny, they raise questions about their environmental impact, long-term durability, and ability to deliver economic development.

Mega-projects create a new geography and scalar structure of the country. The ‘hot spots’ – such as Skolkovo, urban agglomerations, and, in fact, the whole Arctic zone – are governed through special regimes that aim to stimulate investment and economic productivity while removing “unnecessary” bureaucratic restrictions that inhibit the flow of capital, ideas and goods. At the same time, democratic legitimacy and the long-term environmental impact of new spatial governance arrangements need to be carefully analyzed.

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# SOCIAL AND CULTURAL ENVIRONMENT OF COASTAL TERRITORIES OF EUROPEAN NORTH OF RUSSIA

MAXIM PALAMARCHUK  
MURMANSK ARCTIC STATE UNIVERSITY  
(2014)

## Common objective

To determine the specific nature of the social and cultural environment of the northern coastal territories (following the example of Murmansk Region and frontier territories).

## Summary

We have identified several peculiarities of the artificial environment of the coastal territories.

1. The first lies in the fact that the social and cultural environment of the coastal territories of the European North of Russia is located on the border of the cultural world, on the periphery, expressed by the imaginary term “**Margin Location.**”
2. The second important peculiarity of the social and cultural environment of the coastal regions is its “**Openness,**” which refers as much to the geographical expanse peculiarities of the territory as to its mythological ways. The artificial environment of the coastal territories becomes popular, the author contends, thanks to the presence of an original idea that fills and organizes the emptiness of the natural environment.
3. Besides the “Margin Location” and “Openness,” the social and cultural environment of the northern coastal territories can be described with the help of such frames as a “**Tall Story-Territory**” (represented in way of mythologizing) and frontier location. The “margin location” (represented in way of mythologizing) opens through many myths about our region. The idea of “The Land’s End” itself has given birth to unprecedented

stories and associations that astonish imagination. The denomination of “margin location” comes from the fact that that the border belongs to two cultural worlds concurrently; it enriches the neighboring cultural expanses. The proximity of the territory of the North of Russia to the territory where the Scandinavian and Finnish peoples live has given fantastic opportunities for the growth of cultural potential and cross-cultural communications.

## **Conclusion**

The European North of Russia, which is located on the periphery of the social and cultural expanse (margin location and frontier situation), personifies an opened artificial environment with increased concentration of sense and importance (represented in way of mythologizing), which set a vector of human life (the quality of being located in the North).

# СОВРЕМЕННЫЕ ПРОБЛЕМЫ РАЗВИТИЯ ГОРОДОВ АРКТИЧЕСКОЙ ЗОНЫ РОССИЙСКОЙ ФЕДЕРАЦИИ

ЖАННА ЭДУАРДОВНА КАСПАРЬЯН

ЦЕНТР ГУМАНИТАРНЫХ ПРОБЛЕМ БАРЕНЦ-РЕГИОНА КОЛЬСКОГО НАУЧ-  
НОГО ЦЕНТРА РАН  
(2016)

В последние десятилетия и политический, и научный интерес к проблемам освоения арктических территорий неуклонно растет. С точки зрения рационального знания Арктика стала рассматриваться как регион существенных изменений базовых концепций освоения северных территорий - от экстенсивного типа освоения природных ресурсов через понимание необходимости рационального природопользования к обоснованию и использованию принципов устойчивого развития. На настоящий момент Российская Федерация сформировала и законодательно закрепила концептуальные основы, положения и план действий по дальнейшему освоению своих арктических территорий, приняв пакет соответствующих законодательных актов.

В новых условиях субъектам государственного управления, которые полностью или частично вошли в Арктическую зону РФ (далее - АЗРФ), необходимо если не стратегически планировать, то хотя бы координировать программы своего развития с новой концепцией освоения Арктики. Однако с точки зрения регионального социально-экономического развития территорий, входящих в АЗРФ, наблюдается целый ряд противоречий и несогласованностей в декларируемых положениях вышеупомянутого пакета документов различного масштаба – глобального, общесеверного и регионального (подробнее см.: Каспарьян 2014)), что влияет на функционирование современной системы управления развитием арктических территорий.

АЗРФ характеризуется очаговым принципом освоения, поэтому на ее территориях преобладающим является тип городских, т. е. крупных муниципальных образований (Герашенко 2011). С позиции системного подхода экономика муниципального образования

должна рассматриваться как подсистема системы более высокого уровня – субъекта РФ. Состояние этой подсистемы может быть описано количественными и качественными показателями, при этом количественные показатели будут характеризовать ее состояние (экономический рост), а качественные – структурные изменения (экономическое развитие). В настоящее время муниципальные образования АЗРФ достигли предела своего количественного роста, а развитие качественных изменений сдерживается целым рядом барьеров, самым существенным из которых является процесс стагнации (если не регрессии) в развитии человеческого капитала.

Рассмотрим эти процессы подробнее, в качестве «территории – индикатора» взяв в качестве примера Мурманскую область. Выбор данной территории был произведен исходя из следующих положений:

1. Мурманская область, в отличие от других регионов, полностью входит в состав АЗРФ (согласно современным нормативно-правовым нормам РФ);
2. население области составляет наибольшую долю от населения АЗРФ (табл. 1);
3. уровень урбанизации в Мурманской области наиболее высок (табл. 1);
4. для АЗРФ в целом характерна более высокая концентрация моногородов, будущее которых представляет наибольшую проблему на данный момент. В АЗРФ моногорода составляют до 25% от общего количества городских поселений (среднероссийский показатель - 14%); при этом из 18 моногородов, находящихся в АЗРФ, почти половина (8 городов) находится именно в Мурманской области (Дидык и Рябова 2014).



**Таблица 1.** Население регионов Арктики РФ, тыс. чел. (Лукин 2014)

	Численность населения, тыс. чел.	Численность проживающих в российской Арктике, %	Численность населения, ГП «Арктика 2020»	Городское население в регионе, %
Мурманская область	796,1	31,8	780,4	92,7
Архангельская область: 7 МО, острова в СЛО	661,8	26,4	657,2	76,6
Ямало-Ненецкий автономный округ	522,8	20,9	541,6	83,8
Красноярский край: Таймырский МР, Норильск, Игарка	216,8	8,7	230,5	76,6
Республика Коми: городской округ Воркута	95,8	3,8	Искл.	77,3
Республика Саха (Якутия) – 11 улусов	64,7	2,6	27,2	64,9
Республика Карелия: три МО на побережье Белого моря	51,6	2,1	Искл.	78,8
Чукотский автономный округ	50,5	2,0	50,7	66,7
Ненецкий автономный округ	42,6	1,7	42,7	70
Итого в Российской Арктике	2 502,7			

Отметим, что задача сопоставления данных по арктическим территориям является довольно сложной. Существенные трудности возникают, во-первых, с различными подходами к определению границ Арктической зоны и, во-вторых, с поиском достоверных статистических данных: на данный момент агрегатные статистические показатели по АЗРФ находятся только в стадии формирования и наполнения.

Тем не менее, официальная статистика позволяет, например, оценить масштабы оттока населения с арктических территорий за последние 20 лет (табл. 2).

**Таблица 2.** Убыль/прирост постоянного населения регионов Арктики, %<sup>1</sup>

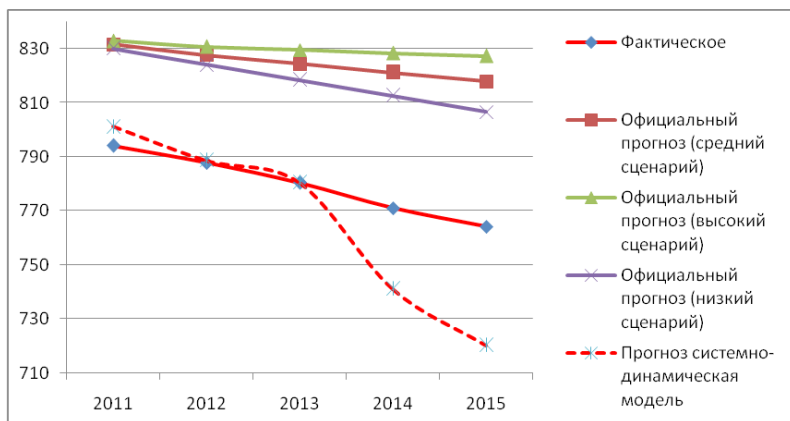
	1995-2010	2010-2015	Итого потеря населения, %
РФ	-3,1	1,8	-1,3
Чукотский автономный округ	-42,2	-1,9	-44,1
Мурманская область	-19,4	-8,0	-27,4
Республика Коми	-15,0	-9,8	-24,8
Архангельская область	-13,2	-7,5	-20,7
Республика Карелия	-11,0	-6,7	-17,7
Красноярский край	-7,1	-1,7	-8,8
Республика Саха (Якутия)	-7,3	0,4	-6,8
Ненецкий автономный округ	-4,7	3,9	-0,8
Ямало-Ненецкий автономный округ	6,9	3,7	10,7

За последние 20 лет на арктических территориях наблюдается существенный отток населения, наиболее интенсивный – в Чукотском АО, Мурманской области и Республике Коми. Устойчивый прирост населения наблюдался только в Ямало-Ненецком АО, что связано с активной разработкой нефтяных и газоконденсатных месторождений (регион занимает одно из ведущих мест в России по запасам углеводородов).

Отметим, что процесс депопуляции Мурманской области идет существенно активнее, чем это предполагалось согласно официальным демографическим расчетам (рис. 1), но несколько медленнее,

чем предполагалось согласно проведенным прогнозным исследованиям с применением системно-динамической модели (подробнее см.: (Каспарьян 2013b)).

**Рисунок 1.** Прогнозная и фактическая численность населения Мурманской области



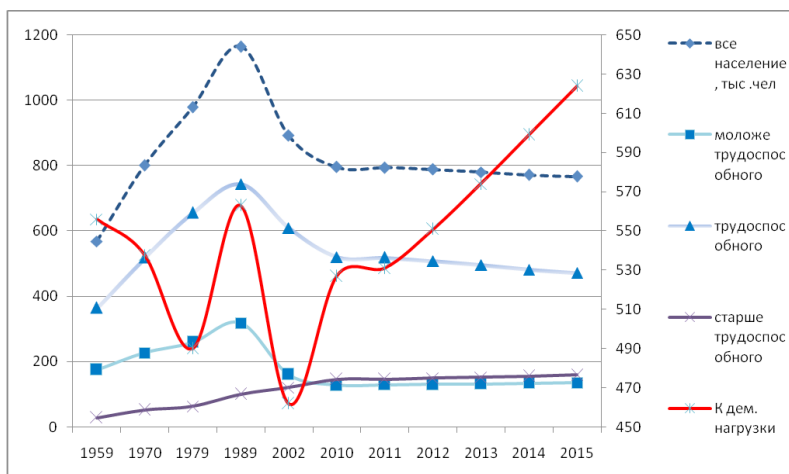
Очевидно, что нерешенная проблема прогнозирования демографических процессов в настоящее время существенно осложняет задачи стратегического управления развитием арктического региона как на региональном, так и на федеральном уровне, и требует разработки новых подходов и инструментов, адекватных современным требованиям и задачам управления социально-экономическими системами.

Сама по себе проблема оттока населения и обезлюдивания северных территорий не столь драматична. Гораздо серьезнее на арктических территориях обстоит дело с динамикой социально-демографических процессов. Применительно к Мурманской области депопуляция протекает на фоне процессов старения населения, что характерно в целом для населения страны и объясняется общей современной тенденцией к снижению рождаемости при одновременном увеличении продолжительности жизни. Однако в Мурманской области процесс старения населения идет существенно быстрее, чем на других территориях Северо-Западного федерального округа, что отмечается в исследованиях (Барсуков 2015; Ревич и др. 2014), где приводятся данные о самом высоком – фактически двойном - приросте удельного веса пожилых людей в населении региона в период с 1990 по 2013 год (2,3 раза). В ближайшей перспективе процесс старения населения будет только усугубляться, что связано с вступлением в

репродуктивный возраст малочисленного поколения 90-х годов.

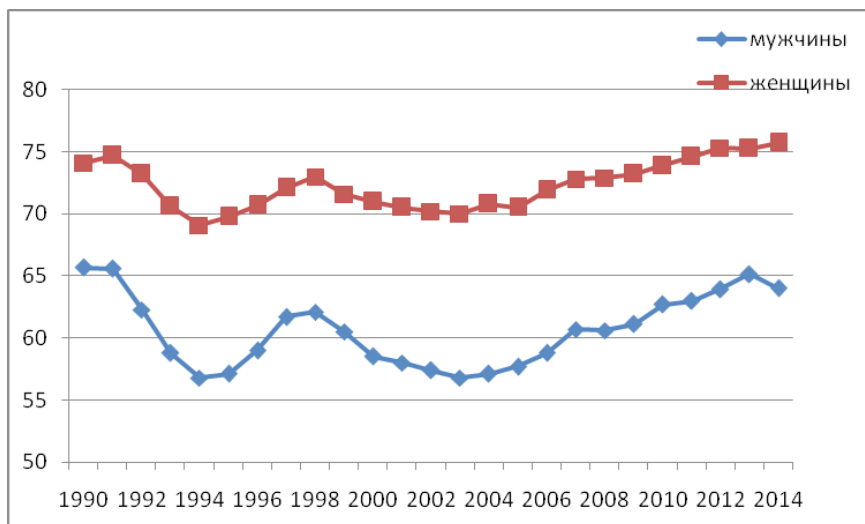
Для Мурманской области характерна довольно резкая динамика повышения демографической нагрузки на трудоспособное население. Численность трудовых ресурсов в области за последние 20 лет уменьшилась более чем на четверть (26,2%). При этом в структуре трудовых ресурсов свыше 90% приходится на население трудоспособного возраста (Ревич и др. 2014), а сам процесс начался существенно раньше, чем по РФ в целом. В самой структуре трудовых ресурсов снижается удельный вес учащихся в трудоспособном возрасте (там же).

**Рисунок 2.** Демографическая нагрузка в Мурманской области<sup>2</sup>



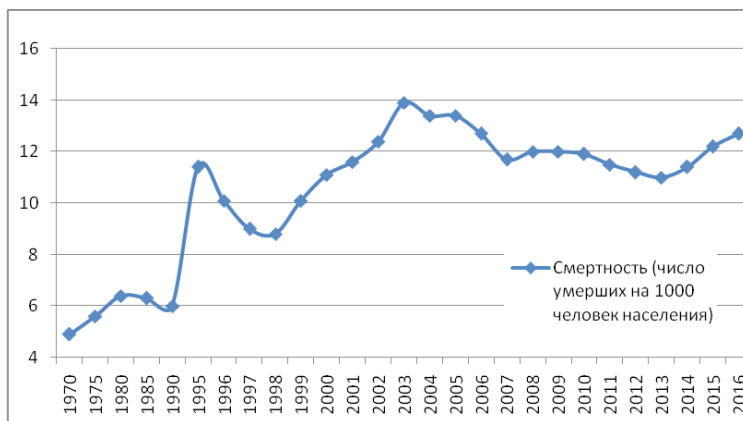
По такому важнейшему показателю, как ожидаемая продолжительность жизни (далее – ОПЖ) Мурманская область сместилась с 14-го рангового места среди регионов России в 1989 г. до 45-го - в 2011 г. В настоящее время уровень ОПЖ и в Мурманской области, как и на территории АЗРФ, остается более низким, чем в целом по России. Сравнение показателей ОПЖ с данными по странам Северной Европы демонстрирует еще более катастрофическое отставание Мурманской области.

**Рисунок 3.** ОПЖ Мурманской области<sup>3</sup>



Состояние здоровья населения региона характеризуется высокой смертностью: стандартизованный коэффициент смертности от всех причин в Мурманской области на 9-27% выше, чем в среднем по России (Ревич и др. 2014).

**Рисунок 4.** Смертность населения Мурманской области<sup>4,5</sup>



Вопреки всем принимаемым мерам по программам здравоохранения, в 2013 году в РФ наметилась тенденция к очередному витку

роста смертности, которую исследователи связывают с процессами «оптимизации» системы здравоохранения. Тревогу вызывает даже не столько сам рост смертности населения, сколько его возрастная структура: в РФ в 2015 году он произошел, в основном, за счет 4-5 кратного скачка смертности населения в возрастах 25-49 лет (Комаров и Ермаков 2015).

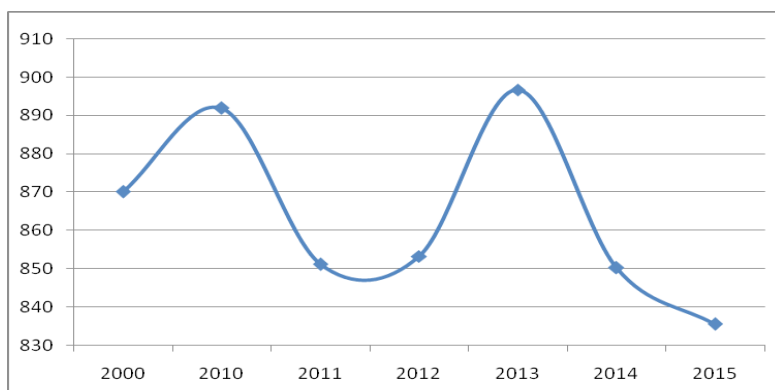
В Мурманской области в 2015-2016 гг. зафиксирован скачок смертности населения, весьма существенный по некоторым структурным показателям (табл. 3).

**Таблица 3.** Прирост коэффициента смертности населения Мурманской области, %<sup>6,7</sup>

Прирост смертности, %	2000-2010	2010-2015	2015-2016 (январь-март)
Умершие от всех причин	2,96	2,30	3,73
в том числе от болезней кровообращения	13,44	3,44	-1,25
новообразований	8,07	2,45	14,74
внешних причин смерти	-37,37	-7,63	-3,08
болезней органов ЖКТ	104,30	6,17	-14,27
болезней органов дыхания	-30,77	5,36	47,64
некоторых инфекционных и паразитарных заболеваний	13,10	28,42	25,41

Рост смертности в Мурманской области на фоне снижения регистрируемой заболеваемости, что является характерной тенденцией последних лет (рис. 5), свидетельствует о крайне негативных процессах в системе организации здравоохранения в регионе: снижении доступности и качества медицинской помощи и росте объема платных медицинских услуг.

**Рисунок 5.** Заболеваемость населения Мурманской области, чел. на 100 000 населения



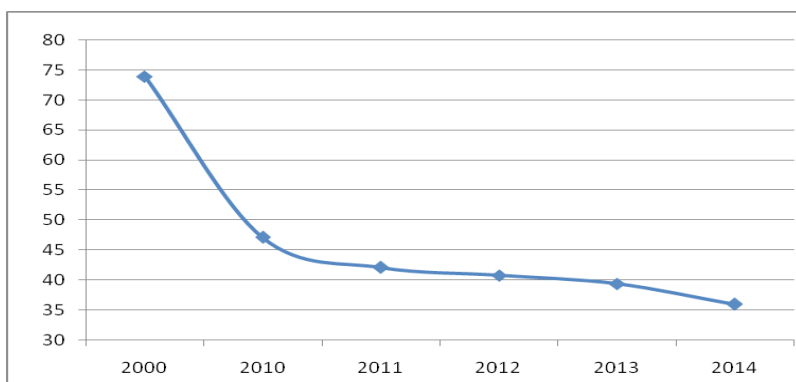
*Источник: Мурманская область в цифрах 2016*

Для Мурманской области характерна тенденция превышения среднероссийских коэффициентов смертности, особенно касательно людей трудоспособного возраста. В 2007 году регион вошел в число 10-ти субъектов РФ с наибольшим удельным весом умерших от болезней системы кровообращения в стационарах государственных и муниципальных медицинских учреждений (Перхов, Гриднев, Балуев 2010).

Очень высок уровень смертности трудоспособного населения от болезней органов дыхания в городах Апатиты, Мончегорск, Кировск и особенно Кандалакша, что свидетельствует о значительном воздействии неудовлетворительных условий труда и жизни в регионе (Горчакова 2010). Среди населения Кировска распространенность заболеваний крови и кроветворных органов, хронических заболеваний респираторной системы в 1,7-2,4 раза превышает региональные показатели (Верещагин 2007).

При анализе такого показателя, как инвалидность населения региона (с учетом прочих медико-демографических статистических агрегатов) было выявлено, что в Мурманской области на фоне резкого старения населения численность инвалидов снижается, хотя объективно должна расти (рис. 6). Кроме того, характерны процессы омоложения, утяжеления бремени и нарастания скрытой инвалидности (Каспарьян 2013а).

**Рисунок 6.** Численность лиц, впервые признанных инвалидами, чел. на 10 000 населения соответствующего возраста



*Источник: Территориальный орган Федеральной службы государственной статистики по Мурманской области.*

На основании вышеприведенных данных можно сделать вывод, что условия Севера предъявляют к человеческому капиталу, с одной стороны, повышенные требования, а с другой – обеспечивают повышенный «износ» трудовых ресурсов, заключающийся в том, что процессы адаптации идут на севере сложнее, и по прошествии 10-15 лет приводят к истощению резервов организма человека. Именно поэтому стратегическое управление социальной политикой на территориях АЗРФ должно, в первую очередь, быть направлено на решение задач если не компенсации, то снижения рисков потери качества здоровья, травматизма, инвалидности и т.д.

Таким образом, самой серьезной проблемой развития арктических городов на данный момент представляется проблема стратегического управления развитием человеческого капитала, которое в настоящее время сводится к поддержанию отдельных параметров жизнедеятельности и становится формальным, нежели реальным инструментом системы управления развитием АЗРФ. Современные законодательные инициативы, фактически, никак не ориентированы на цели разрешения задач обживания этой зоны и развития ее социальной инфраструктуры, которая именно в условиях Севера призвана компенсировать населению неблагоприятные условия жизни и труда.

Следует отметить, что тезис об «избыточной социальной инфраструктуре» Мурманской области (представленный без достаточных обоснований в «Стратегии социально-экономического развития Мурманской области до 2020 года и на период до 2025 года») не



выдерживает критики. Для данного региона (да и всей АЗРФ в целом) характерна повышенная моральная и материальная изношенность объектов социальной инфраструктуры. Например, изношенность жилья в Мурманской области составляет 70%, высоки степени износа коммунальных сетей водоотведения, теплоснабжения, линий электропередач, трансформаторных подстанций, учреждений социальной защиты. Износ основных фондов достиг показателя 52,1%.

Современная социальная инфраструктура Мурманской области весьма далека от избыточности, что видно из показателей обеспеченности населения детскими садами, местами в домах-интернатах для престарелых и инвалидов. Кроме того, несмотря на общее превышение усредненных показателей по числу больничных коек и мощности амбулаторно-поликлинических учреждений, в регионе отмечается крайне неравномерное распределение этих мощностей между муниципалитетами. На данный момент в области есть удаленные населенные пункты, в которых квалифицированная медицинская помощь для населения практически недоступна. Вообще, проблема медицинского обслуживания и доступности медицинской помощи в настоящее время приобрела в Мурманской области характер острейшего кризиса. Модернизация здравоохранения довела до абсурда систему оказания срочной и плановой медицинской помощи в регионе, сконцентрировав основную массу высокотехнологичной медицинской помощи в наиболее развитых городах-центрах и существенно оголив периферию.

Еще одной существенной проблемой, с которой могут столкнуться арктические города в ближайшем будущем, является кадровый голод. Следствием этого может стать кризис профессиональной компетентности, нередко сводящий на нет все усилия по стратегическому и тактическому управлению региональным развитием.

Таким образом, на данный момент можно констатировать наличие явного системного кризиса государственного управления социальной сферой как в Мурманской области, так и во всем Арктическом регионе.

В этой связи представляется необходимой реализация следующих задач.

1. Разработать адекватную современным задачам методику системы сбора, обработки и публикации своевременных и полных официальных статистических данных по АЗРФ.
2. Провести ревизию, реконструкцию, модернизацию и обновление жилищно-коммунального хозяйства. Для этой цели, возможно, необходима разработка целевой программы «Северное жилье» для АЗРФ.

3. Пересмотреть систему компенсации и льгот, предоставляемых жителям АЗРФ; установить адекватные пороги нижней и верхней границ трудовых доходов северян к уровню прожиточного минимума в соответствующем регионе.
4. Прекратить практику переноса северных обязательств с государства на предпринимателей без учета финансовых возможностей малого бизнеса, что приводит, в конечном счете, к существенному удорожанию стоимости рабочей силы.
5. Развивать качество и разнообразие предоставляемых социальных услуг и системы социального обслуживания населения, причем это развитие должно идти не по пути укрупнения домов-интернатов для престарелых и инвалидов, обеспеченность которыми в области не доведена даже до установленных в РФ нормативов (очередь на помещение в эти дома растягивается на 2-3 года), а по пути создания центров дневного или кратковременного пребывания.
6. Решить актуальные вопросы социальной политики региона, в том числе: уменьшить негативное воздействие демографических изменений и миграционных процессов; повысить качество образования на всех уровнях; ориентировать систему образования на запросы реального сектора экономики и потребности рынка труда; повысить уровень кадрового обеспечения регионального рынка труда.

В заключение необходимо отметить, что современный кризис управления российскими территориями АЗРФ требует разработки методической основы управления, базирующейся на системном подходе и современных методах стратегического развития. Регионы АЗРФ обладают значительным сложившимся человеческим капиталом, адаптированным к жизни и работе в экстремальных условиях крайнего Севера. Сбереечь и приумножить этот капитал в интересах развития АЗРФ и всей страны – одна из важнейших задач современной социальной политики государства.

<sup>1</sup> По данным Федеральной службы государственной статистики, <http://cbsd.gks.ru/>.

<sup>2</sup> По данным Территориального органа федеральной службы государственной статистики по Мурманской области, <http://murmanskstat.gks.ru>.

<sup>3</sup> По данным Федеральной службы государственной статистики, <http://cbsd.gks.ru/>.

<sup>4</sup> По данным Федеральной службы государственной статистики, <http://cbsd.gks.ru/>.

<sup>5</sup> Данные за 2015-2016 гг. (с января по март); по данным Федеральной службы государственной статистики, [http://213.168.51.135/files/electronic\\_versions/Report/012334031\\_04.pdf#page=63](http://213.168.51.135/files/electronic_versions/Report/012334031_04.pdf#page=63).

<sup>6</sup> По данным Федеральной службы государственной статистики <http://cbsd.gks.ru/>.

<sup>7</sup> Данные за 2015-2016 гг. (с января по март), по данным Федеральной службы государственной статистики, [http://213.168.51.135/files/electronic\\_versions/Report/012334031\\_04.pdf#page=63](http://213.168.51.135/files/electronic_versions/Report/012334031_04.pdf#page=63).

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# MORE URBAN, LESS ARCTIC? CONVERGENCE AND DIVERGENCE: THE CASE OF THE OB RIVER REGION

YVETTE VAGUET

CNRS UMR IDEES-ROUEN, UNIVERSITY OF ROUEN

ALLA G. BYKOVA

HEAD OF THE ARCHIVES SERVICE OF JSC “MESSOYAKHANEFTEGAZ,”

TYUMEN

ARMELLE COUILLET

CNRS UMR IDEES-ROUEN, UNIVERSITY OF ROUEN

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Western Siberia, which lies mainly in a permafrost area, has been urbanized for two decades or thereabouts. Russia has had the most notable experience of urbanization within the circumpolar zone, and the regional landscape bears consummate signs of this experience. Oil extraction constitutes the major determinant of this urbanization, with the construction of more than 20 towns.

One can wonder if these urban centers are sustainable or will exist only in the short term. Indeed, their future – beyond peak oil and in the face of climate risks such as floods and permafrost-related collapses – is already being debated. However, with the prospect of oil-and-gas development northward to the Arctic Ocean, their future could also be as flourishing economies. In the meantime, the region still has a positive migration balance. Western Siberian towns are trying to diversify their economic profile, and municipalities are working to improve their citizens’ quality

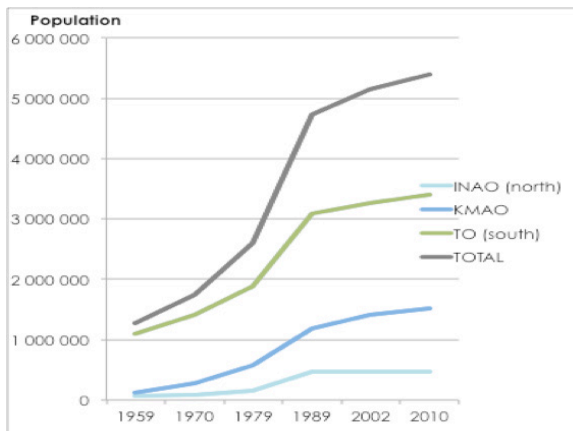
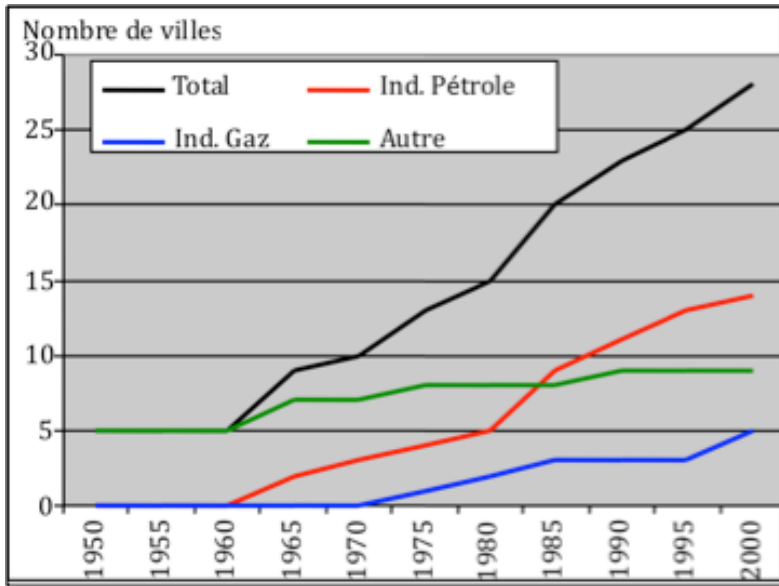
of life in order to retain, if not attract, inhabitants, especially those who are highly skilled. These towns show signs of affective and financial investment on the part of some residents, such as the spread of the detached house model. From the *pioneer towns* they were a couple of decades ago, these towns have slowly moved toward a global urban life model and therefore show some convergences with their western counterparts.

This paper discusses this change in terms of convergences with what is commonly considered 'global' and divergences with what is commonly considered 'Arctic'. It then returns to the definition of 'Arctic,' considering in particular Louis-Edmond Hamelin's definition (Hamelin 1968), which combines physical and human dimensions. He created a 'nordicity' index, which dropped in the Ob river region, suggesting that this is the limit of withdrawal from the Arctic.

### **The Context**

The Ob River region is one of the largest oil-and-gas basins in the world and contributes to Russia's position among the largest producers of oil and gas worldwide. The exploitation of this region began in 1964. During the Soviet era, the development of the oil/gas industry came alongside the spread of modern society northward, starting with the almost uninhabited taiga and then moving to the tundra, as far as the Yamal peninsula along the coast of the Arctic Ocean. When the USSR collapsed about 30 years later, 23 of 28 towns in the region had been created *ex nihilo* and were associated with considerable *in*-migration (Figures 1a & 1b).

**Figure 1.** Urbanization of Western Siberia since 1950: a) new towns related to oil and gas industry; and b) in-migration into the region.



The region experienced the highest urban population growth rate in the country for decades. In-migration was important, spurring a population increase from 1 million to 5 million in 40 years (Figure 1). In-migration was directed toward the north of the region, reducing the population gap between the north and the south. Numerically speaking, the picture of “an empty North” was no longer a reality. At the beginning of the geographic

transition (in 1959), roughly 80% of the population of the region lived in the southern part (Tyumen Oblast). By the time the USSR collapsed in 1989, the northern parts contained roughly the half of the regional population. Of the 28 towns, 23 were created in areas of oil and gas industry development and 21 within the northern area that registered the biggest urban population increase in Russia for half a century. During this economic transition, the population of the northern part of the region became urban (>77%).

**Figure 2.** The urban transition in Western Siberia. Image 1 – in 1960. Image 2 – present day.







Until the late 1990s, only a few buildings in western Siberian towns were colorful. Those that were had been painted as part of the main enterprise's involvement in the social life of the city; they were also branded with the company's name, like *Sibneft* in Noyabrsk. Moreover, there was certainly no advertising; public spaces had a very limited commercial dimension. Nowadays, advertising and global brands are everywhere; shopping malls are increasingly numerous and are very successful in every town (Figure 3).

Thus, it can be said that the *flâneur* depicted by Charles Baudelaire (1863) appears in the meaning of experiences of the sociality of a crowd and presentation of the self. Mall, restaurant and club constitute three types of spaces that play a key part in this process and in the process of building an image of the city (Valentin 2001). In this way, the way of life in these cities feels close to globalized urbanization; they are already distant from the frontier pioneer towns at the frontier that they were (Dybbroe 2008; Dybbroe et al. 2010).

**Figure 3.** Shopping mall in Surgut with McDonald's and other brands



### **Re-imagining cities positively in a competitive global marketplace**

“Culture is the means by which cities express identity, character, uniqueness, and make positive statement about themselves, who they are, what they depend on, where they are going.” (Montgomery 1995). Western Siberian towns have also entered into this competitive context, in terms of the need to attract residents, especially highly-educated ones, and enterprises. Zukin (1988, 1998) talks about the need “to glamorize the

city” in order to achieve this. It could be said that the towns wish to build a unique hybrid urban identity, combining the traditional characteristics of the region with the modern hydrocarbon industry. This leads to both social and physical changes in the city. Increasingly, landmarks in the built environment serve as evidence of this desire.

**Figure 4.** Landmarks demonstrate the cities’ desire to express identity, character and uniqueness.



Once again, one can feel in these cities a way of life closer to globalized urbanization than to the frontier towns of pioneers. In addition to this,

towns imply density and diversity, due to t in-migration and connection to the rest of the country, especially the non-Arctic areas. These aspects were reported in other Arctic Russian towns like Noril'sk (Parente et al. 2012). Therefore, if the Arctic should be defined not only by its coldness but also by its remoteness and isolation, then it is likely that these places of settlement are less polar than they previously were, and this should be assessed.

## **Decrease of Nordicity**

### *Define and limit the Arctic*

The Arctic remains mainly defined by its physical environment. With low temperatures, so low that trees cannot grow, the treeline is given as one definition of the Arctic. With temperatures so low that soil is permanently frozen for more than two years in a row, the southern limit of the permafrost can be given as another boundary of the Arctic. A third approach to delimitation is given by the Arctic Monitoring and Assessment Program (AMAP), which defines the limits of research on the Arctic.

However, governments of Arctic countries have sometimes defined their own north, which often implies some advantages for its residents. That is to say, political actors take into account a human component of the Arctic, and the Arctic limit they construct reflects a territorial development strategy with important economic issues and represents a compromise between the different actors.

Over time, the administrative boundary of the North tends to move southward in different Arctic countries. In the Russian case, for instance, "the Far North and equivalent areas" was fixed by the Council of Ministers of the USSR in 1967. Some advantages were set for working in these regions, including a monthly allowance in addition to the salary, additional leave, additional pension payments, temporary disability benefits, etc. Since then, the list of included territories has been expanded. "The Far North and equivalent area" constitutes the national boundary of the Russian polar zone, far south of the AMAP limit. Actually this Russian limit is closer to a fourth one set by the Canadian geographer Louis-Edmund Hamelin (1968) at circumpolar scale. This one takes into account both the physical and human characteristics of the Arctic.

Hamelin's Arctic boundary is based on a nordicity index (Hamelin 1968). This index takes into account 10 characteristics of either the physical or human environment. There are six dimensions that assess the physical dimension of the Arctic environment: latitude, summer heat, annual coldness, type of ice, precipitation, and vegetation cover.

In addition, four human dimensions complete the portrait of the Arctic: access by air, access by other transportation like roads or rivers, population, and level of economic activity. Each characteristic is graded on its nordicity, ranging from null (value=0) to the maximum at the North Pole (value=100). A place gets 10 grades, one for each of the 10 characteristics. The sum of these grades is the POLar VALue for the settlement. This POLar VALue ranges from 0 (the locality is not polar at all) to 1000 (very polar: it's the North Pole). Hamelin considered the Arctic limit as the isoline of the POLar VALue equal to 200. All the Arctic limits are expected to change due to global warming, but Hamelin's nordicity index – because it takes into account the human dimension – is more likely to report social changes associated with urbanization.

### Western Siberian towns: Less Arctic places?

The geographic transition that occurred in western Siberia during the 1960s-1980s – namely, the development of oil and gas industry and urbanization, with great in-migration – led to an increase in the number of Arctic and Sub-Arctic inhabitants. However, the precise figure depends on which limit is considered (Figure 5).

**Figure 5.** Population of the Urban Arctic of Western Siberia in 1959 and 2010

Limits	Population (in thousands)	
	1959	2010
Treeline	0	0
AMAP *	17	220
Permafrost	17	547
L.-E. Hamelin **	85	1 735
Far North & equivalent (actual)	45	1 635

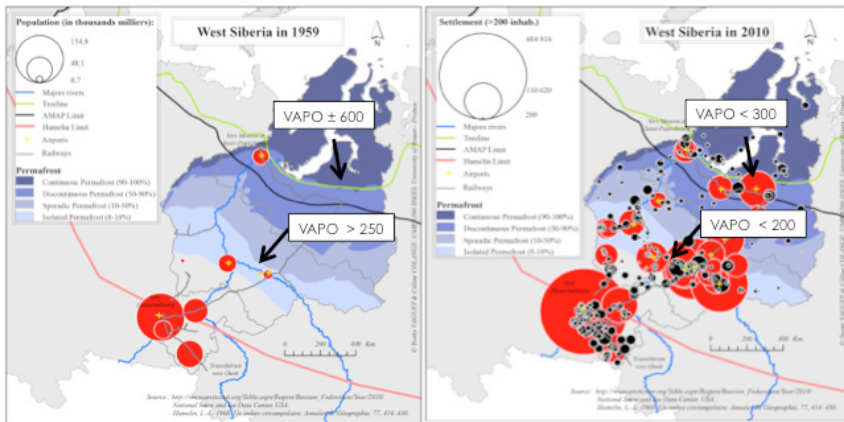
\* Arctic Monitoring and Assessment Program \*\* VAPO/POLar VALue=200

Within the treeline limit, there is still no permanent urban population whereas within the “Far North and its equivalent regions limit,” the urban population increased by a factor of 36. This factor is 13, 33 and 20 for the AMAP, permafrost and Hamelin limits, respectively. This considerable quantitative (new density) and qualitative (new diversity) demographic

change has moved the region away from the Arctic “cliché” of being sparsely inhabited by indigenous people.

A new calculation of Hamelin’s nordicity index has been conducted within western Siberia. This means that a GIS with all physical and human features involved in this index of all localities (latitude, type of ice, precipitation, vegetation cover, access by air/roads/rivers, population, level of economic activity...) has been set up. Figure 6 shows the nordicity index for Novyi Urengoi and Surgut before (in 1959) and after (in 2010) the geographical transition (urban and industrial). Novyi Urengoi is located in the far north and is among the youngest town having gained the status of town in 1980, soon after gas development began there. Surgut is located in the southern part of the equivalent areas of the Far North. It is an old settlement of indigenous people along the Ob River. This area was the first place where oil industry unfolded in 1964, with extraction near Samotlor lake. The settlement was declared a town in 1965. On the figure, red dots represent settlements with the administrative status of a city.

**Figure 6.** Nordicity index in 1959 and in 2010 for Surgut and Novyi Urengoi



The POLar VALues (VAPO) in 1959 were more than 600 for Novyi Urengoi and more than 230 for Surgut. Today, they are less than 400 and less than 200, respectively. Therefore, it is clear that western Siberia has become less Nordic, as defined by Hamelin. Considering its human components, the Arctic looks more like an archipelago. At regional scale, the Arctic limit – defined as locations with a POLar VALue equal to or lower than 200 – has well moved northward.

## Conclusion

To sum up, the question of “more urban, less Arctic?” is primarily a matter of the definition of the Arctic. For sure, the more urban and connected a place is, the less Nordic it is, under Hamelin’s synthetic index of nordicity. This research should encourage the drawing of a new isoline of ‘VAPO=200’ and analysis of how much, where and why the Arctic – defined with its human components, as Hamelin did – has withdrawn.

The case of the Ob river region shows that urbanization implies:

1. density and network of transports while the Arctic is viewed as sparsely populated and isolated;
2. diversity, more heterogeneity when the Arctic is traditionally viewed as populated by homogeneous indigenous communities; and
3. urban landscapes of consumption when the Arctic is associated with a certain wilderness.

Arctic cities shape the Arctic region, as the urbanization of the Arctic under globalization is also a process of convergence with western and southern cities, and therefore a process of divergence from common representations of the Arctic. This fact calls for re-examination of the Arctic boundaries and their changes over time in the circumpolar context.





# MONOCITIES' CHALLENGES

# MONOTOWNS, ECONOMIC CRISIS, AND THE POLITICS OF INDUSTRIAL RESTRUCTURING IN RUSSIA

STEPHEN CROWLEY

OBERLIN COLLEGE AND CONSERVATORY

(2015)

During the 2008-09 economic crisis, Russia's monotowns – one-industry towns left from the Soviet era – gained widespread attention as potential sources of social protest and unrest. Will such worries resurface under current economic conditions? While fears about monotowns were exaggerated during the last economic crisis, Russia's leadership has reason to remain concerned. Despite the dramatic transformations of the last two decades, Russia's post-Soviet industrial landscape has largely survived intact, leaving a significant number of monotowns with unprofitable enterprises in a precarious position. Yet given its emphasis on social stability, we can expect the government to continue subsidies, both explicit and hidden, that seek to maintain employment and avoid social conflict but also preserve the country's inefficient industrial geography.

During Russia's economic crisis of 2008-09, monotowns – one-industry towns left from the Soviet era – suddenly became a topic of concern. Given Russia's current economic challenges, will the monotowns again become a source of worry, and perhaps social unrest, or have such concerns been exaggerated? How widespread are Russia's monotowns, and how serious are the economic challenges that they face? Why has the Russian government persisted in subsidizing and keeping open unprofitable enterprises in monotowns, rather than closing those that are most inefficient, and relocating affected populations to regions with more productive uses for their labor? Much about Russia's monotowns remains murky, but the discussion that follows will try to illuminate what is known.

## Defining the Problem

A significant number of Russian towns and cities are dependent on a single industry and hence “monotowns” (*monoprofil'nie goroda* or simply

*monogoroda*). These cities – built around industrial enterprises (sometimes called *gradoobrazuiushchie predpriyatiya*, or “city-forming enterprises”) – were created to meet the needs of a planned economy rather than a competitive market. A number of these towns are thought to be particularly vulnerable, not only because the dominant enterprise is unprofitable but also because its closure would threaten the entire town’s social and physical infrastructure.

Monotowns grabbed the widespread attention of Russian society during the 2008-09 crisis, which fueled fears of substantial unemployment and the specter of social unrest. In 2008, the Institute of Regional Policy, a Russian think tank, released a study commissioned by the Ministry of Regional Development entitled “The Monotowns of Russia: How to Survive the Crisis?”<sup>1</sup> The study – widely cited in the media and elsewhere – claimed that Russia had 460 monotowns, representing 40% of all cities, home to 25% of Russia’s population, and producing 40% of Russia’s GDP. Soon thereafter, the economist (and former head of Russia’s Department of Social Development) Yevgenii Gontmakher caused a sensation when he published an article provocatively titled “Novocherkassk, 2009!” that sketched out a hypothetical scenario whereby a labor protest in a single *monogorod* quickly spread, leading to unrest and violence all the way to Moscow (Gontmakher 2008). Gontmakher (and the newspaper *Vedomosti*, which published the article) were criticized by the government for “inciting extremism” (von Twickel 2008).

Just six months later, protests erupted in the monotown Pikalyovo, an event that was widely discussed in the Russian media.<sup>2</sup> In the wake of Pikalyovo, there was renewed talk of the potential for “social explosion” in Russia, centered in the *monogorods*, with western analysts also speaking of the one-company towns as a potential “time bomb” (Aron 2009a; Aron 2009b). That same year, the Russian government established a commission, still in operation, to monitor the economic and social condition of the country’s *monogorods*.

Yet at the height of the crisis, the threat posed by the monotowns was almost certainly overstated, largely due to a lack of clarity. First, the Institute of Regional Policy study was flawed, being based on a study completed almost a decade earlier, with little to no updating or verification. Second, the exact definition of the term *monogorod* is imprecise; for instance, a number of lists have included centers of oil and gas extraction. (Zubarevich 2010). Third, *monogorods* vary greatly in size. The largest *monogorod* is Tol’iatti, where, until recently, one of every seven residents in a city of 700,000 was directly employed at the car factory Avto-VAZ. Yet by one count, 48 of a total 335 monotowns had a population under 5,000. Most range from 300,000 to over 5,000,000 in size (Il’ina 2012).

For all these reasons, the exact number of monotowns and their

scope remains unclear (Zubarevich 2010). The official government list, published in July 2014 by the Ministry of Economic Development, includes 313 municipalities, of which 229 are larger than “settlements” (Pravitel’sstvo Rossii 2014a). The government’s list also divides the monotowns into three categories, according to their “risk of worsening social-economic conditions,” as determined by such factors as the amount of actual or planned layoffs, the level of registered unemployment, and whether the local population judges the social-economic situation to be unfavorable (*neblagopoluchnaya*) “according to sociological surveys conducted by the Federal Protective Service” (FSO) (Pravitel’sstvo Rossii 2014b). Fifty-four municipalities (not including settlements) are included in “category 1” as having the “most complex (*slozhnyy*) social-economic conditions,” with another 104 included in category 2 as being at risk of worsening social-economic conditions (Pravitel’sstvo Rossii 2014b).

### **Economic challenges**

Despite the inflated estimates and overdrawn fears of social unrest, Zubarevich argues that “sooner or later the majority of [monotowns] will become problematic” (Zubarevich 2010, 86). Likewise, the World Bank has concluded that it “is likely that only a few of the enterprises can compete in international markets,” since their “underlying problems are market unfriendly locations for enterprises which produce uncompetitive products.” (World Bank 2010, 24).

Yet virtually none of these Soviet-era workplaces have been closed. Instead of mass layoffs and plant closures, Russia’s enterprises have adjusted to economic conditions by letting wage levels fall and rise dramatically, as well as by letting new hires lag behind the number of (nominally voluntary) separations (Gimpelson and Kapeliushnikov 2011). Indeed, a substantial number of workers have exited from industrial production to the service or informal sectors: even without mass layoffs, from 1990 to 2009, the percentage of Russians employed in industry dropped from 41% to 27% (Gimpelson and Kapeliushnikov 2011, 10). Nevertheless, large numbers of Russian industrial firms remain unprofitable. While data on the profitability of monotown enterprises is not available, Gimpelson and Kapeliushnikov note that, “even in the very successful year of 2007, after 9 years of buoyant growth, every fourth Russian enterprise reported zero or negative profits. In crisis ridden 2009 this proportion increased to one third.” (Gimpelson and Kapeliushnikov 2011, 12). Moreover, such a passive approach to restructuring has left Russia’s post-Soviet industrial geography largely intact. In Gaddy and Ickes’ (2013) evocative phrase, this has been a strategy of “keeping the lights on,” preserving inefficient workplaces reliant on obsolete technology in non-competitive locations.

One empirical study of Russia's monotown enterprises finds their output to be 70% lower than that of their peers. This lower level of labor productivity – a gap that has widened over time, according to panel data – suggests significant labor hoarding (Commander, Nikolski and Plekhanov 2011).

Even during the 2008-09 economic crisis, the feared mass dismissals did not take place: in fact, they were as low in 2009 as in 2007 (Gimpelson and Kapeliushnikov 2011, 18-19). The concern that mass unemployment would sharply increase social tensions in the most worrisome monotowns led "Russian authorities to use all possible means to prevent this outcome, including regulating the price of raw materials (as in Pikaloyovo), the transfer of enterprises to state control (as in the Baikalsk pulp and paper mill), strict prohibitions on layoffs including sanctions by prosecutors, etc." (Zubarevich 2010, 92). Enterprises responded in the usual way: part-time work, forced leaves, and a delay in new hires. The federal government stepped in with additional employment support in the form of "public and temporary work." This support reached 115,000 enterprises in 2009, with 1.5 million workers receiving support that year.

The exact cost of supporting Russia's monotowns is difficult to determine. In 2010, the government allocated 25 billion RUB (\$846 million) directly to 27 *monogorods*. According to the World Bank, applying the same amount to all monotowns would cost about 460 billion RUB, or 7% of Russia's federal revenue in 2010 (World Bank 2010; The Other Russia 2010). Not surprisingly, the goal of creating 200,000 new jobs in the *monogorods* by 2015, set by then-Prime Minister Putin in 2011, shows little sign of being realized (*Izvestiya* 2011).

### Why "lights on"?

Yet the challenge is not limited to explicit government subsidies. Gaddy and Ickes have used the term "rent addiction" to characterize how rents from the oil and gas sector are transferred – in implicit and hidden fashion – to subsidize loss-making industries in monotowns and elsewhere.<sup>3</sup> These implicit subsidies move through a "rent distribution chain," whereby the oil and gas industry provides cheap inputs for industrial production and pays for orders from inefficient domestic producers. By their nature, such hidden subsidies are very difficult to measure, yet Gaddy and Ickes make a persuasive case that maintaining industrial production and employment in the inhospitable climates of Siberia, or in enterprises separated from markets by sheer distance, including many monotowns, requires substantial hidden costs that act as a considerable brake on Russia's economic growth (Gaddy and Ickes 2013).

Why maintain such subsidies rather than provide incentives for people to relocate? Why not, in Zubarevich's words, subsidize "people, not

regions”? (Zubarevich 2011, 410) Poland and Hungary, for example, used substantial government funds to cushion postcommunist unemployment, but rather than subsidize losing enterprises, they essentially paid large numbers of workers to leave the labor force, steering them onto disability and pension rolls (Vanhuysse 2006). There are a number of overlapping reasons why Russia has not taken similar steps. There is a lack of jobs and housing in other regions that might encourage outmigration. Russia’s federal system might play a role, as regional leaders seek to keep labor in place in order to maintain that the “fictitious capital” of loss-making enterprises on their territories still has value (Gaddy and Ickes 2013, 85). Subsidies can also be exchanged for votes for United Russia. In a study of workplace campaigning around the 2011 parliamentary elections, surveys revealed that employees were more likely to be subjected to political campaigning if they worked in large firms, firms dependent on state support, or heavy industry and mining. Those “living in a monogorod [were] twice as likely to have been mobilized than those living in other types of cities (41.3 percent versus 20.2 percent).” (Frye, Reuter and Szakonyi 2014, 217)

Yet there is little question that concern for “social stability” remains a paramount reason for maintaining subsidies in Russia’s monotowns. Putin has explicitly evoked his alleged backing from workers in Russia’s industrial heartland – witness his support for factory foreman Igor Kholmanskikh, who, having denounced the anti-Putin protesters in Moscow and St. Petersburg, was elevated to the post of Presidential Representative for the Urals Federal Region. On the other hand, while official strike statistics in Russia are almost absurdly low, this is due to severe restrictions on legal strikes, and unofficial databases of worker protest show the numbers to be considerably higher (Bizyukov 2011, 6-10). Though talk of Russia’s monotowns as a potential “time bomb” leading to a “Novocherkassk-2009” scenario is almost certainly overstated, workers lack institutional channels to express their grievances effectively, and this creates the potential for localized economic protests to become radicalized (Crowley 2015). Little wonder, then, that the FSO is monitoring the social situation in Russia’s monotowns.

For evidence of how worker protest might be impacted by mass layoffs and plant closures, Russia need only to look to China. In Ching Kwan Lee’s study, the “rustbelt” province of Liaoning in China’s northeast, which was “once the heartland of the socialist planned economy and home to some of China’s most prominent state-owned industrial enterprises,” has since “decayed into a wasteland of bankruptcy” and a “hotbed of working-class protest by its many unemployed workers and pensioners.” (Lee 2007, x). Nationwide, thousands of worker protests have taken place in China each year since the 1990s, with workers often blocking street

traffic, lying across railroads, or holding sit-ins in front of government buildings. Nationwide, government statistics recorded 87,000 cases of “riots and demonstrations” in 2004 alone (Lee 2007, 5). Needless to say, this industrial decay and worker protest has taken place alongside almost unprecedented levels of overall economic growth.

Moreover, while worker protests have “presented a palpable threat to social stability,” they have largely remained “cellular” in the sense that they are typically aimed at the local level, because, Kwan Lee argues, the Chinese leadership has successfully created a “decentralized legal authoritarianism,” where local rather than national leaders are perceived as responsible for economic conditions in their regions (Lee 2007). Whether Putin has created the appearance of being “hands off” regarding the economy is certainly debatable.

In short, while the number and scope of Russia’s monotowns, as well as the likelihood that they would erupt in large-scale social unrest, was exaggerated during the last economic crisis, they are likely to remain a significant concern for Russia’s leadership. That concern will almost surely lead to continued subsidies, both in the form of “anti-crisis” and other government expenditures and as hidden subsidies in the form of transfers from other industries. Both could contribute to economic stagnation, which in turn could raise fears of social unrest.

<sup>1</sup> In this paper we will use the terms “monotown” and the Russian “monogoroda” interchangeably to avoid repetition.

<sup>2</sup> Labor protests were also taking place in other monotowns. See Crowley 2015.

<sup>3</sup> See also Commander, Nikoloski, and Plekhanov 2011, 3.

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# CHALLENGES OF ECONOMIC DIVERSIFICATION IN RESOURCE-BASED SINGLE- INDUSTRY TOWNS IN THE RUSSIAN NORTH

TUOMAS SUUTARINEN  
UNIVERSITY OF HELSINKI  
(2013)

Economic diversification is crucial for the socio-economic sustainability of single-industry communities in the Russian North. The single-industry towns in the Russian North were formed during the Soviet era under an ideology that promoted large-scale resource extraction in the peripheries (Blakkisrud 2006, 39). However, in the contemporary era, the extraction of new deposits in the Russian North mostly takes place using workers who commute from long distances. In Murmansk region (see Figure 1), most of the inland settlements are based on the mining industry, which has led to the creation of relatively big settlements and massive industrial combines (Rautio 2003, 32–36). Approximately 20% of the region’s population is located in its single-industry towns. Moreover, about half of the region’s industrial production comes from these single-industry towns.

In post-Soviet Russia, industrial production is a key factor in regional development (Tynkkynen 2006, 2). However, economic diversification was limited in Russia during the 2000s (Gaddy and Ickes 2010, 307). Instead of spurring diversification, economic growth during the 2000s strengthened the economic and symbolic meaning of natural resources as accelerators of Russia’s economy (Gaddy and Ickes 2010). This form of development has led to a prolonged dependency on natural resources evident not only at the federal level but also at the regional level, particularly in regions with a history and economic culture related to the extraction of natural resources (see, for example, Tynkkynen 2006).

In the Russian North and Siberia, the natural resource industries are the base of the regional economies (Hill and Gaddy 2003). Diversification

of the economic sphere of Russia's single- industry towns has been especially problematic, since it is taking place in the context of a massive restructuring of the Russian economy (see, for example, Connolly 2011; Tul'chinskiy et al. 2011). However, in the Russian North, the challenge of diversification of single-industry towns is especially sharp and alternatives are limited in relation to the south, where agriculture and manufacturing have been suggested as ways to promote local economic diversification. These variants are not so realistic in the North due to issues such as the climate and distance from markets.

Modernization and diversification have been the main aspirations on the Russian economic agenda since 2007 (Connolly 2011, 428, 431). It is widely acknowledged that Russia must shift its economic base from natural resources toward productive manufacturing and services in a nationwide restructuring of the economic sphere (World Bank 2011, 18). Efforts to restructure Russia's single-industry towns and consider alternative paths of development began only recently. After the latest economic crisis, in 2008-2009, the Russian state was forced to discuss the need for diversification of the country's economy (see, for example, Travin 2010). As part of the modernization effort, a program for Russian single-industry towns was launched with the goal of diversifying the economy in these towns. The program included several single-industry towns in the Russian North – including eight towns in my case study region of Murmansk – in an effort to rethink the basis of their future development.

**Figure 1.** Murmansk region and its single-industry towns (map drawn by the author)



### Local Resource Curse and Resource Curse Vertical as a Theoretic Framework

Resource-based development in resource communities has both positive and negative characteristics. On the one hand, resource-based development leads to unsustainable development of resource-rich locations because of the volatility of resource prices (Bradshaw 2006, 725), but on the other hand, resource-led development is a source of technological innovations (Wright and Czelusta 2002), as well as the only realistic development path in some locations. The volatility of resource prices and the consequences of this for resource economies is one of the main reasons to consider resource-based development within the concept of the *resource curse*.

The resource curse has been mostly discussed as a state-level phenomenon and Russia is often included in the group of countries affected by this problem. Russia has been “stigmatized” as a country where the resource curse is a significant factor impacting development (see, for example, Ahrend 2005; Åslund 2005; Bradshaw 2006; Hill and Gaddy 2003; Sachs and Warner 2001). Resource-based development calls into question the sustainability of the economic future of the country as the dependency of extraction is vulnerable to changes in raw material

prices and therefore leads to crises (Bradshaw 2006, 725). Resource-based development in Russia is associated with two fundamental problems: (1) a lack of the reforms needed to promote diversification; and (2) a lack of investments in Russia's main oil and gas extraction industry (Bradshaw 2006, 724-725). These problems are also widespread at the regional and local levels.

The resource curse has been adapted to studies focused on the regional level, but it is an understudied topic on the local level. I understand the resource curse as a broad concept that has several impacts at the local level, such as conservative ways of thinking and promotion of resource-based development at the expense of other forms of development. My analysis of the diversification potential of single-industry settlements in Murmansk region seeks to show how the local resource curse affects the diversification potential of these settlements. Moreover, in my study, I create the new concept of *resource curse vertical*, which analyzes the vertical dimension of the resource curse in Russia and shows how it affects the development of resource communities at the local level.

Some symptoms of the local resource curse are:

1. Unsustainable development caused by the volatility of resource prices and the dependence of the community on the main resource-extracting firm;
2. Planning and decision-making related to local issues that is dominated by higher governmental levels, leading to a lack of local self-initiative to improve the situation;
3. State and regional authorities boost the development of the main resource industry at the expense of others;
4. The resource enterprises pay minimal attention to developing innovations and maintain passivity rather than adopt changes;
5. Paradox of Plenty/Resource Abundance: Low efficiency in the use of the natural resource potential of the region and localities;
6. Paternalism: Local residents demand that the resource enterprise and higher authorities provide key benefits and services
7. The dominant presence of the resource firm in the locality promoting resource-led thinking;
8. Attitudes to alternative industries are influenced by the large-scale main industry; diversification plans include massive and unrealistic efforts as an alternative to the current form of economic development.

## Single-Industry Mining Towns in Murmansk Region

My study analyzes the challenges of economic diversification in three single-industry towns in Murmansk region – Kirovsk, Kovdor and Revda (see Figure 1) – by discussing their potential for economic diversification and analyzing their diversification plans, which were created as part of the program for Russian single-industry towns. In the crisis conditions of 2009, Kovdor and Revda were classified among the most depressed single-industry towns in Russia (Grigor'yev 2012).

Kirovsk, Kovdor and Revda all focus on mining as their main industry, which classifies them as single-industry towns. However, the different local circumstances create different local environments.

Among the key variables at the local level are:

- The kind of mining products the city produces, the nature of the demand for them, their prices on world markets and their strategic importance;
- Ownership of the town-constituting enterprises;
- Possibilities for diversification within the mining sector, including the potential for spin-offs;
- The existence or absence of alternative industries; and
- Varying degrees of openness within the towns.

Nevertheless, the common trait for these towns is the existence of tourism as the most notable alternative to the mining industry in their restructuring plans.

**Table 1.** The three case study towns and their main diversification projects

<b>Town</b>	<b>Population</b>	<b>Main firm</b>	<b>Employees of main firm (% of total town workforce)</b>	<b>Projects for economic diversification</b>
Kirovsk	28,300	OA Apatit	31.8	<b>Tourism</b>
Kovdor	18,400	Kovdor- skiy GOK	26.9	<b>Mining</b> (Kovdorskiy GOK – diversification of production) <b>Mining</b> (second firm Kovdorslyuda - revival) <b>Agriculture</b>
Revda	8,200	Lovoz- erskiy GOK	13.9	<b>Mining</b> (spin off) Tourism Agriculture

*Source: Complex Investment Plan for the Modernization of the Mono-industry Towns of Kirovsk, Kovdor and Revda*

Table 1 shows the main projects for the diversification of the economy in the three towns under study. In addition, support for small business plays a great role in the diversification plans. The level of the city's dependency on the main firm varies across Kovdor, Kirovsk and Revda. As I discussed in a previous paper (Suutarinen 2011, 135), there is a strong belief among the residents of Kovdor that their fate depends on the development of the town's key enterprise.

Reducing this dependence through diversification is crucial for the long-term sustainability of these communities.

### **Research Questions and Preliminary Results**

My work addresses the following three research questions: (1) Which symptoms of the local resource-curse are present in the mining-based single-industry towns of Murmansk region (Kirovsk, Kovdor and Revda)?; (2) How do the residents of Kovdor view the future of resource-based development?; and (3) Is there evidence of a resource curse vertical in the mining localities of Murmansk region?

The first research question shows that the symptoms of the local resource curse are found to different degrees in these three towns.

For example, the results show that there is only limited self-initiative and strong expectations of paternalism from higher authorities across Murmansk region and its resource communities. Moreover, resource abundance in some localities has impaired utilization of the full potential of local resources. Paradoxically, however, the town-constituting mining enterprise can also be the main innovator and financier of diversification at the local level. In Kirovsk, the central enterprise has participated in the development of the tourism industry for decades, which has led to the development of an alternative industry, as well as creating a diversification-friendly atmosphere in the town.

Preliminary answers to the second research question show that there is strong support for the continuation of resource-based development in Kovdor. Among survey respondents, there is a demand for state paternalism to care for the community and its mining industry, including a demand for subsidies during economic recessions. However, there is also support for aspirations to diversify the Russian and town economies by creating new jobs in underdeveloped fields such as tourism.

In terms of the third research question, a preliminary analysis of the material I have gathered supports my hypothesis that there is a resource curse vertical in those Russian resource communities that are located in regions where the regional economy is based on resource extraction. This phenomenon is especially relevant in the context of the Russian North and its resource regions and localities. Therefore, this study brings a new dimension to the discussion of the socio-economic sustainability of resource communities in the Russian North. *The resource curse vertical* is a relevant approach in analyzing the limitations of locally-driven development efforts and barriers for economic diversification in resource export-dependent authoritarian countries with a hierarchical power vertical from the state to the local level. As a result, this study questions whether economic diversification in the Russian North can be successful at a time when northern regions and resource towns are treated as resource regions and resource towns by higher authorities and when the communities see themselves as resource producers and perpetuate this self-image in relationships between resource communities, resource regions, and the Russian state.

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# СТРАТЕГИИ РАЗВИТИЯ МОНОГОРОДОВ РОССИЙСКОЙ АРКТИКИ (НА ПРИМЕРЕ МУРМАНЦКОЙ ОБЛАСТИ)

ВЛАДИМИР ВСЕВОЛОДОВИЧ ДИДЫК

ЛАРИСА АЛЕКСАНДРОВНА РЯБОВА

ИНСТИТУТ ЭКОНОМИЧЕСКИХ ПРОБЛЕМ ИМ. Г.П. ЛУЗИНА КОЛЬСКОГО  
НАУЧНОГО ЦЕНТРА РАН, Г. АПАТИТЫ

(2014)

Одной из особенностей российской Арктики является высокая доля городских поселений с доминирующим положением одного или нескольких технологически связанных предприятий, т.е. с монопрофильной структурой экономики. Такие городские поселения в России чаще всего принято называть монопрофильными, либо моногородами.

В условиях рыночной экономики и процессов глобализации, характеризующихся сильными колебаниями рыночной конъюнктуры и периодическими кризисами, затрагивающими целые отрасли и страны, особенно возрастают риски в отношении устойчивого социально-экономического развития моногородов. Это в полной мере проявилось в России в период мирового финансово-экономического кризиса 2008-2009 годов. Именно в связи с усугубившимся в этот период кризисным положением многих российских моногородов на данную проблему впервые обратили по-настоящему серьезное внимание федеральные органы власти. В 2009 г. в рамках антикризисной программы Правительством РФ был предпринят ряд мер, направленных на решение социально-экономических проблем моногородов: создана специальная межведомственная комиссия; определены критерии и составлен официальный перечень монопрофильных поселений, которым может быть оказана государственная поддержка; определен список наиболее проблемных моногородов

(их число составило 27), требующих первоочередных мер поддержки (Дидык 2014, 13).

В рамках мер федерального правительства также было принято решение о необходимости разработки моногородами, претендующими на получение финансовой помощи из федерального бюджета, комплексных инвестиционных планов (далее - КИП) модернизации этих городов. Этим был дан мощный внешний стимул для внедрения стратегического планирования в городах такого типа.

В данной статье дается краткая характеристика моногородов России и её Арктической зоны; проводится краткий анализ политики государства в отношении российских моногородов в целом и арктических моногородов в частности. На примере нескольких моногородов Мурманской области методом кейс-стади исследуются стратегии развития арктических моногородов РФ, выявляются и анализируются основные типичные проблемы формирования и реализации стратегических планов долгосрочного развития моногородов российской Арктики.

### **Моногорода России, её Арктической зоны и политика государства по отношению к ним**

С позиций государственной политики Российской Федерации по отношению к моногородам, предполагающей в т.ч. предоставление им целевой государственной финансовой поддержки, ключевое значение имеют критерии отнесения поселений к категории монопрофильных. Критерии, впервые принятые Министерством регионального развития России (далее – Минрегион) в 2009 г., предусматривали соответствие поселения одному из следующих параметров: (1) доля работающих на одном градообразующем предприятии или группе предприятий, связанных единой технологической цепочкой, составляет не менее 25% экономически активного населения; (2) объем производства такого предприятия или группы предприятий составляет не менее 50% в объеме отгруженной продукции данного населенного пункта (Журавлева 2009).

Отметим, что решением Правительства РФ, принятым в декабре 2013 г., полномочия в части координации деятельности по развитию моногородов возложены на Министерство экономического развития РФ. В настоящее время Министерство намеревается изменить критерии отнесения поселений к монопрофильным, которым может быть оказана федеральная поддержка. В частности, в качестве главного предполагается оставить лишь критерий занятости, что приведет к существенному сокращению числа моногородов, подлежащих включению в официальный перечень (Воскресенская 2013). Однако к

моменту написания настоящей статьи (май 2014 г.) новые критерии не приняты.

В соответствии с указанными критериями на основании предложений региональных органов власти Министерством регионального развития РФ в 2009 г. впервые был составлен Перечень моногородов РФ. В него вошли 358 поселений. Последний вариант Перечня от 26 июля 2013 г. включает 342 населенных пункта (Перечень моногородов... 2013). Из этого списка 18 моногородов находятся в Арктической зоне РФ, новый состав которой недавно определен Указом Президента РФ от 2 мая 2014 года. Если учесть, что общее число городских поселений в российской Арктике – 71, то доля монопрофильных в них 25,4%, в то время как в среднем по стране она составляет 14,1%. То есть в российской Арктике доля монопоселений почти в 2 раза выше, чем в среднем по стране. Это свидетельствует об актуальности проблематики моногородов для данного макрорегиона РФ (Рябова и др. 2013, 35). По региональному размещению больше всего моногородов Арктической зоны России находится в Мурманской области – 8, что составляет почти половину от их общего числа.

Риски развития, характерные для всех моногородов РФ, в условиях Арктики усугубляются дополнительными неблагоприятными факторами. К ним относятся: экстремальные климатические условия; удаленность от экономических центров; неразвитость транспортной, инженерной и социальной инфраструктуры. Действие данных факторов удорожает стоимость проживания и увеличивает расходы местных бюджетов, обостряет социальные проблемы, ограничивает возможности развития предпринимательства и внедрения инноваций (Селин 2010, 21-24; Дидык и Рябова 2013, 58-59). Для ресурсно-базированных арктических моногородов одним из главных рисков развития является возможное истощение ресурсов, создающее угрозу закрытия основного предприятия и города.

Одним из последствий действия вышеперечисленных неблагоприятных факторов, а также индикатором наличия социально-экономических проблем является тенденция к существенному сокращению численности населения в большинстве моногородов российской Арктики. За период с начала проведения рыночных реформ (с 1990 по 2013 год) численность населения в городах российской Арктики, включенных в Перечень моногородов России от 2013 г., сократилась примерно на 300 тыс. чел., то есть почти на 30%. Исключением являются лишь моногорода Ямало-Ненецкого автономного округа, градообразующие предприятия которых относятся к нефтегазовой промышленности. Высокие доходы нефтегазовых компаний обеспечивают относительно лучшую социально-экономическую ситуацию в регионе и городах базирования нефтегазовых

предприятий. Более подробная характеристика современной социально-экономической ситуации, в особенности социальных проблем в моногородах российской Арктики, представлена в статье, опубликованной по результатам исследования, выполненного под руководством Л.А. Рябовой (Рябова и др. 2013).

Одним из главных инструментов политики российского правительства по преодолению проблем моногородов, который начали применять в рамках антикризисной программы с 2009 г., было выделение из федерального бюджета государственной, финансовой поддержки реализации инвестиционных планов, представляемых на конкурсной основе моногородами-претендентами. Обязательным условием выделения целевых федеральных средств было наличие у города-претендента КИП модернизации моногорода, разработанного в соответствии с методическими рекомендациями Минрегиона России. КИП является документом стратегического планирования, поскольку, в соответствии с указанными рекомендациями, должен охватывать период более 10 лет и, помимо сведений о предлагающихся инвестиционных проектах, включать углубленный анализ социально-экономического и финансового положения муниципального образования с применением методологии SWOT-анализа, выработку системы целей и приоритетов будущего развития города и механизма их реализации.

Почти все арктические моногорода РФ в 2010-2011 гг. обеспечили разработку КИПов, выполнив одно из главных условий для получения государственной поддержки их реализации. Но из 50 российских моногородов, которым были выделены средства из федерального бюджета в 2010-2011 гг. (в 2010 г. – 35, в 2011 г. – 15 моногородов), лишь три арктических монопоселения получили поддержку – г. Ковдор, городское поселение (далее – г.п.) Ревда Мурманской области и г. Северодвинск Архангельской области (Рябова и др. 2013).

Несмотря на вполне оправданный подход к условиям выделения средств государственной поддержки моногородам, предусматривающий необходимость основываться на принципах стратегического планирования и управления их развитием, организация процесса и реальные обстоятельства в большинстве случаев не обеспечивали реализацию данных принципов. Имеются в виду следующие обстоятельства. Во-первых, внезапный, без необходимой подготовки, характер требований со стороны правительственных органов о предоставлении КИПов моногородами (особенно теми, что попали в список 27 особо проблемных, которым отводилось на это лишь 1-2 месяца). Очевидно, что в такой спешке невозможно было обеспечить надлежащее выполнение принципов вовлечения в процесс стратегического планирования всех заинтересованных сторон и широкого

общественного участия, что является важной и необходимой частью процесса стратегирования.

Во-вторых, российские муниципалитеты, в силу сложившейся системы налогового и бюджетного регулирования в стране, весьма ограничены в своей экономической самостоятельности. Это не позволяет им полноценно определять и реализовывать направления не только перспективного развития, но и в значительной степени текущего функционирования, поскольку часто более половины их бюджета формируется за счет государственных дотаций и субсидий.

В-третьих, в методических рекомендациях Минрегиона России по разработке КИП моногорода был применен избыточно теоретизированный подход (особенно в части расчета баланса денежных потоков и капитала моногорода), не вполне учитывавший реальную ситуацию на местах. Это обусловило технические трудности подготовки КИПов в связи с отсутствием необходимой информационной базы на муниципальном уровне и практики подобных расчетов. Из-за этого меньше сил и времени у разработчиков оставалось для реализации других важнейших составляющих стратегического планирования – процедур согласования позиций заинтересованных сторон, организации общественного обсуждения и др.

В результате потенциально позитивный процесс внедрения стратегического планирования в российских моногородах, инициированный «сверху» в рамках реализации государственной политики, приобрел во многом формальный характер, и состоял, в большинстве случаев, в нацеленности на подготовку самого документа, и в меньшей степени – на выработку всесторонне обоснованной, содержательной стратегии развития. Кроме того, во многом процесс разработки КИПов приобрел характер «охоты» моногородов и региональных органов власти за возможным федеральным бюджетным финансированием. Тем не менее, первый для многих моногородов опыт стратегического планирования принес и определенную пользу. Он позволил проанализировать потенциалы развития моногородов, определить приоритеты дальнейшего развития, оценить потребность в ресурсах для осуществления намечаемых планов.

### **Стратегии развития моногородов Мурманской области: содержание и проблемы реализации**

В Мурманской области сконцентрировано наибольшее число моногородов российской Арктики – 8 из 18-ти, включенных в официальный перечень (Табл. 1).

**Таблица 1. Моногорода Мурманской области** (выписка из перечня, одобренного приказом Минрегиона России от 26 июля 2013 г. № 312)

п/п	Наименование городов и городских поселений	Численность населения (на 01.01.2013 г.)	Градообразующее предприятие
1	г. Кировск	30 484	ОАО «Апатит»
2	г. Ковдор	20 515	ОАО «Ковдорский горно-обогатительный комбинат»
3	г. Мончегорск	47 357	ОАО «Кольская горно-металлургическая компания»
4	г. Полярные Зори	17 506	Филиал ОАО «Концерн Росэнергоатом «Кольская АЭС»
5	г.п. Туманный	681	Каскад Серебрянских ГЭС филиала «Кольский» ОАО «ТЭК-1»
6	г.п. Заполярный	15 800	Структурные подразделения ОАО «Кольская горно-металлургическая компания»
7	г.п. Ревда	8 101	ОАО «Ловозерский горно-обогатительный комбинат»
8	г.п. Никель	12 750	ОАО «Кольская горно-металлургическая компания»

*Источник: Министерство регионального развития РФ, <http://www.minregion.ru/upload/documents/2013/08/160813-p-m-1.pdf>*

Два моногорода области – Ковдор и Ревда – в 2009 г. были включены в список 27 российских моногородов с наиболее сложной социально-экономической ситуацией. Для этих моногородов в первоочередном порядке были разработаны КИПы для представления в межведомственную комиссию при Правительстве РФ, занимающуюся моногородами. Активное содействие муниципалитетам в подготовке этих документов оказало Министерство экономического

развития Мурманской области с привлечением научных работников – специалистов Института экономических проблем Кольского научного центра РАН (г. Апатиты). КИПы моногородов Ковдор и Ревда успешно прошли конкурсный отбор, что позволило получить финансовую поддержку из федерального бюджета для их реализации. Все остальные моногорода Мурманской области в 2010-2011 гг. также разработали КИПы и представили их в межведомственную комиссию при Правительстве РФ. Однако ни один из них не был поддержан на федеральном уровне.

Содержание стратегий развития моногородов Мурманской области, изложенных в КИПах, формировалось под влиянием требований «Методических рекомендаций по подготовке и реализации комплексных инвестиционных планов развития монопрофильных населенных пунктов» Минрегиона России (Методические рекомендации...). В них предусматривалась необходимость разработки всего спектра элементов стратегического документа, включая глубокую диагностику социально-экономической ситуации; анализ рисков; разработку сценариев будущего развития; подготовку системы целей с показателями, сроками их достижения и декомпозицией на подцели; изложение комплекса мер (проектов), а также описание системы управления реализацией КИП.

Несмотря на теоретическую правильность рекомендаций, их практическое применение для муниципалитетов оказалось весьма проблематичным. Это было обусловлено, прежде всего, избыточным акцентом, сделанным в рекомендациях, на анализ финансовых потоков в диагностической части КИПа. А именно: расчет сальдо платежей по каждой из 7-ми групп контрагентов моногорода (градообразующее предприятие, население, органы местного самоуправления и др.); расчет динамики капитала моногорода, а также комбинирование результатов этих расчетов. Помимо технической сложности рекомендуемой методики анализа, практическая польза его результатов вызывает сомнения, поскольку достоверная исходная информация для таких расчетов практически недоступна для муниципалитетов. В итоге, как компромисс, в разработанных КИПах моногородов Мурманской области указанные рекомендации по анализу финансовых потоков были учтены в упрощенной форме, что не помешало вполне удовлетворительно выполнить разделы целеполагания и планирования мер по их реализации.

Анализ стратегий развития моногородов Мурманской области, изложенных в их КИПах, показал, что, несмотря на их разнообразие, обусловленное особенностями каждого города, в них можно выделить общие, типичные черты. Во-первых, это нацеленность на снижение рисков зависимости города от экономической деятельности



градообразующего предприятия за счет диверсификации экономики города. Наиболее распространенным направлением диверсификации моногородов области является развитие малого и среднего бизнеса, особенно в сфере туризма. Во-вторых, это наличие такого направления как модернизация и диверсификация деятельности самого градообразующего предприятия. В большинстве случаев КИПы включали планируемые градообразующими предприятиями проекты реконструкции и модернизации своих производственных мощностей, направленных на повышение их производительности, снижение издержек, освоение новых технологий и выпуск новой продукции. Однако в некоторых случаях градообразующие предприятия выступили инициаторами проектов, направленных на диверсификацию не только своего основного производства, но и на развитие новых видов деятельности, способствуя тем самым диверсификации экономик моногородов. Например, ОАО «Апатит» предложил и реализует развитие горнолыжного комплекса в г. Кировск, а Кольская горно-металлургическая компания выступила одним из инициаторов создания индустриального парка в г. Мончегорск на не используемых в настоящее время площадях промышленной площадки предприятия. В-третьих, во всех планах заложено повышение комфортности городской среды, развитие социальной, инженерной и транспортной инфраструктуры города, повышение уровня и качества жизни местного населения.

Тем не менее, в большинстве КИПов моногородов области (в планах на период до 2020 г.) сохраняется доминирующая роль градообразующих предприятий. Из всех городов Мурманской области лишь в единственном г. Ревда, являющемся одним из трех моногородов российской Арктики, получивших федеральную финансовую поддержку, стратегия развития нацелена на то, чтобы в обозримой перспективе город перестал быть монопрофильным. В г. Ревда при разработке стратегии развития было запланировано, что к 2020 г. доля занятых на градообразующем предприятии (Ловозерском горно-обогатительном комбинате) в общей численности трудоспособного населения города снизится до 9% (с 13,9% в 2009 г.), а доля отгрузки продукции градообразующего предприятия в общегородском объеме – до 40% (с 60,2% в 2009 г.). Такие результаты планируется достигнуть за счет развития малого и среднего бизнеса, преимущественно в сфере туристской индустрии (Комплексный инвестиционный план модернизации... 2013, 43).

С теми моногородами, что не получили поддержку на федеральном уровне, в Мурманской области была организована работа на региональном уровне. При областном правительстве была создана рабочая группа по модернизации монопрофильных поселений

Мурманской области, которая координирует деятельность по реализации КИПов моногородов в пределах возможностей, имеющихся в области, включая: субсидирование инвестиционных проектов на конкурсной основе; содействие развитию малого и среднего бизнеса в моногородах; прочие меры в рамках существующих региональных программ. Однако возможности влияния регионального правительства на реализацию мероприятий, предусматриваемых в КИПах моногородов, весьма ограничены. Это обусловлено главным образом тем, что общая потребность в финансовых средствах на реализацию данных мероприятий, как правило, существенно превышает возможности регионального бюджета. В табл. 2 приведены данные о запланированных в КИПах объемах и структуре источников финансирования инвестиций по четырем моногородам Мурманской области.

**Таблица 2. Плановый объем и структура источников финансирования КИПов модернизации моногородов Мурманской области**

Планируемые источники инвестиций	г. Ковдор		г.п. Ревда		г. Мончегорск		г. Кировск	
	Сумма, млн руб.	Доля, % к итогу	Сумма, млн руб.	Доля, % к итогу	Сумма, млн руб.	Доля, % к итогу	Сумма, млн руб.	Доля, % к итогу
Средства федерального бюджета	6 721,9	56,5	242,5	14,6	3 765,4	10,0	2 325,8	34,4
Региональный бюджет	361,6	3,0	136,2	8,2	858,9	2,3	578,5	8,6
Муниципальный бюджет	45,3	0,4	25,2	1,5	166,4	0,4	107,9	1,6
Собственные средства организаций, кредиты и др. источники	4 761,8	40,0	1 254,0	75,6	32 962,1	87,3	3 752,8	55,4
Итого:	11 890	100	1 658,3	100	37 752,8	100	6 765,7	100

*Источник: Комплексные инвестиционные планы моногородов, представленные на официальном сайте Министерства экономического развития Мурманской области. [http://minec.gov-murman.ru/content/devel\\_city/sub06/sub04/](http://minec.gov-murman.ru/content/devel_city/sub06/sub04/)*

Как видно из вышеприведенных данных таблицы, объемы планируемых инвестиций по этим моногородам колеблются от 1,6 млрд руб. (в г.п. Ревда) до 37,7 млрд руб. (в г. Мончегорск). При этом доля запланированных на эти цели средств из областного бюджета не превышает 8,6%, а из муниципального – 1,6% (в обоих случаях – г. Кировск) от необходимых объемов. Таким образом, инвестиционные стратегии моногородов Мурманской области ориентированы главным образом на привлечение внебюджетных источников (собственных средств организаций и кредитов банков). Их доля колеблется от 40% в г. Ковдор до 87,3% в г. Мончегорск. Большие ожидания моногородов связаны также с финансированием из федерального бюджета: доля этого финансирования колеблется от 10% (г. Мончегорск) до 56,5% (г. Ковдор).

*Кейс 1. Ковдор и Ревда: федеральная поддержка есть, но нужны и собственные усилия*

После положительного решения о федеральной поддержке реализации КИПов моногородов Ковдор и Ревда региональным Правительством в 2010 г. были разработаны и утверждены долгосрочные целевые программы (далее - ДЦП) по развитию этих моногородов. В них были определены мероприятия, а также ресурсное обеспечение реализации программ развития указанных моногородов с учетом всех источников финансирования (табл. 3).

**Таблица 3. Объем и структура источников финансирования мероприятий ДЦП Мурманской области, направленных на развитие моногородов Ревда и Ковдор**

Источники финансирования	г. Ковдор		г.п. Ревда	
	В млн руб.	В млн руб.	В % к итогу	В % к итогу
Федеральный бюджет	541,92	205,05	13,0	10,6
Областной бюджет	40,16	95,68	6,1	0,8
Муниципальный бюджет	10,43	16,79	1,1	0,2
Собственные средства организаций	3 392,74	1 255,08	79,8	66,1
Кредиты банка	1 150,00	-	-	22,4
<i>Итого:</i>	<i>5 135,25</i>	<i>1 571,90</i>	<i>100</i>	<i>100</i>

*Источники: Постановления Правительства Мурманской области от 10 ноября 2010 № 508-ПП «Об утверждении долгосрочной целевой программы «Развитие монопрофильного городского поселения Ревда Ловозерского района Мурманской области» на 2010 - 2015 годы» и от 10 ноября 2010 № 509-ПП «Об утверждении долгосрочной целевой программы «Развитие монопрофильного города Ковдора городского округа Ковдорский район Мурманской области» на 2010 - 2015 годы» (в редакции Постановления Правительства Мурманской области о внесении изменений № 506-ПП от 4 октября 2011 г.)*

Если сравнить показатели табл. 2 и табл. 3, можно заметить, что по г. Ковдор суммы, необходимые для реализации КИПа и предусмотренные к получению из федерального бюджета (табл. 2), почти на порядок меньше выделенных фактически средств (табл. 3), в то время как по моногороду Ревда они сопоставимы. Но с учетом того, что в первоначальных вариантах КИПа г. Ревда сумма запрашиваемого городом финансирования из федерального бюджета (как и в случае с Ковдором) была значительно выше, чем впоследствии выделенная, можно говорить о том, что средства государственной поддержки, даже при положительном решении властей об их предоставлении, как правило, далеко не полностью обеспечивают потребности моногородов для реализации намечаемых планов.

В период разработки стратегий развития и КИПов в более тяжелом положении из двух рассматриваемых городов находился моногород Ревда, градообразующее предприятие которого – ООО «Ловозерский ГОК» - занимается добычей и переработкой руд редких металлов. Из-за трудностей сбыта своей продукции и проблем в управлении, связанных со сменой собственников, предприятие оказалось в кризисном экономическом положении, что негативно отразилось на социально-экономической ситуации в городе. В г. Ковдор в глубоком кризисном положении находилось одно из двух предприятий, ранее являвшихся градообразующими, а именно ОАО «Ковдорслюда», специализирующееся на добыче и обогащении слюды – флогопита и вермикулита. Другое предприятие ОАО «Ковдорский ГОК» (производитель апатитового, бадделеитового, железорудного концентрата), в целом благополучное, испытывало временные трудности из-за влияния мирового финансово-экономического кризиса.

Стратегии развития этих двух моногородов и, соответственно, мероприятия их КИПов, предусматривали диверсификацию как экономики городов, так и деятельности самих градообразующих предприятий. Наряду с этим перечень намеченных к реализации инвестиционных проектов на территории данных моногородов предусматривал строительство и реконструкцию объектов городской коммунальной инфраструктуры. Именно в этой части предусматривалось выделение средств федерального софинансирования инвестиций.

В настоящее время осуществляется реализация данных целевых программ и КИПов в моногородах Ревда и Ковдор. Более успешно выполняются мероприятия ДЦП в Ковдоре. Здесь, например, в рамках программы проложен участок магистрального водовода протяженностью 3 950 м, произведена замена и реконструкция канализационных очистных сооружений (Отчет главы муниципального образования...). В Ревде в 2012 г. в рамках реализации комплексного инвестиционного плана была разработана проектно-сметная документация по объектам городской инфраструктуры, а также подготовлена конкурсная документация на реализацию проектов туристического комплекса «Русская Лапландия», предусматривавшего строительство 7-ми объектов («Музей под открытым небом» на озере Кривое, «Саамская деревня», горнолыжный комплекс «Аллуайв» и др.) и создание 362 новых рабочих мест. Однако, несмотря на сильную информационную поддержку данного конкурса в местных и региональных СМИ, а также разосланные письма руководителям крупнейших компаний Мурманской области с предложением принять участие в конкурсе, он не состоялся ввиду отсутствия заявок инвесторов (Отчет главы администрации...).

Помимо объективных трудностей, обусловивших срыв ряда

намеченных программных мероприятий и проектов КИПа моногорода Ревда, имели место и недостатки в организации выполнения комплексного инвестиционного плана на уровне города. В результате Министерство экономического развития Мурманской области ходатайствовало о перенаправлении части федеральных средств, предусмотренных для моногорода Ревда (118,1 млн руб.), на создание индустриального парка в г. Мончегорск (Отчет главы администрации...), однако к настоящему времени решение по этому поводу не принято.

*Кейс 2. Мончегорск: федеральной поддержки нет, для реализации планов нужны инвестиции*

Город Мончегорск является самым крупным по численности населения моногородом Мурманской области (47,4 тыс. чел. в 2013 г.). Роль градообразующего предприятия здесь выполняет ОАО «Кольская горно-металлургическая компания», входящая в холдинговую группу компаний «Норильский Никель». Это предприятие также является градообразующим в г.п. Заполярный и Никель Печенгского района Мурманской области.

Основным документом, определяющим долгосрочную стратегию развития Мончегорска, является «Комплексный инвестиционный план модернизации моногорода Мончегорск Мурманской области» (Комплексный инвестиционный план модернизации моногорода Мончегорск...). Его первоначальный вариант был разработан и утвержден в 2010 г. Помимо Администрации города в разработке КИПа, участвовала Автономная некоммерческая организация «Кольский академический университет» (г. Апатиты). Впоследствии документ два раза актуализировался, а его новые редакции были утверждены в 2011 г. и в 2013 г., что говорит о заинтересованности городской администрации в реализации намеченной стратегии развития.

В КИПе моногорода Мончегорск система целей включает главную цель и три подцели. В качестве главной цели установлено «стабильное социально-экономическое развитие территории, обеспечение занятости и повышение уровня жизни населения» (Комплексный инвестиционный план модернизации моногорода Мончегорск...). Подцели предусматривают: (1) снижение монозависимости города; (2) повышение качества жизни населения и комфортности городской среды; (3) модернизация деятельности градообразующего предприятия. Основные целевые показатели, предусмотренные КИПом, а также ход их выполнения по данным администрации города представлены в табл. 3.

**Таблица 4. Целевые показатели Комплексного инвестиционного плана модернизации моногорода Мончегорск**

Наименование показателей	Отчет					Прогноз	
	2009	2011		2012		2015	2020
		план	факт	план	факт		
Доля работающих на градообразующем предприятии от трудоспособного населения, %	25,4	25,2	н/д	24,8	н/д	19,5	17,5
Доля работающих на малых и средних предприятиях от трудоспособного населения, %	4,2*	17,1	9,9	18,8	8,5	19,4	20,2
Уровень зарегистрированной безработицы, %	4,8	2,4	2,6	2,3	2,3	1,3	1,1
Среднемесячная зарплата работников	26 133	31 607	32 623	36 212	36 664	46 018	66 140
Количество малых и средних предприятий, ед.	368	405	406	418	414	420	450

\*Доля работающих на малых предприятиях (без средних предприятий)

Как видно из данных таблицы 3, целевые показатели КИПа г. Мончегорск предусматривают уменьшение монопрофильности за счет развития малого и среднего предпринимательства. К 2012 г. планировалось достигнуть значения показателя доли занятых на градообразующем предприятии ниже уровня, являющегося одним из критериев отнесения поселения к категории моногорода (25%). Однако сведений о фактическом выполнении этого плана пока нет. В то же время, по критерию «отгрузки продукции» предполагается, что роль «Кольской ГМК» как градообразующего предприятия

сохранится практически неизменной: в 2010 г. соответствующая доля составляла 96,7%, а по прогнозу в КИП к 2020 г. снизится всего на 1,6 процентных пункта (до 95,1%)<sup>5</sup>. Показатель «доля работающих на малых и средних предприятиях» не только сильно отстает от плановых значений, но в 2012 г. даже снизился по сравнению с 2011 г., что говорит о том, что стратегическая задача по снижению монопрофильности города за счет развития малого и среднего предпринимательства не выполняется.

В КИПе модернизации моногорода Мончегорск в качестве «якорных» проектов выступают: создание индустриального парка, строительство завода по производству мелющих шаров, а также создание комплекса объектов туристской индустрии.

Инициаторами проекта создания индустриального парка в г. Мончегорске были ОАО «Кольская ГМК» и Администрация города. Планируется, что реализация данного проекта принесет наибольший положительный мультипликативный эффект, по сравнению с другими проектами КИП. Проект индустриального парка предусматривает создание на базе не используемых градообразующим предприятием инженерно-технологических объектов многофункциональной промышленной площадки для размещения 20-30 малых и средних предприятий. Необходимая потребность в инвестициях для реализации проекта была определена в 1,8 млрд руб., из которых около 0,5 млрд руб. были заложены на объекты инженерной инфраструктуры.

Однако, несмотря на содействие по продвижению данного проекта со стороны Правительства Мурманской области, к настоящему времени его реализация находится на стадии проектирования, а заявки на получение поддержки из Федерального бюджета не были поддержаны. Недостаточную помощь в реализации проекта оказывает и один из его инициаторов – «Кольская ГМК».

В целом, при довольно высоком качестве разработки КИПа как документа стратегического планирования (что было отмечено при его представлении в Минрегион России), организация его реализации пока «пробуксовывает». Главной причиной этого является отсутствие адекватной финансовой поддержки намеченных проектов со стороны как государственных (федеральных и областных), так и частных участников (прежде всего со стороны ОАО «Кольская ГМК»). Такая ситуация обусловила «прохладное» отношение руководства города к формированию первоначально намеченного организационного механизма реализации КИПа. Как следствие, не был образован Совет по реализации КИПа и другие органы организационной структуры управления и мониторинга выполнения планов.



*Кейс 3: Кировск: инвестиционную поддержку оказывают региональное правительство и градообразующее предприятие*

Город Кировск является вторым по численности населения моногородом в Мурманской области (30,5 тыс. чел. в 2013 г.). Он был основан в начале 1930-х годов в период советской индустриализации в связи с освоением месторождений апатит-нефелиновых руд Хибинского горного массива. Добычу и первичную переработку руды осуществляло государственное предприятие «Апатит» (в настоящее время ОАО «Апатит», входящее в группу компаний «ФосАгро»), которое стало градообразующим для быстрорастущего в то время города и прилегающих поселений.

КИП модернизации моногорода Кировск был разработан в 2010 г. (в числе первых в Мурманской области) и представлен в Минрегион России. Федеральная поддержка для его реализации получена не была. Главным стратегическим направлением диверсификации экономики Кировска было определено развитие туристической индустрии. Это обусловлено наличием хороших предпосылок для развития туризма, связанного, прежде всего, с зимними видами спорта. Горнолыжные комплексы Кировска известны в стране еще с советских времен. При условии их модернизации, расширения мощностей и обустройства современной инфраструктурой, а также развития новых видов туризма, в том числе всесезонного, может быть обеспечен серьезный импульс для устойчивого социально-экономического развития города. Именно эти направления диверсификации Кировска составляют основу стратегии его развития; на них же базируется и КИП модернизации этого моногорода.

К настоящему времени, несмотря на отсутствие федеральной поддержки, достигнут определенный прогресс в реализации ряда намеченных проектов КИПа г. Кировск. Например, с участием в качестве учредителей Правительства Мурманской области и градообразующего предприятия ОАО «Апатит» было создано ОАО «Канатная дорога», которое реализует проект строительства современного горнолыжного подъемника в окрестностях Кировска с объемом инвестиций в 406 млн руб. и сроком завершения в 2015 г. Таким образом, градообразующее промышленное предприятие становится одним из локомотивов диверсификации города (Рябова 2011, 104).

Однако наряду с успехами в Кировске появились новые проблемы, связанные с началом осуществления в апреле 2013 г. программы крупных изменений внутренней организационной структуры на градообразующем предприятии ОАО «Апатит». Реорганизация предусматривает высвобождение 2 420 чел., работавших на

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предприятия . С учетом этого решением Рабочей группы по модернизации моногородов при федеральной Правительственной комиссии по экономическому развитию и интеграции г. Кировск в 2013 г. был включен в новый перечень моногородов РФ с наиболее сложной социально-экономической ситуацией .

Данные примеры показывают, что проблемы существуют и могут возникнуть в каждом монопрофильном поселении Мурманской области, включая те, где градообразующими являются вполне благополучные на сегодняшний день предприятия. Это подтверждает актуальность применения стратегического подхода к управлению развитием таких городов. Стратегическое управление предусматривает гибкое реагирование на изменения факторов внешней среды, способствует нахождению ответов на новые вызовы и угрозы их развитию.

Вместе с тем, для практической реализации стратегического управления в моногородах российской Арктики необходимы определенные экономические и институциональные условия, которые сегодня в большинстве случаев слабо развиты как в целом в России, так и в регионах/городах ее Арктической зоны. Институциональные проблемы реализации стратегий связаны с неразвитостью как формальных, так и неформальных институтов, необходимых для успешной практики стратегического управления. Неразвитость формальных институтов проявляется в слабом нормативно- правовом и методическом обеспечении этого процесса. Например, проект Федерального закона «О государственном стратегическом планировании», обсуждение которого длится уже несколько лет, до настоящего времени не принят (в ноябре 2012 г. он был рассмотрен Государственной Думой только в первом чтении). Неформальные институты, особенно в части наличия необходимых сетей сотрудничества муниципальных, государственных и предпринимательских структур, развиты недостаточно. Помимо институциональных факторов, важнейшую роль играет уровень развития человеческого потенциала (знания и опыт заинтересованных сторон, участвующих в формировании и реализации стратегий), который, как правило, недостаточно высок (см., напр. (Дидык 2012; Дидык и Емельянова 2013)).

## **Выводы**

Анализ практик стратегического планирования в моногородах российской Арктики на примере Мурманской области позволяет сформулировать следующие основные выводы.

1. Начало процесса разработки стратегий развития моногородов было инициировано в 2009 г. федеральными

органами власти, т.е. применен подход «сверху-вниз». Факт обращения внимания федерального правительства к проблемам моногородов является весьма позитивным. Однако спешный характер кампании по организации разработки документов стратегического планирования моногородов (КИПов) и несовершенство методических рекомендаций Минрегиона России по их разработке, во многих случаях не способствовали подготовке стратегий высокого качества.

2. Наряду с несомненной пользой, полученной в процессе разработки стратегических документов моногородов (проведение анализа потенциала их развития, определение приоритетов дальнейшего развития, оценка потребности в ресурсах для осуществления намечаемых планов), их практическая реализация сдерживается рядом проблем экономического и институционального характера.

3. Экономические проблемы реализации стратегий моногородов российской Арктики связаны, во-первых, с низкой обеспеченностью муниципалитетов собственными (прежде всего, финансовыми) ресурсами, которая не позволяет оказывать значимое влияние на перспективы их развития; во-вторых, с недостаточным участием в реализации стратегических планов моногородов как государства (даже в тех случаях, когда помощь оказывается), так и градообразующих предприятий.

4. Институциональные проблемы реализации стратегий связаны с неразвитостью как формальных, так и неформальных институтов, необходимых для успешной практики стратегического управления. Неразвитость формальных институтов проявляется в слабом законодательном и методическом обеспечении этого процесса. Неформальные институты (наличие сетей сотрудничества муниципальных, государственных и предпринимательских структур) также недостаточно развиты. Кроме того, важнейшую роль играет уровень развития человеческого потенциала, который, как правило, недостаточно высок.

5. Анализ стратегий развития моногородов Мурманской области, изложенных в их КИПах, показал, что типичными для них являются следующие цели. (1) Снижение рисков зависимости города от экономической деятельности градообразующего предприятия за счет диверсификации городской экономики. Самым распространенным направлением диверсификации моногородов области является

развитие малого и среднего бизнеса, особенно в сфере туристской индустрии. (2) Модернизация и диверсификация деятельности самого градообразующего предприятия. В большинстве случаев КИПы включают проекты реконструкции и модернизации производственных мощностей градообразующих предприятий, направленные на повышение их производительности, снижение издержек, освоение новых технологий и выпуск новой продукции. В некоторых случаях градообразующие предприятия выступают также инициаторами проектов, направленных на развитие новых для них видов деятельности, таким образом способствуя диверсификации экономик городов (как в случае ОАО «Апатит», развивающего горнолыжный комплекс в г. Кировск). (3) Во всех планах заложено повышение комфортности городской среды, развитие социальной, инженерной и транспортной инфраструктуры города, повышение уровня и качества жизни местного населения.

6. Несмотря на стратегическую нацеленность моногородов Мурманской области на диверсификацию, во всех них, за исключением г.п. Ревда, в КИПах на период до 2020 г. прогнозируется сохранение монопрофильного характера экономик городов. Хорошая ресурсная база, достаточно стабильное экономическое положение большинства градообразующих предприятий и медленно идущие процессы диверсификации позволяют считать, что такие прогнозы во многом оправданы. В то же время, при условии последовательной реализации поставленных целей, степень монопрофильности городов в перспективе может быть заметно снижена, уменьшены риски развития этих городов, связанные с монопрофильным характером их экономик.

В заключение следует отметить, что для успешной реализации стратегий развития моногородов российской Арктики, их устойчивого социально-экономического развития ключевое значение имеет, наряду с необходимостью преодоления отмеченных выше проблем, умение органов местного самоуправления сплотить городское сообщество, скоординировать и мобилизовать усилия представителей основных социальных групп города для достижения совместно выработанных целей.

<sup>1</sup> Указ Президента РФ от 02 мая 2014 г. № 296 «О сухопутных территориях Арктической зоны Российской Федерации». <http://www.kremlin.ru/acts/20895>.

- <sup>2</sup> Число городских поселений в РФ в 2009 г. – 2417 ед. (Население и общество 2010).
- <sup>3</sup> Средства федерального бюджета выделялись, как правило, на объекты инженерной инфраструктуры, предусмотренные в КИПах. <http://asninfo.ru/se/article/37759>
- <sup>4</sup> При разработке ДЦП региональное правительство вносило корректировки в КИП в части состава реализуемых проектов и их финансирования.
- <sup>5</sup> Указанные показатели приведены из последней редакции КИП, принятой в 2013 г. (Комплексный инвестиционный план...). В предыдущих вариантах, в т.ч. опубликованных на сайте Минэкономразвития Мурманской области, доли по отгрузке градообразующего предприятия, очевидно, были рассчитаны ошибочно (на уровне около 50%).
- <sup>6</sup> Перечень инвестиционных проектов, планируемых к реализации в монопрофильных муниципальных образованиях Мурманской области. [http://minec.gov-murman.ru/opencms/export/sites/mineconomy/content/devel\\_city/sub06/6/1.pdf](http://minec.gov-murman.ru/opencms/export/sites/mineconomy/content/devel_city/sub06/6/1.pdf)
- <sup>7</sup> Сведения о социально-экономическом состоянии монопрофильных территориальных образованиях Мурманской области (г. Кировск). [http://minec.gov-murman.ru/content/devel\\_city/sub06/sub03/](http://minec.gov-murman.ru/content/devel_city/sub06/sub03/).
- <sup>8</sup> Официальный сайт Минрегиона России. [http://www.minregion.ru/uploads/attachment/documents/100913/100913\\_p\\_1.pdf](http://www.minregion.ru/uploads/attachment/documents/100913/100913_p_1.pdf).

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# DEVELOPMENT CHALLENGES OF A MINING SINGLE- INDUSTRY TOWN IN THE RUSSIAN ARCTIC: THE CASE OF KIROVSK, MURMANSK REGION

VLADIMIR DIDYK

RUSSIAN ACADEMY OF SCIENCES

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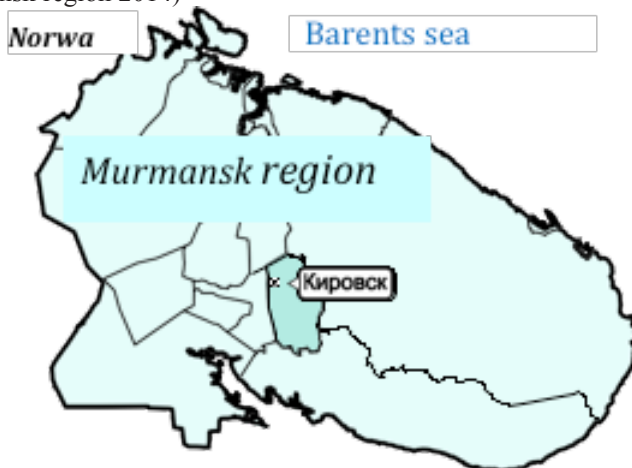
**D**ue to the influence of specific economic, geographic, natural, and climatic factors, Arctic single-industry towns are settlements of a special type. From the socio-economic development perspective, a specific characteristic of single-industry towns is that, due to the mono-profile character of their economies, they have higher development risks of the “boom-bust” type and corresponding social problems. Thus, such towns face huge challenges in terms of their development prospects. How is the situation developing here now? What measures are being taken by the federal and regional governments, and what are local governments themselves doing? How are local communities in single industry towns reacting to the measures and how are they working to cope with development challenges? This paper intends to briefly discuss these questions, taking the town of Kirovsk in Murmansk region as an example.

Single-industry towns in the Russian Arctic are a fairly typical phenomenon thanks to the legacy of large-scale exploitation of the natural resources of the North during the Soviet period (1930s – 1980s). One such town is Kirovsk, which was founded at the beginning of the 1930s, upon the decision of the Soviet government to develop rich deposits of apatite-nepheline ores discovered there in the 1920s. “Apatit” became the town-forming enterprise, which in 1929 started extracting apatite-nepheline ores and has been processing it at the enrichment plant for production of apatite and nepheline concentrates since 1931. The concentrates were then delivered to central Russia for use in mineral fertilizers and other products.



Throughout the Soviet period (up to 1992), the state enterprise “Apatit” controlled not only the town’s industrial production, but almost its entire social sphere. Most social infrastructure (housing and communal services; retail trade and catering; healthcare; sport; and culture) functioned as subdivisions of the enterprise. In 1993, the enterprise was transformed into the Joint Stock Company “Apatit”. The 1990s was a time of deep crisis for the company: production fell almost four-fold. In 2002, the company was included in the PhosAgro group of companies. (PhosAgro is a Russian vertically integrated company and one of the world’s leading producers of phosphate-based fertilizers.)<sup>1</sup> Today, 100% of “Apatit” is owned by the “PhosAgro” holding. By 2012, “Apatit” company, which has four open and underground mines and two processing plants, produced more than 90% of the town’s industrial production and employed 32% of the town’s workforce (6,400 of the 20,000 working-age population). At that time, the company employed a total of 11,600 people (Riabova and Didyk 2014), but recently the situation has changed considerably.

The town of Kirovsk is the administrative centre of the municipality with the same name, and has the legal status of an “urban district”. The territory of the urban district is 3,600km<sup>2</sup> (2.5% of the territory of the Murmansk region); on that territory is not only the town but also two rural settlements – Titan and Koashva.<sup>2</sup> By the beginning of 2014, the population of the municipality was 29,900 people:<sup>3</sup> 27,700 in the town of Kirovsk and 2,200 across the aforementioned settlements (Municipalities of the Murmansk region 2014)



“Apatit”, besides its crucial role in the Kirovsk municipality, was

also responsible for forming the neighboring city of Apatity. The latter was granted the status of a city in 1968, mainly in connection with rapid population growth due to the construction of a second apatite-nepheline beneficiation plant (*ANOF-2*) and development of the construction base for further expansion of “Apatit”’s production facilities. Today, the population of the city of Apatity is 57,800 people. Though it is not recognized as a single-industry town, a significant part of its workforce (5,600 people, or about 24% of those employed) work in Kirovsk, mainly at the mining enterprises – “Apatit” and “North-Western Phosphorous Company, Ltd.” (NWPC).

The NWPC is a comparatively new mining company that operates on the territory of Kirovsk municipality. It has recently weakened the almost monopolistic position of “Apatit” in the local labor market. NWPC 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 in the Russian market, came into conflict with “Apatit” over the price of the concentrate. “Acron” created NWPC to ensure its own source of the raw material. In October 2006, NWPC won a contest to acquire a state mining license that allowed it to develop two new deposits of apatite-nepheline ore, “Olenyi ruchi” and “Partamchorr.” In 2007, construction of the mine and the processing plant at the “Olenyi ruchi” deposit began. The deposits were first exploited in 2012. Today, NWPC employs about 2,000 people, more than half of whom live in the city of Apatity.

NWPC’s implementation of the new mining project caused serious conflicts between several interest groups. Firstly, “Apatit” and the newly appeared NWPC became direct competitors in the production and supply of apatite concentrate in Russia. Moreover, the new competitor began using ore deposits that “Apatit” considered its own proprietary reserves. Secondly, construction of the mine and the new ore processing factory caused conflict with environmental NGOs, since the deposits and processing plant were located in close proximity to the planned “Khibiny” National Park, which was slated to be established in 2015 on the territory of Kirovsk municipality. In spite of the conflicts, the government of Murmansk region actively supported the new mining project. This support was mainly due to large investments (around \$1 billion) on the territory of the region and expectations of additional tax revenues for the regional budget. It was also supposed that implementation of the project would provide benefits to the Kirovsk municipality: additional workplaces for locals and good prospects for the revival of the (formerly depressed) rural settlement of Koashva, situated in the vicinity of the newly developed deposits (Riabova and Didyk 2014).

Despite the appearance of the new large mining enterprise (NWPC) on the territory of the municipality, the dominant role of “Apatit” company as the town-forming one for Kirovsk remained. As the owner of a significant share of social infrastructure in the Soviet period and with an essential role in social policy at the local level, “Apatit” used to be the socially responsible company, not only toward its employees, but for several local communities mentioned above.<sup>4</sup> Even though strategic decisions were taken in the holding’s headquarters, outside the region, the company’s operational decision making, including social policy, was heavily locally based, and the top managerial staff used to have a strong personal attachment to the local community (Riabova and Didyk 2014).

In general, up to April 2013, the situation in the Kirovsk municipality remained quite stable, with promising prospects for future development. The latter was clearly reflected in both interrelated documents of strategic planning – “Comprehensive investment plan of modernization of the monotown of Kirovsk” (CIP 2010) and “Strategy of socio-economic development of the Kirovsk municipality up to the year 2020” (Strategy 2011). The preparation of strategic documents was mainly conditioned by policy measures and requirements taken by the government of the Russian Federation in response to the global financial and economic crisis of 2008-2009. They included measures to stabilize the situation in mono-profile settlements, which involved financial support for investment projects in single-industry towns. One of the requirements for obtaining such federal support was the existence of Comprehensive Investment Plans (CIP) for the settlements’ development in the long term (10 years), prepared according to methodological recommendations suggested by the Ministry of Regional Development of the Russian Federation (*Minregion* of Russia). In Murmansk region, due to the active role of the regional government, all 8 mono-profile municipalities included in the official list of such municipalities<sup>5</sup> prepared the aforementioned strategic documents. Kirovsk municipality’s CIP was presented in Moscow, but did not receive any financial support,<sup>6</sup> probably because of the quite stable position of the town-forming “Apatit” company at that time. The main target indicators laid out in the strategic plans and the degree to which they had been achieved by 2015 are presented in the table below.

**Table 1.** Indicators of socio-economic development of the Kirovsk municipality

	Units	2010	2015	
		Reported data	Planned*	Actual (estimated)**
Population	Thousand people	30.9	33.0	29.5
Coefficient of natural increase	Per mille	-2.65	-	-3.60
Coefficient of migration increase	Per mille	-5.7	-	-5.0
Number of people, employed in the economy	Thousand people	16.4	17.3	14.8
Share of people employed in the mining sector	%	31.8	25.7	n/a
Share of people working at small enterprises	%	8.2	10.1	23.1
Level of registered unemployment	%	3.1	2.9	3.4

\* From CIP (2010) and Strategy (2011) \*\* From Forecast (2014)

The data demonstrate that in 2010-2011, the segment of local government concerned with the municipality's development planned to overcome the previous trend of population reduction and achieve notable growth (10%) by 2015.

Moreover, in both strategic planning documents, the municipality's population was anticipated to reach 35,400 people by 2020. The main factor driving such growth was planned to be diversification of the economy, primarily the development of the tourism industry. Indeed, Kirovsk has good preconditions and high potential for tourist industry development, especially related to winter sports and mountain hiking. Thanks to the Khibiny mountain range, Kirovsk is a well-known alpine skiing resort in Russia and abroad. It has to be noted that, although most

of the investment projects laid out in the CIP (2010) have not yet come to fruition, one key project was recently completed successfully: namely, the construction of new modern multi-place gondola- and chair-type lifts, as well as the related ski service infrastructure. The investment project was realized through a public-private partnership; the regional government, “Apatit” company and Kirovsk municipality all participated. Nevertheless, the positive example set by the realization of this project was not enough to ensure that all the planned development objectives were met. The main reason for this was dramatic change within the town-forming company “Apatit”.

In April 2013, on the decision of its main owner (holding PhosAgro and its managing company “Phosagro AG”), “Apatit” commenced a new deep-restructuring program that aimed to reduce operational costs and increase labor productivity.<sup>7</sup> The restructuring entailed the dismissal of more than 2,000 employees in 2013 and 3,000 in 2014. The majority of the employees who lost their jobs retired or moved into outsourced companies. As a result, the total number of the company’s employees dropped from 11,600 people in 2012 to 7,100<sup>8</sup> by the beginning of 2015.

This led the special governmental commission of the Russian Federation to decide in 2013 to include Kirovsk on the list of single-industry towns with the most difficult socio-economic situations. This decision was confirmed in 2014, when Kirovsk appeared in the first category of the new official list of mono-profile municipalities of the Russian Federation, i.e. the municipalities with the most difficult socio-economic situations (Decree 2014). In addition, during the last decade, the company has gradually transferred all its social objects (the sport complex, the palace of culture etc.) to the Kirovsk municipality. As a result, the burden placed on the municipal budget has notably increased. It is worth mentioning that over the last decade, decisions about the company’s activities, including its social policies, were largely made outside the Kirovsk municipality. At the same time, the company’s top managerial staff were gradually replaced by newcomers from outside the community. These changes naturally led to the weakening of the company’s social responsibility (Koivurova 2015). Such a behavior change by the company in turn seriously undermines opportunities and prospects for local sustainable development.

The latest unexpected event, which also would have very negative consequences for the Kirovsk municipality development should it come to pass, is the decision to close Khibiny Technical College. Leaders of the National Mineral Resources University (“Gorny” St. Petersburg) made this decision in early 2015. (The college has functioned as a branch of that university for the past few years.) The rector has already ordered that no more students be admitted for the 2015-2016 academic year.

The college, founded in 1931 as the mining-chemical college, is the

oldest professional education institution in Murmansk region. More than 700 students, with 8 specialties, are currently studying there. The loss of such an important educational institution, on top of the recent closure of the Kirovsk branch of Kostroma University (a higher education institution), will unavoidably hamper the municipality's development prospects.

The abovementioned circumstances, concerning both the recent "Apatit" company's policy and different unfavorable changes in the town's social sphere,<sup>9</sup> obviously generate anxiety among local people. In a display of both anxiety and action, a local group collected signatures on a letter to President Putin to prevent Khibiny Technical College from being shut down. However, this kind of action is the exception rather than the rule. Typically, due to weak civil society organizations, public participation in the urban development process – both in planning and execution – is very low.

Thus, in assessing the current situation and development prospects of the single-industry town of Kirovsk, the following sustainability challenges which the local community faces and which demand responses could be pointed out:

1. *The demographic challenge.* The demographic situation could be regarded as the main integrated indicator of the viability of any community. Despite the fact that population growth was among the main targets in the Kirovsk municipality's strategic development plans, the negative trend of population reduction due to both natural and migration changes has continued. Taking into account that both major factors of such reduction – emigrational flow and high mortality rate – are now out of the control of the local authorities (in particular, healthcare services), the trend is likely to continue.

2. *The challenge of economic development prospects.* The crucial role of the mining industry in the municipality's economy will likely be preserved for the foreseeable future. This is admitted in all long-term municipal development plans, despite their emphasis on the need for diversification of the local economy. The effort toward economic diversification, with tourism as its major focus, has to be promoted even more actively under the current conditions of rationalization and personnel layoffs at the town-forming mining company. The growing problems of unemployment could be softened only by means of economic diversification.

3. *The local social sphere development challenge.* The social sphere – including education, housing and communal services, healthcare, sports, and culture – is a key determinant of the local people's quality of life. Most services of the sphere are under the direct control of the local government. This means that, despite the chronic shortage of available resources (first of all financial), development of the sphere has to be the local government's highest

policy priority.

4. *The environmental challenge.* Its unique natural landscape and other environmental values are an essential resource for the Kirovsk municipality, taking into account its ambitions in the tourism sector. The progress of the “Khibiny” National Park project, which is expected to be completed in 2015 after a lengthy period of preparation, is an important step toward environmental protection and the creation of tourist destinations. Large-scale mining activities on the territory of the municipality inevitably have a harmful environmental impact. A long-term search for a compromise that would balance the competing interests of economic/mining development and environmental protection needs to be undertaken with the participation of the local government/community.

Obviously the challenges listed above are just a few of those facing the community. Some of these challenges are defined by external factors, meaning that the local community cannot achieve stability if it acts alone. The most important of the challenges is the economic policy of the town-forming mining company. The company’s interest in enhancing its own economic efficiency leads to negative social consequences for the single-industry town. In the case of the Kirovsk municipality, the local government/community is not capable of withstanding the worsening socio-economic situation. At the same time, the local government can more actively use the internal development resources and success factors it has at its disposal, strengthening the solidarity of local community; increasing public involvement and participation in local governance decision making; and creating efficient partnerships between the public and private sectors. Under Russian institutional conditions with a high level of power centralization, state support from both federal and regional governments is critical to the achievement of sustainability goals at the local level, especially for single-industry towns. However, taking into account the current economic crisis conditions, the chances of significant state support for single-industry towns are very low. Therefore, perhaps the only realistic way for Kirovsk municipality to develop is by mobilizing all internal resources and capacities to soften, at least, the negative impact of unfavorable socio-economic trends on the local community.

<sup>1</sup> For more information, see <https://www.phosagro.com/about/>

<sup>2</sup> Both settlements were founded due to “Apatit” operations: Titan in the 1930s as agricultural settlement to supply food to the Kirovsk business and local people, Koashva at the end of the 1970s as a mining settlement connected to the construction and operation of one of the “Apatit” enterprise’s open pit mines.

<sup>3</sup> By the beginning of the 1990s, the population of Kirovsk exceeded 40,000 people; since then, the population has trended downward.

<sup>4</sup> There are a lot of examples of “Apatit”’s socially responsible behavior toward local communities, including improvement of urban infrastructure and realization of socially significant projects in the spheres of health care, education, and culture.

<sup>5</sup> The official list of mono-profile municipalities of the Russian Federation has been annually approved by Minregion of Russia since 2009. The latest version of it – as of July 26, 2013 – contained 342 localities. In 2014, the function of policy formation toward single-industry municipalities was moved to the Russian Federation Ministry of Economic Development. The latter suggested new criteria for official recognition of single-industry status to be eligible for federal support measures (Decree of the RF Government of 29.06.2014 No. 709) and the corresponding new list of mono-profile municipalities, with 3 categories of such municipalities depending on the socio-economic development risks.

<sup>6</sup> In 2010, financial support from the federal budget was provided to two single-industry towns from Murmansk region – Kovdor and Revda. In total, in 2010 and 2011 federal financial support was provided to 50 single-industry municipalities, of which 3 are located in the Russian Arctic.

<sup>7</sup> The company actually started reorganization measures in 2007 and 2011, separating out internal service subdivisions into separate companies.

<sup>8</sup> The data are from the annotated part of the Forecast (2014).

<sup>9</sup> Besides the aforementioned events in the educational sphere, there have been a lot of complaints about the poor organization of medical services since the reform of the municipal healthcare system in 2012 (when it was placed under the jurisdiction of the regional government, which merged Kirovsk and Apatity hospitals), as well as housing and communal services.

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# SHRINKING CITIES IN THE POST-SOVIET SPHERE: PERSPECTIVES ON THE MONOFUNCTIONAL CITY OF KHERSON, UKRAINE

BRENT D. RYAN

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

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*Data in this briefing paper is drawn from a forthcoming World Bank publication (Ukraine Urbanization Review) and from background research carried out as part of the author's work on that publication.*

Ukraine is a paradigmatic post-Soviet country. Independent since 1991, Ukraine was an integral part of the Soviet Union following the 1922 end of Russia's post-revolutionary civil war. Like Russia itself, Ukraine is a highly centralized country with one very large city (Kiev) and only a few medium-sized cities (such as Kharkiv and Odessa). The size of Ukraine's tenth-largest city is only 16% that of Kiev. Given its long membership of the Soviet sphere, Ukraine was subject to the entirety of the economic programs instituted by the Soviet government, including industrialization and resource extraction. Ukraine thus has a variety of cities whose economic function, up to 1991, was heavily industrial in nature (e.g. Zaporizhia and Kryvyi Rih), and whose economic function was centralized around only one or two industries, such as coal mining or steel production.

Ukraine is also paradigmatically post-Soviet in the political, economic, ecological, and urban challenges it has faced since the Soviet breakup. Subject to corrupt and often authoritarian leadership, and radically fluctuating economic conditions, the country has also struggled with the legacy of environmental waste and urban planning decisions made during Soviet times. Much like Russia, Ukraine's birth rate has plummeted, and the country as a whole is losing population. With a population of over 52 million in 1993, Ukraine's population was, in 2014, only 43 million. It will not come as a surprise, therefore, that ten of the eleven largest cities in Ukraine lost population between 1990 and 2011, with Kiev the only

exception.

Kherson (Херсон), the sixteenth-largest city in Ukraine as of 2011, has a rich history. The city was founded in the 18<sup>th</sup> century; its name was inspired by the ancient Greek settlement of Chersonesus (Χερσόνησος). Kherson's name was clearly intended to connect Russian colonization of a formerly Muslim Turkish region to the "civilization-building" activities of the Greeks. The city was designed on a grid system similar to those of many other Russian cities of the same era (Samara, Irkutsk, etc.) Today, the city is once again located at a frontier, this time of Russian-annexed Crimea.

Kherson is typical of Ukrainian cities in many respects. It is moderate in size (2011 population 302,528), declining in population (16.2% loss since 1990), was formerly heavily economically centralized (textile production and shipbuilding), and has suffered attendant and tremendous economic decline since the breakup of the Soviet Union. The city also wrestles with attendant problems in its social makeup (high unemployment) as well as presumably in environmental conditions (no data available). Formerly a proud (if small) member of the Soviet industrial and agricultural economy, Kherson today struggles to find a place for itself in a post-Soviet economic picture within a nation that is itself struggling with adjustment to post-Soviet political and economic conditions.

In addition to its negative economic and demographic trends, Kherson also faces the challenging policy and planning conditions that have characterized Ukraine and most of its cities since independence. Chief among these are rampant corruption, which causes distortions in land use and planning decisions; top-down-planning, which causes delays and disconnects between the city's general plans and actual conditions; abandonment of industry, which has led to substantial brownfields with low or no levels of activity; and poor maintenance of housing, which has led to depressed living conditions and accelerated the obsolescence of housing stock. Together, these challenges confront Kherson with difficult, seemingly insuperable planning and redevelopment problems at the local level.

Corruption is a principal problem in Ukraine. Endemic at the national level, corruption in urban development processes was codified in 2012 by passage of "centralization laws" that provided Ukraine's central government with decision-making power over local land use and planning decisions. This centralization, now in the process of revocation under Ukraine's post-Maidan revolution (late 2014) government, was merely a ratification of prior large-scale corruption. In Kherson, corruption in development and permits led to the construction of an out-of-character center-city mall in the city's principal historic square, and to a large peripheral shopping mall being permitted on part of a former textile plant; this both destroyed the former industrial buildings and drained much of

the center-city of retail activity. Corruption in Kherson, in other words, directly contravened the wellbeing of the downtown and the integrity of the urban fabric.

Like all of Ukraine, Kherson's planning is subject to top-down regulations that are more or less directly inherited from Soviet times. Urban development is governed by a general plan, which in turn is produced by a central planning institute (Dipromisto) based in Kiev. Kherson's general plan, in effect since 2002, was generated by outside planning experts who spent little time in the city and little time gathering local input on planning decisions. Since 2002, the updating of this general plan has been inhibited by political and legal problems, as well as a lack of funding. In a situation where the need for economic development and new ideas about the physical form of abandoned sites is badly needed, Kherson planners are structurally and functionally inhibited from generating new solutions with legal power. Despite these constraints, planners continue to be entrepreneurial in attracting new residential development to the city.

A visitor to Kherson would be surprised at the large number of extensive, and seemingly empty, industrial sites in the city. Much of the city center is comprised of large-lot industrial facilities, closed and seemingly mothballed since the early 1990s. Those sites near the railroad were textile plants which processed cotton grown in Central Asia, now Uzbekistan; sites near the Dnieper river were – and in some cases still are – shipbuilding facilities, generating ships both for domestic use and for export. While shipbuilding is an industry with some potential for economic growth, the textile industry is highly unlikely to recover, and these industrial parcels will need repurposing. However, such repurposing is inhibited both by the negative economy (little demand for space) and by the top-down planning noted above, which prevents the redesignation of these areas for other activities. In addition, preservation or rehabilitation of the many notable industrial structures on these sites is likely to be difficult.

Many, if not most, Kherson workers were employed in the city's numerous industries, and housed in post- WWII housing developments near these industries. Today, this housing, in common with Soviet-era housing across the former Soviet Union, is aging and poorly maintained. At the same time, Kherson's Soviet housing is fully owner-occupied (housing was "crash privatized" in 1992 in an early reform). Ukraine is an "immobile ownership society" due to low housing values, low incomes, and low rental housing stocks (Komarov 2011); thus, Kherson's residents, most of whom are poor, have little opportunity to move to more expensive and more successful cities (i.e. Kiev), and therefore stay in their units. This condition is bizarre to Western urbanists, but it is typical of Ukraine and many post-Soviet states. Ironically, maintenance of this homeownership housing is still the responsibility of the city's housing authority, which is

poorly- funded and unable to maintain housing at the standard at which it was constructed. The poor construction quality of much of the housing (prefabricated concrete panels) is leading to obsolescence and also to very high energy costs, which are unsustainable in Ukraine's current geopolitical situation.

How to resolve Kherson's current problems? Efforts underway in Ukraine at the national, regional, and city level may in time provide some remedy. At the national level, laws that institutionalized corruption are in the process of revocation, and corruption will presumably be reduced in future. Planning laws that require centralization may also be reformed to permit more locally-driven efforts, but this reform is not yet underway. However, many other decentralization efforts to permit local administration of taxing, licensing, etc. are underway. Regionally, economic development incentives might be further retooled to encourage investment in "lagging regions" such as Kherson. At the city level, democratization has brought a new government that is presumably more transparent and accountable.

Yet the structural problems that caused the abandonment and dilapidation of Kherson's built environment continue, as does the slow deterioration of this built environment. With a rich architectural and urban heritage (again, like most Ukrainian cities), the risks of further demolition in Kherson are substantial. A variety of policy, planning and design solutions for this city are yet to be formulated.

Urban conditions in the Russian Arctic are likely to have many similarities to those in Kherson and to be even more challenging. Declines in industrial capacity and/or resource extraction will have left many cities with reduced economic reasons for being. Corrupt land use and planning practices, as well as continued top-down planning, are likely to have caused abusive development patterns, as well as disconnects between general planning and the actual on-the-ground realities and needs of these cities. There are likely to be many large industrial sites that are partially or wholly abandoned, with attendant environmental, economic, and physical problems. Nearby housing is likely to be poorly maintained and inhabited by "immobile homeowners" or, even worse, to be partially vacant, leading to dilapidation. The harsh climate of the Russian Arctic is also likely to affect housing negatively and make the need for energy conservation greater. Rule of law and political transparency in Russia are, if anything, worse than in Ukraine, presenting even greater challenges to reform.

The post-Soviet city is on the front line of challenges relating to planning reform, urban regeneration, and innovation in thinking about future development and urban design. Kherson's situation, with some promise for the future but large obstacles, is likely to be indicative of the substantial planning challenges, enmeshed with economic, political, social, and design

factors, facing Russian cities in the Arctic.

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# ГОРНОДОБЫВАЮЩИЕ РАЙОНЫ В АРКТИКЕ: ТЕРРИТОРИИ, ПРИНЕСЕННЫЕ В ЖЕРТВУ, ИЛИ УСТОЙЧИВЫЕ ЛАНДШАФТЫ? (НА ПРИМЕРЕ МУРМАНСКОЙ ОБЛАСТИ)

Людмила Викторовна Иванова

Институт экономических проблем им. Г.П. Лузина, Кольский  
научный центр РАН, г. Апатиты

(2016)

Добыча полезных ископаемых в различных частях Арктики на протяжении более ста лет составляет основу социально-экономического развития для большого количества территорий. Кроме того, существует широко распространенное мнение, что в будущем роль горнодобывающей промышленности как движущей силы развития региона будет только возрастать. При этом актуализируется вопрос о том, как обеспечить устойчивое развитие горнодобывающей деятельности в условиях суровой, но, одновременно, уязвимой природы Арктики.

В настоящее время концепция устойчивого развития широко используется во многих сферах человеческой деятельности. Она возникла во второй половине XX века как реакция на динамичный экономический рост, наблюдавшийся во многих странах мира, который происходил в условиях чрезмерно интенсивного и бесконтрольного использования природных ресурсов. Наиболее широкое определение концепции устойчивого развития представлено в Декларации по окружающей среде и развитию, которая была принята на Конференции ООН по окружающей среде и развитию в Рио-де-Жанейро в 1992 году. В документе, в частности, подчеркивается необходимость сотрудничества в решении вопросов устойчивости в промышленности, занимающейся извлечением и дальнейшим использованием минеральных ресурсов.

Реализация устойчивого развития означает интеграцию



деятельности в следующих трех ключевых областях:

- экономический рост, означающий достижение долгосрочной устойчивости как с точки зрения планируемых объемов производства и удовлетворения потребностей потребителей, так и рентабельности реализации добытых минеральных ресурсов;
- охрана природных ресурсов и окружающей среды, означающая охрану природной среды и ее ресурсов путем их рационального использования. Сюда также входят меры по минимизации негативного воздействия различных процессов, связанных с извлечением минерального сырья на различные формы подземной и наземной среды;
- социальная ответственность, означающая гарантирование безопасных условий труда для работников, а также заботу об их семьях и т.п.

Предполагается, что все вышеперечисленные сферы имеют одинаковую важность, поэтому, если повышенное внимание уделяется только одной из этих сфер, то это обычно приводит к возникновению проблем во всей горнодобывающей деятельности.

Попытка оценить значимость деятельности по добыче полезных ископаемых в сравнении со значимостью сохранения ландшафтов с точки зрения различных заинтересованных сторон в Гренландии, Норвегии и на Северо-Западе России составляет цель международного научно-исследовательского проекта «Арктика как граница горнодобывающей промышленности: устойчиворазвивающиеся или принесенные в жертву территории? (Arcticfront)», в котором участвует группа исследователей из ИЭП КНЦ РАН.

В России в качестве примера были выбраны два горнодобывающих предприятия в Кировско-Апатитском районе Мурманской области. Оба предприятия осуществляют добычу апатито-нефелиновых руд на месторождениях Хибинского горного массива.

Кировск и Апатиты расположены в географическом центре Кольского полуострова. В настоящее время население города составляет около 2 800 человек. Апатиты находятся в 20 км к югу от Кировска. Поселок Апатиты образовался в 1935 году. В город областного подчинения он был преобразован 7 июля 1966. На 1 января 2016 года численность населения города составляет 56,6 тыс. человек (7,4% населения Мурманской области).

Одно из исследуемых предприятий – АО «Апатит» - было создано в 1929 году как государственное предприятие, однако в 1993

году оно было преобразовано в акционерное общество, которое в настоящее время является частью холдинга «ФосАгро» - российской вертикально-интегрированной компании, одного из ведущих мировых производителей фосфорсодержащих удобрений. Второе предприятие – АО «Северо-Западная Фосфорная Компания (СЗФК)» (далее – АО «СЗФК») - было учреждено в 2005 году для реализации проекта по созданию новой фосфатной сырьевой базы в Мурманской области. Разработка собственного фосфатного месторождения с целью обеспечения своих перерабатывающих мощностей сырьем для производства фосфорсодержащих удобрений — приоритетное направление инвестиционной программы Группы «Акрон», частью которой и является АО «СЗФК».

Для получения необходимой для исследования информации использовались различные источники данных и методы, включая анализ законодательных актов и программных документов; семинар с участием представителей общественности района; анкетирование и интервью с представителями власти, научного сообщества и некоммерческих организаций.

Современное АО «Апатит» в 1930-х годах стало градообразующим предприятием для города Кировска, являющегося административным центром муниципалитета. Кроме того, компания вносит существенный вклад в социально-экономическое развитие города Апатиты. Апатиты получили статус города в 1966 году в результате быстрого роста населения, связанного с развитием производства, перерабатывающего добываемую апатито-нефелиновую руду, с получением апатитового и нефелинового концентратов. В настоящее время руда добывается тремя рудниками: Кировский, Расвумчоррский (подземная и открытая добыча) и Восточный (открытая добыча) с совокупными мощностями по добыче около 26 млн тонн руды в год.

АО «СЗФК» работает на месторождении апатито-нефелиновых руд Олений ручей и имеет лицензию на эксплуатацию месторождения Партомчорр. В марте 2015 года Горно-обогадительный комбинат «Олений Ручей» вышел на проектную мощность по добыче руды на уровень 1,1 млн т/год.

В 2011 году Совет депутатов города Кировск принял «Стратегию социально-экономического развития Кировского муниципалитета до 2020 года» (далее - Стратегия). В документе приводится всесторонняя оценка текущего состояния и основных тенденций, касающихся экологической ситуации, демографических процессов, социального благосостояния, основных отраслей экономики, развития природно-ресурсного потенциала и бюджетного обеспечения. Рассмотрены также и вопросы устойчивого развития муниципалитета. Ландшафт

и рекреационный потенциал определены как основные конкурентные преимущества города. Особо подчеркивается привлекательность Хибинских гор, что является главным аргументом при обсуждении перспектив развития туристической индустрии в муниципалитете. С учетом природно-климатических условий территории акцент делается на зимние виды спорта.

Однако приведенные в документе индикаторы не отражают потенциальное негативное воздействие, которое может быть оказано на окружающую среду в результате реализации данной Стратегии. Также в документе не уделено внимание возможному серьезному конфликту между дальнейшим развитием горнодобывающей промышленности и реализацией туристическо-рекреационного потенциала.

По результатам анкетирования можно сделать вывод о том, что мнение жителей города не полностью совпадает с описанием социально-экономической ситуации в Кировске, приведенным в Стратегии. Среди наиболее серьезных проблем респонденты отмечали безработицу и увольнение работников с основных промышленных предприятий, проблемы ЖКХ, а также экологические проблемы.

С представителями органов местного самоуправления и экологических общественных организаций были проведены интервью по поводу оценки ими экологической политики, проводимой АО «Апатит» и АО «СЗФК». Также был задан вопрос о том насколько имеющиеся знания и местные ценности принимаются во внимание при принятии решений руководством горнодобывающих предприятий. Экологической политике АО «Апатит» была дана оценка «умеренно положительная», а политике АО «СЗФК» - «нейтральная». В то же время было отмечено, что ни одно из предприятий не предпринимает достаточных мер в сфере охраны окружающей среды.

Сами компании на своих сайтах в Интернете позиционируют себя как предприятия, уделяющие серьезное внимание вопросам экологии и устойчивого развития и действующие в соответствии с российским законодательством в области охраны окружающей среды. При этом необходимо отметить, что политика обоих предприятий практически полностью определяется холдингами, в которые они входят («ФосАгро» и «Акрон»). В годовых отчетах обеих компаний активно используются термины «устойчивость» и «устойчивое развитие».

Анализ содержания этих документов позволяет отметить, что, несмотря на наличие разделов, которые затрагивают экологические вопросы и вопросы сотрудничества с местными и региональными органами власти, интерпретация понятия устойчивости в горнодобывающей отрасли в этих документах отличается от известной теоретической концепции.

На своем сайте в Интернете АО «СЗФК» обращается к вопросам устойчивости в рубриках «Экологическая политика» и «Социальная политика», где представлены политика, планы и достижения в этих сферах. Однако, принимая во внимание недостаточную удовлетворенность местного населения политикой предприятия в экологической и социальной сферах, можно сделать вывод о том, что на практике их деятельность не полностью соответствует критериям устойчивости в горнодобывающей отрасли. Деятельность АО «Апатит», в некоторой степени, более приближена к соответствию этим критериям, но существующая тенденция к централизации принятия административных решений на уровне холдинга «ФосАгро» сокращает степень такого соответствия.

Однако, несмотря на определенную неудовлетворенность определенными видами деятельности горнодобывающих предприятий, большинство опрошенных респондентов заявили, что производственная деятельность компаний не оказывает на них какого-либо существенного негативного воздействия. Препятствием эта деятельность является, в основном, для небольших туристических компаний, организующих походы в горы Хибин, и для индивидуальных путешественников. В целом, можно сделать вывод, что местное население готово пожертвовать экологическими и культурными ценностями прилегающих территорий для поддержания и развития горнодобывающей деятельности, которая обеспечивает не только рабочие места и средства к существованию, но также общее благосостояние и социальные услуги. Такое заключение находится в русле существующей дискуссии о «пожертвованных зонах» и компромиссах между социальными и экономическими выгодами, с одной стороны, и экологической деградацией – с другой.

АО «Апатит» презентует узкую интерпретацию концепции устойчивого развития, которая, главным образом, сводится к экономической устойчивости компании, интересам заинтересованных сторон, обеспечению продовольственной безопасности на международном уровне. Тот факт, что компания использует международный уровень продовольственной безопасности в качестве центрального критерия устойчивости означает, что она таким образом оправдывает экологические риски на местном уровне и экологическую деградацию как имеющий смысл «обмен».

В случае с АО «СЗФК» экономическое компенсирование включено в лицензионные соглашения. Обе компании также визуализируют свой вклад в экономическое и социальное благосостояние на территориях присутствия, что, с точки зрения теории, укладывается в компенсационную логику. Например, когда компания не выполнила свои экономические обязательства в отношении города Апатиты (не

выплатила суммы, которые согласно лицензионному соглашению должна была отчислять на социально-экономическое развитие) и местные власти обратились в суд, компенсационная логика просматривалась отчетливо. Здесь также нужно отметить, что до сих пор сохраняется так называемая зависимость от предыдущего развития, в данном случае, от эпохи СССР, которая проявляется в том, что местные власти и жители привыкли ожидать от градообразующих предприятий поддержку различного вида.

Другим подходом является восстановление территорий, которые пострадали в результате горнодобывающей деятельности. Например, АО «Апатит» в 2012 году были проведены работы по восстановлению нарушенных земель с использованием технологии, разработанной Горным институтом Кольского научного центра РАН.

Приоритетность экономических интересов у коммерческих компаний не удивительна и, следовательно, наиболее характерные социальные и экологические требования к горнодобывающим предприятиям необходимо регламентировать на государственном уровне эффективными законодательными актами.

Приоритеты органов местного самоуправления, отраженные в долгосрочной стратегии социально-экономического развития г. Кировск, а также в интервью с главой администрации муниципального образования, направлены на улучшение качества жизни местного населения, достижение социальной, экономической и экологической устойчивости, которая полностью соответствует современным представлениям о роли и задачах местных органов власти. Действия местных властей нацелены на диверсификацию экономики, в основном за счет развития туризма с использованием уникального ландшафта и рекреационного потенциала Хибинских гор.

Некоторые респонденты также отметили, что экономическое состояние существующей индустрии зимнего туризма является достаточно слабым. Потенциально индустрия туризма может вносить значительный вклад в дальнейшее развитие г. Кировск, но для этого потребуются значительная инвестиционная поддержка со стороны государства и крупного бизнеса.

Если попытаться оценить устойчивость деятельности АО «Апатит» и АО «СЗФК», анализируя их реальные действия, то становится ясно, что здесь есть проблемы. В частности, слабым местом является построение отношений с местными сообществами на основе доверия, диалога и учета интересов местного населения в своей деятельности. Однако эта проблема связана не только с промышленными компаниями, но и с органами власти всех уровней. Некоторые респонденты заявили, что имеет место низкий уровень активности граждан с точки зрения защиты их интересов, что связано

со слабостью институтов гражданского общества.

Местные власти в двух горнопромышленных городах также в значительной степени игнорируют важность и роль участия общественности, необходимость вовлечения местных сообществ в развитие территории, а также активное участие в реализации стратегических задач муниципалитета. Значительное число респондентов заявили, что нет никакой гарантии, что власти будут учитывать мнение общественности, позицию независимых экспертов и экологических организаций при принятии управленческих решений в области добычи и переработки полезных ископаемых. Центральная роль АО «Апатит» во сферах жизни двух муниципалитетов на протяжении длительного времени являлась гарантией лояльности и общественного доверия к компании среди жителей Кировска и Апатитов.

Еще одна причина слабой степени участия общественности состоит в том, что горнодобывающие предприятия на местах все больше зависят от своих головных офисов, которые, как правило, находятся в Москве. Это приводит к уменьшению мотивации и способности компаний вовлекать местное население в процессы принятия решений.

При этом интересно, что многие из опрошенных до сих пор верят в возможность диалога с горнодобывающими компаниями для решения конкретных проблем. Считается, что компании имеют значительную власть, ресурсы и возможности для маневра и влияния на территориях присутствия. Некоторые респонденты даже заявили, что шансы на достижение положительных результатов в вопросах защиты окружающей среды выше, если дела ведутся непосредственно с компаниями, а не с центральными или местными органами власти.

Таким образом, на пути достижения устойчивого развития горнодобывающей промышленности стоит ряд проблем, которые необходимо решать всем основным заинтересованным группам: горнодобывающим предприятиям, местным сообществам и органам власти. Для предприятий основной проблемой является достижение баланса целей. С одной стороны, это повышение конкурентоспособности путем снижения затрат и увеличения экономической эффективности. С другой, - соблюдение требований экологического законодательства, а также выполнение добровольных обязательств в рамках корпоративной социальной и экологической ответственности. К дополнительным проблемам горнодобывающих предприятий можно отнести, во-первых, рост издержек, связанных с добычей полезных ископаемых по мере истощения разрабатываемых месторождений, что серьезно осложняет задачу сокращения затрат; во-вторых, при современной тенденции усиления централизации и

вертикальной интеграции предприятий в рамках холдингов существует риск ослабления внимания к интересам населения, проживающего на территориях присутствия, а также несоблюдения принципов устойчивого развития местных сообществ. Компании обеспечивают ряд услуг социального характера, отчасти в соответствии с требованиями и ожиданиями государственной власти, и отчасти для того, чтобы получать поддержку и социальную лицензию на деятельность от местных сообществ. В целом, компании выполняют целый ряд элементов корпоративной социальной ответственности, связанных с экономикой и инфраструктурным развитием. Однако ситуация осложняется процессами рационализации и, как следствие, сокращением штатов, что снижает вероятность роста их популярности среди местного населения.

Для местных жителей основные проблемы связаны с экономическим развитием г. Кировск. Проводимое на горнодобывающих предприятиях сокращение персонала с целью повышения экономической эффективности неизбежно приведет к негативным социально-экономическим последствиям для такого типичного моногорода как Кировск. Для решения этой проблемы местные власти предпринимают попытки диверсифицировать экономику. Основной акцент делается на развитие туристической индустрии с использованием уникального природного и рекреационного потенциала Хибинского горного массива. В целом, представляется сложным преодоление противоречий между экологическими, экономическими и социальными элементами развития.

Проблемы, которые стоят перед правительством, делятся, по крайней мере, на две группы. К первой относится необходимо обеспечение необходимой институциональной структуры и стимулирование компании к следованию принципам, на которых основывается устойчивое развитие местных сообществ. Ко второй - совершенствование нормативных экологических требований, необходимых для содействия более устойчивому процессу принятия решений. Необходимо усиление законодательства, регламентирующего процедуру проведения оценки воздействия горнодобывающих предприятий на окружающую среду и социальную сферу.

В ходе исследования была выявлена слабая связь между управленческими решениями и накопленными научными знаниями в вопросах устойчивого развития. Кроме того, уровень вовлеченности местной общественности в процессы принятия решений низкий, что, к сожалению, типично для России в целом. На местном уровне это приводит к снижению легитимности и доверия, а также отражает унаследованную от плановой экономики традицию, когда градообразующее предприятие являлось ядром системы социального обеспечения и,

помимо экономических, предоставляло все виды социальных услуг. В случае с рассмотренным примером АО «Апатит» и АО «СЗФК» можно сделать вывод, что экономические элементы концепции устойчивого развития перевесили социальные и экологические.

В целом, современная горнодобывающая деятельность оказывает отрицательное воздействие на окружающую среду, а также является причиной того или иного уровня дискомфорта для людей, проживающих на прилегающих территориях, поэтому необходимо стремиться к достижению баланса между тремя ключевыми сферами устойчивого развития, а именно: экономическим ростом, охраной природных ресурсов и социальной ответственностью.

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# URBAN LANDSCAPE AND URBAN HUMAN CAPITAL



# ARCHITECTURE AND URBANISM OF ARCTIC CITIES: CASE STUDY OF RESOLUTE BAY AND NORIL'SK

MATTHEW G. JULL & LEENA S. CHO  
UNIVERSITY OF VIRGINIA  
(2013)

The Arctic has been the focus of architects and urban designers since the early 20th century. Ranging from the design of climate-responsive buildings (e.g. Decker 2010; Matus 1988) to new eco-utopian towns (Projet D'urbanisation...de Noril'sk 1967; Culjat 1975; Marcus 2007) to industrial or military complexes and cities (e.g. Jull 2008; Farish, 2009; Ritchot 2011), the typology of Arctic urbanism is a legacy of political and economic cycles competing against geographical and environmental inertia. Nowhere is this more evident than in the North American and Russian Arctic, which have experienced vastly different trajectories of development. In order to frame the future of the Arctic as a result of climate change, increasing globalization, natural resource extraction, and demographic shifts (Smith 2010) it is important to first understand the history of efforts to urbanize this last frontier. To this end, this paper will briefly review the typologies of North American and Russian Arctic cities, with specific focus on Resolute Bay, Canada and Noril'sk, Russia – the former a small military and scientific outpost on Cornwallis Island and the latter a major industrial metropolis in the Siberian Arctic. Historically, both cities have served as sites for experimentation on new models of Arctic urbanization (Marcus 2007; Slabuha 2007).

**Figure 1.** Resolute Bay, Nunavut.



The North American Arctic is characterized as a vast realm of tundra and boreal forest, with a loose collection of isolated small cities, towns and villages scattered in coastal areas and developed as military bases, mining interests, scientific observatories, and administrative or shipping hubs. Irrespective of population and size, the typology of development is one of *suburbanized north*: low density, single-family detached homes with yards and driveways, a scattering of administrative, commercial, cultural buildings, schools, above-ground infrastructure and utilidor, and an adjacent airport and small dock to connect the city to the outside world. In addition, there is generally a bi-modal demographic distribution between indigenous and non-indigenous inhabitants, with the non-indigenous inhabitants working in the government, social services, military, or scientific sectors. From the largest cities of Iqaluit, Nunavut (Canada; population 7,500) and Barrow, Alaska (USA; population 4,500), to the smallest settlements like Resolute Bay (Canada; population 250), the form and organization of these cities is surprisingly similar (Figure 1).

There have been attempts in the past to create more compact, efficient, structured, and modernized settlements in the North American Arctic (e.g. Farish 2009; Culjat 1975) but they have either been abandoned or met with limited success. Possibly the most influential and controversial project is architect Ralph Erskine's design for a new town in Resolute Bay. Due to improved economic conditions and a rise in oil revenues in the 1970s, Resolute Bay became a major supply base for the high Arctic. With new economic stimulus, the Canadian government sought to resolve long-standing social problems with the Inuit who had been relocated to Resolute

Bay. Prostitution and alcoholism were commonplace, with the Inuit living off discarded materials from the airbase (Marcus 2007). In response, a paradigmatic enterprise was initiated by the Canadian government to provide a new modernist architectural and social design for the town. Ralph Erskine, an architect best known for his climate responsive buildings and social housing (e.g. Byker Wall; Collymore 1982), was commissioned for the project in the early 1970s, with the mandate to racially integrate the Inuit community (240 people) with the transient white population (250-600 people); improve residents' quality of life; and be able to accommodate an increase in town population of 2,000-3,000 people (Culjat 1975).

Erskine's design consisted of an inhabited wall structure, raised above the permafrost on pilings and bent into a horseshoe-shaped ring, with detached family housing units in the center; it resembled a medieval walled town (see Figure 2; Marcus 2007). The Inuit would inhabit the houses in the center – resulting from moving their existing Inuit community from the shoreline 8km away – and the wall structure would contain apartment units for non-indigenous people and an enclosed communal area with shops, restaurant, and a library. A swimming pool and an indoor botanical garden would be attached to the apex of the horseshoe and sealed off from the elements by a bubble roof (Culjat 1975). A principle feature of Erskine's design was the semi- enclosed wall structure. Conceived as a fortification against the elements, it was intended to create a microclimate and protect the interior houses from prevailing winds.

**Figure 2.** Early (1958) early prototype drawing of Erskine's walled city design that would be commissioned for Resolute Bay in the early 1970s.



Besides the odd social arrangement of white inhabitants encircling the Inuit in the new town, the perimeter wall structure of Erskine's design did not offer ideal conditions for Inuit culture and the Arctic climate (Marcus 2007). Whereas Inuit traditionally locate their settlements adjacent to water for ready access to boats used for hunting and fishing, the new location reduced Inuit engagement with the natural environment, promoting greater reliance on food offered in the new town shops. As Harold Strub, the former chief architect of the Northwest Territories, writes:

At high latitudes...one requirement for siting remains uncontested: the proximity to the water edge. At least one edge of the settlement must reach the sea. (Strub 1996).

The wall itself posed additional problems. Whereas the whites are very eager to get shelter from the wind, "wind is a part of Arctic life". Wind provides an essential component of clearing snow, and the introduction of an enclosed wall would only encourage the snow to pile up in the center of the town where the Inuit were living. This knowledge of the Arctic environment was clear in the Inuit's earlier shoreline settlement, which allowed easy penetration of winds. After relocating the Inuit homes and beginning the construction of the perimeter wall, the project was abandoned in 1978.

Efforts to urbanize the North American Arctic stand in striking contrast to Russia, which has developed its northern frontier at an entirely different scale and urban density. Cities such as Murmansk (pop 307,000), Noril'sk (pop 175,000), and Yakutsk (pop 269,600) are almost 40 times larger than any other city in the Arctic; despite being as remote and isolated as the North American Arctic, Murmansk is by far the largest Arctic city and shipping/military port in the world, dwarfing any of its North American counterparts. Noril'sk is the largest industrial town based on mining and resource extraction, and is disconnected from "mainland" Russia by over a thousand miles of tundra and boreal forest. Noril'sk has an radical form of urbanization, almost as extreme as its climate and isolation (Figure 3), in the form of Hilberseimer's High Rise City (Hilberseimer 1944), and calls to mind Oscar Neimeyer's design for Brasilia in the remote Amazon jungle (Fraser 2000). In addition, Noril'sk also ranks above Chernobyl on the list of most polluted cities on the planet (Blacksmith Inst. Report 2007).

**Figure 3.** Noril'sk, Russia.



Situated in the permafrost of the Arctic tundra and as remote as towns like Barrow and Resolute Bay in North America, Noril'sk originated as a small industrial town in 1935, and grew in size and scale rapidly under Stalin's forced labor policies; the city was designated a gulag between 1935 and 1956 (Gregory and Lazarev 2003; Helque 2004; Sharapova and Richardson 2007). In 1940, when the city had a population of 70,000 – most of whom were prisoners – a masterplan for a new district in the city was designed and executed, led by architect V. Nepokoychitsky, who wanted to establish an organic connection between the city and the natural environment (Slabuha 2007). Whereas the earlier (old city) had been built on bedrock, the new city was built on permafrost. This required Nepokoychitsky and his colleagues to experiment and invent new construction techniques; many buildings collapsed or sank into the permafrost during this process (Stryuchkov 2013).

The characteristic features of Noril'sk architecture are a repetitive module of monolithic five-story housing blocks raised above the permafrost to form semi-enclosed courtyards, a rational street grid demarcated by a strong central axis, and an organic network of urban and industrial infrastructure. With the apartment block design and urban strategy, Nepokoychitsky intended to create enclosures, deflecting winds and blowing snow. His ambition extended to the creation of glass-domed courtyards over sections of the city in order to generate interior spaces and microclimates, but these were never built (Zamyatin 2005). This plan bears some resemblance to Erksine's later design of an inhabited wall structure as an urban barrier condition in England (Byker Wall; Collymore 1982); it is designed to create microclimates, protect the Arctic environment, and



increase social wellbeing in Resolute Bay in Northern Canada (Culjat 1975).

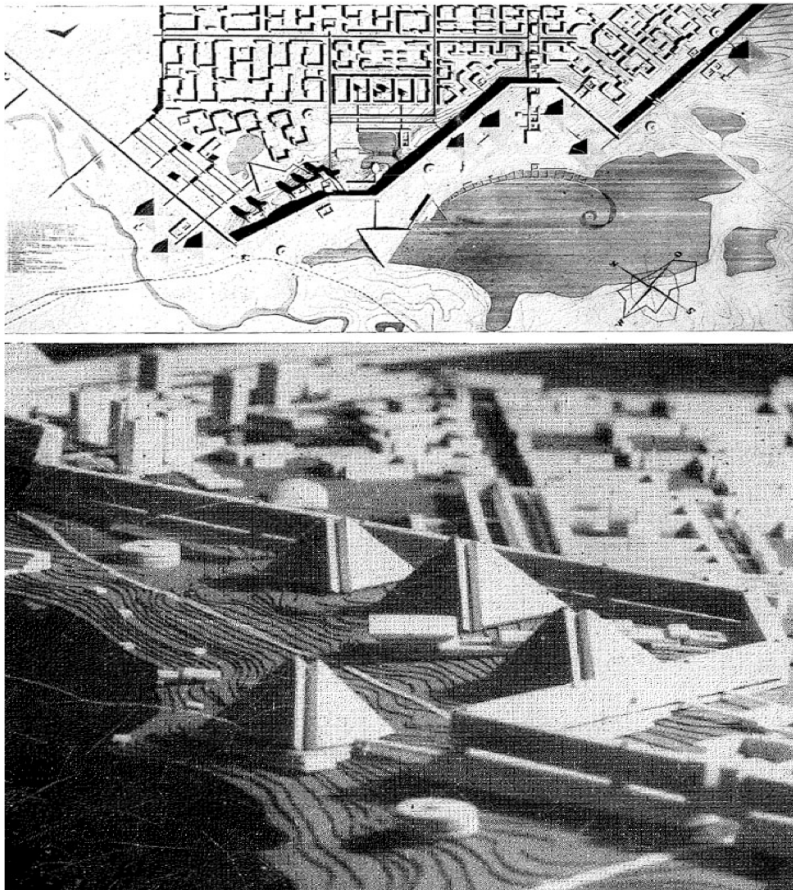
From the 1960s to the 1980s, many new large-scale public facilities in Noril'sk were built; there were also calls for new designs that would allow for the expansion and densification of the city (Slabuha 2007; Gunina and Andriyuk 2012). In 1965, the Soviet Council of Architects organized a competition to design a new urban quarter for 50,000 people in the southwest of Noril'sk on the bank of Lake Dolgogo (Projet D'urbanisation...de Noril'sk 1967). The winning design, by architects Trouschinsch and Schipkov (Figure 4), focused on the idea that the quality of life of Noril'sk residents was key to a sustainable northern city (from a social and economic standpoint). Their proposal consisted of three new typologies of urban structures: a continuous 16 story tall inhabited wall of about 16m width and up to 1000m in length, a monolithic five story rectangular block of about 150m by 45m, and a 26 floor pyramid structure of about 150m by 150m.

The proposed inhabited wall building was similar to the existing typology of Noril'sk apartment blocks, but Trouschinsch and Schipkov stretched these buildings in length to create a longer physical barrier against snow and wind, much as Erskine had proposed with his horseshoe-design wall structure for Resolute Bay in 1973. In addition, they included an internal public "street" along the length of the building to improve the quality of life for the residents by increasing the potential for social interaction. The rectangular block and pyramid buildings were arrayed adjacent to the inhabited wall, and both had hybrid program typologies and deeper floorplates than existing Noril'sk buildings. Exterior envelopes were also tuned for available sunlight (Slabuha 2007). With a mixture of apartments, interior gardens, and cultural, social, and educational program components, these buildings attempted an urban experiment by juxtaposing large building floor areas (on the order of 150,000 m<sup>2</sup>) with compactness and interior microclimates for generating greater social potential via *interior urban environments*, and energy efficiency by layering and juxtaposing program components. These projects were never built, but they indicated a new direction for the design of Arctic cities that was shared with their North American and European counterparts.

What is important about Noril'sk and other Russian Arctic cities is that they were built and populated with brute force and without regard for economic, environmental, or human costs (Sharapova and Richardson 2007; Helque 2004). They show, in essence, what an Arctic city can be if there is sufficient pressure to overcome the environmental and economic inertia. They also provide alternate scenarios for North American Arctic development. As Pressman (1996) outlines in his summary of approaches to the design of sustainable winter cities, the negative impacts of climate

must be reduced and its beneficial characteristics enhanced via design principles such as compact urban form, energy-efficiency principles, and the economic and social well-being of the inhabitants. This is essentially what Erskine, Trouschinsch and Schipkov were attempting to accomplish with their visions for Resolute Bay and Noril'sk. The question now is finding a balance: forging an environmentally sustainable city in the Arctic that is also socially and economically resilient.

**Figure 4.** Design for an expansion of Noril'sk by 50,000 residents (Trouschinsch and Schipkov 1965).



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# URBANIZED ARCTIC LANDSCAPES: CRITIQUES AND POTENTIALS FROM A DESIGN PERSPECTIVE

LEENA S. CHO AND MATTHEW G. JULL

UNIVERSITY OF VIRGINIA

(2013)

## Arctic Landscapes

Situating urbanization in the Arctic, one must first dissect, digest and reframe various prevailing conceptions of the Arctic landscape. Despite the dominant belief, it is clear that the Arctic is far from being an isolated, anachronistic, pristine, empty and authentic place. Instead, it is a dynamic, transnational, connected and contested region where natures, identities, histories, and politics all intersect (Maier and Ray 2013). In describing Arctic landscapes from a landscape architectural viewpoint, we do not mean to refer to simply the eerie and sublime nature, as in vast tundra, frozen oceans, deep permafrost and sunless winters. Neither do we want to limit the use of the term landscape to habitat patches, nature reserves or marine parks. Instead, we refer to the all-encompassing ground-plane of the Arctic cities and towns, the multiscalar network of surfaces that embrace and catalyze functioning urban systems – including buildings, winter roads, utilidors, open spaces, hunting trails, lagoons, snow fences, neighborhoods, and industrial complexes. This is the ground structure that organizes and sustains a broad range of activities in the Arctic, and the one that will dictate the future transformations of northern cities and their operations. Examining the contemporary metropolis, Alex Wall, an architect and urbanist, noted that it is the processes of urbanization rather than forms that are increasingly defining the direction of landscape architecture and urban design today (Wall 1999). In this light, urbanization in the Arctic must take into account the varied facets of exchange, flows, and regimes that have propagated settlements, and the potential in which these Arctic-specific metabolisms can engender renewed and diverse urban morphologies.

## **Dominant Approaches**

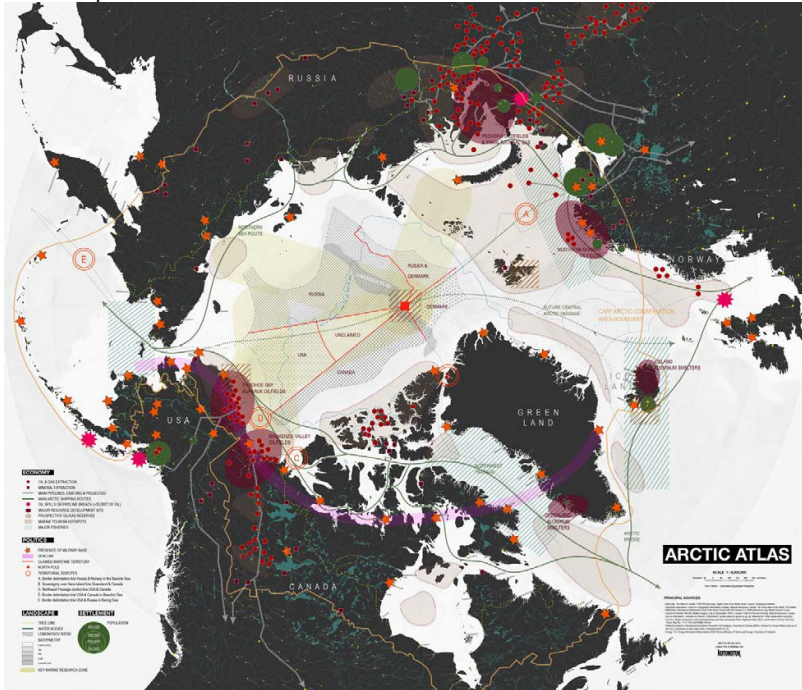
Concerns often associated with the Arctic – melting icebergs, oil/gas development, and territorial disputes – are overwhelmingly approached from perspectives of natural science regarding the warming climate, the validity of continental shelf extents, and the costs and benefits of natural resource extraction (Figure 1). While these efforts are critical for the formulation of international policies and commerce, they paint the Arctic as a highly vulnerable and exploited medium. Contemporary engagement with the Arctic can be categorized into the following main trends:

### *Climatic Apocalypse – Deterministic Landscape*

The fact that the Arctic is now warming twice as fast as the global average has brought a plethora of scientific studies that emphasize the loss of the characteristic conditions that once defined the region (Astill 2012). For instance, a dramatic reduction in sea ice, rising sea levels due to melting ice caps, glaciers and thermal expansion of the oceans (Cazenave and Llovel 2010); the re-orientation of weather patterns (Li et al. 2012); the release of methane gas due to thawing permafrost (Schaefer 2012); and extraordinary migration and extinction of species are only a few examples of the changes that have already begun accelerating (Chen et al. 2009). Because of its local and global implications, the impact of climate change in the Arctic has raised concerns worldwide. This apocalyptic view presupposes that the Arctic landscape operates on principles of stability and permanence, truncating its resilient and adaptive potential. This implicates a kind of urbanistic task, predicated on defense, that resists inherent dynamism. Rarely discussed in detail, however, at least in popular media and design practice, are the new opportunities the warming temperatures might bring to the region: for instance, the northern migration of arable lands and plant growth, and the gravitation of global shipping routes toward the melting, navigable Arctic Ocean (Astill 2012).



**Figure 1.** Overview of the economic, political, environmental, and settlement factors shaping the Arctic. Like a giant game of Risk, the Arctic nations are jockeying for territory and development of the Arctic, with these boundaries and zones marking an ever-shifting transition in the landscape.



Map by authors. Sources: CAFF 2010a; CAFF 2010b; Ellis and Brigham 2009; Government of Canada... 2012; Protected Areas Assessments 2012.

### *Treasure Trove – Commodified Landscape.*

Despite the technical challenges, exploration of the Arctic for undiscovered natural resources such as petroleum is now at the forefront of the global energy industry. That the Arctic holds 13% of the remaining undiscovered petroleum, 30% of undiscovered gas, and large swathes of rocks rich in minerals is no longer news (Gautier et al. 2009). Diamonds and nickel are plentiful, the waters are rich with fish, and the region is bordered by the vast boreal forest belt, which holds one-third of global forests and perhaps 40% of economic forest resources (Kullerud 2011). Such vast untapped resources have the potential for major global economic impact and are the root of current and emerging urbanisms in the Arctic. Timber from Igarka and ores from Noril'sk and Yakutsk in the Russian Siberian



Arctic, for example, have propelled a rich lineage of urban histories. Like other supermajors, the Royal Dutch Shell continues to invest billions to drill for oil in Alaska's outer continental shelf near Barrow – the city, transformed by petro-dollars since the 1970s, is once more at the center of swelled attention (Birger 2012). Such enterprises, backed by scientific research and national policies, are some of the most potent catalytic forces for Arctic urbanization. Admittedly, the modern history of the Arctic *is* a history of interactions between advanced industrial metropolises located in the south and resource-rich hinterlands located to the north. While it is not surprising that discussion of domestic and international economic and political relationships dominate most accounts of contemporary Arctic affairs, the Arctic is overwhelmingly positioned as a landscape 'to-be-mined' for the creation of prosperity elsewhere. The question is how the merging of landscape design and industrial imperatives can create local prosperity in the Arctic.

### *Territorial Conquest – Vied Landscape.*

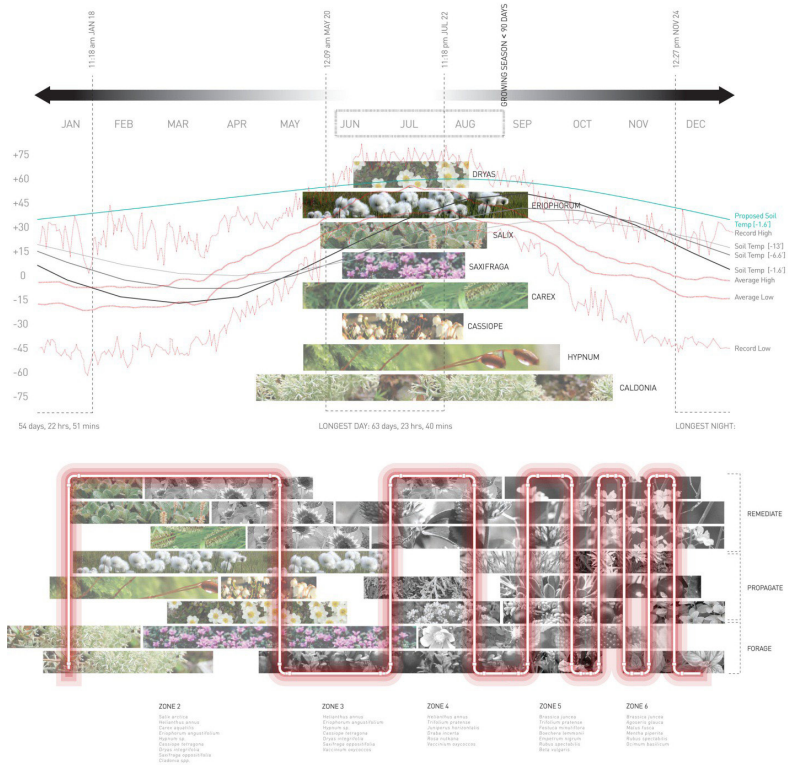
The geopolitical race to a new frontier is intimately interwoven with the resource promise of the Arctic. The five Arctic nations – Canada, Denmark, Norway, Russia and the US – as well as non-Arctic nations such as China and South Korea are jockeying to lay claim to – and monitor – as much land and maritime territory as possible. The territorial tussles under international law range from areas disputed by two states to areas claimed by only one state to areas considered no man's land. For example, Canada and the US still disagree on the setting of boundaries in the Beaufort Sea, an area of intense interest to oil drillers; ownership of Hans Island is highly contested by Canada and Denmark; and the planting of a Russian flag on the seafloor of the North Pole triggered media-frenzy anxiety in the past few years (Macalister 2011). Exercising sovereignty is inevitable and necessary for future management of the region, and not all of it is purely territorial, as evidenced by efforts to increase search-and-rescue and accident cleanup capacity. However, the modes in which the region is unfolding resemble expansionist tactics, rendering the region a battleground for ownership. Managing urban ecologies that flow and fluctuate across multiple jurisdictions and borders, for instance, might present a challenge should the land-grab mentality continue without consideration of its impact on the continuity of Arctic landscapes.

### **Dynamic Urbanism**

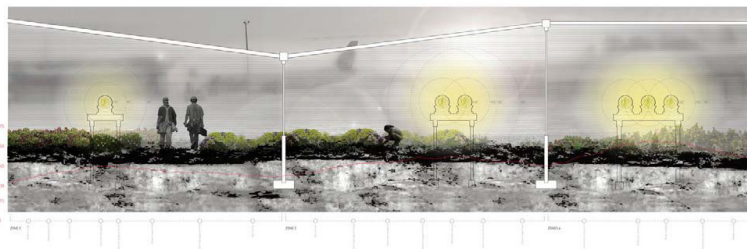
When interpreted and mobilized, the three dominant lenses through which the Arctic can be viewed, outlined above, pose limitations and potentials for the design and planning of Arctic landscapes. The commercial and

political consequences of global warming will undoubtedly ebb and flow over time. History further hints that a massive fluctuation of population across Arctic settlements – mostly due to climate, job availability and policy change – will be repeated in future, particularly if Arctic development occurs from a singular perspective. Such principles have already spawned a haphazard constellation of expanding or shrinking Arctic urban centers, and have largely left the discourse on *quality* and *sustainability* of northern life, e.g. safety, cultural dynamism, affordable housing, public transportation, architectural quality, clean air, and outdoor public space, in the interstices. An important reference in this regard is the concurrent development of Dubai as a financial and leisure hub in order to shift away from a mono-industry economy. The future of sustainable Arctic development requires urban resiliency and programming that can adapt to the current and future flux inherent in the region, as well as a re-positioning of the Arctic landscape as a productive, robust, and dynamic foreground through which development occurs. Shifting ecologies, undulating grounds, expanding infrastructures, and emerging public landscapes in the Arctic offer an opportunity for the urban field itself, shaping “the organization of urban settlement and its inevitably indeterminate economic, political and social futures” (Figures 2a and 2b; Waldheim 2006).

**Figure 2a.** Design research on the Trans-Alaska Pipeline. By harnessing and redirecting excess heat from the oil pipeline, the pipeline network intentionally warms the ground and extends the growing season of plants.<sup>1</sup>



**Figure 2b.** While remaining entirely speculative, this project prescribes new performity to the existing pipeline infrastructure and the communal space around them. The new ground along the corridor creates desirable couplings for the Arctic oil communities, wildlife, and native and emergent ecologies.



The discussions generated by recent work see a multiplicity of ordering mechanisms for Arctic cities, going beyond the forms of administrative centers and single-industry cities to the creative production of socially dynamic, ecologically symbiotic, and aesthetically diverse live-work environments. The following are key topics of landscape architecture that can catalyze future development and renovation of the Arctic:<sup>2</sup>

1. Recreational and outdoor public spaces – design of cold-climate oriented outdoor amenities, festival grounds, mobility network, and open space systems;
2. Reclamation and restoration – land reclamation and ecological restoration of contaminated sites such as mining fields and impaired streams;
3. Local food network – development and protection of local ‘food-shed’, sustainable food production and healthy community;
4. Tourism development and preservation – strategic planning and design of cultural landscapes and biophysical habitats;
5. Ecological urbanism – synergetic spatial configuration of industry and ecology at regional, city, and district level; and
6. Strategic vision planning – macro-level vision study and speculative design studies.

<sup>1</sup> The sketch design shown in Fig. 2a and 2b was produced by Katie Jenkins (M.L.A. ’13) and Parker Sutton (M.Arch. ’13) for Cho’s Arctic research seminar at the School of Architecture, University of Virginia in spring 2013.

<sup>2</sup> Much of the recent design-research in the Arctic experiments with the new role of design and landscape – most notably the Emerging Arctic Landscape design studio at the Bergen School of Architecture and a new landscape architecture graduate program with an Arctic focus at the Oslo School of Architecture and Design in Norway (Løkken, Haggårde, and Berge 2011; Williams 2013); the Danish efforts toward strategic reconfiguration of the Greenlandic Arctic at the 2012 Venice Architecture Biennale and the upcoming northern focus by its Canadian counterpart for the 2014 edition (Rosing 2012; Jull and Cho 2012; Kilpatrick 2013); public space design and research on Russia’s Far North at the Strelka Institute (Archive Research Themes 2013); and a number of design competitions such as Kent State University’s ‘Coldscapes’ aiming to revitalize cold weather cities as well as the increasing evidence of Arctic awareness within design communities at large (Center for Outdoor Living Design 2013; Slessor 2011).

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# FROM SUSTAINING CREATIVITY TO CREATING SUSTAINABILITY: TALENT AND CREATIVE CAPITAL FOR SUSTAINABLE DEVELOPMENT IN ARCTIC URBAN COMMUNITIES

ANDREY N. PETROV  
UNIVERSITY OF NORTHERN IOWA  
(2013)

With rare exceptions, the Arctic regions have always been a showcase of economic marginalization and the polygon for (largely unsuccessful) economic development policies and projects (Agranat 1992; Rea 1976; Hayter et al. 1994; DiFrancesco 2000; Bone 2009). Economists have well documented that frontier economies are marginal, vulnerable, structurally truncated and functionally dependent (Agranat 1992; Bone 2009; Rea 1968; Petrov 2012). Harold Innis' 'staple theory' captured the lasting economic disadvantage of being a northern resource periphery (Innis 1956) and since then a variety of regional development theories have drawn similar conclusions. Not surprisingly, more than eighty years into economic development policymaking in the North, the circumpolar countries are still searching for better ways to manage their northern frontiers. In Canada, two consecutive governments proposed comprehensive "northern strategies." In 2000, the Russian Cabinet adopted the new Concept of Socio-economic Development of the North (Pravitel'stvo RF 2000); a new strategy specifically targeting the Arctic was approved in 2013 (Pravitel'stvo RF 2013).

In this respect, an alternative strategy based on enabling local human capacities, such as creative capital, to advance economic development seems appealing. As described below, there is preliminary evidence that such a scenario can be seriously considered. However, any research into this matter faces a lack of basic knowledge about the spatial distribution,



characteristics and utilization of creative capital, as well as a lack of conceptual and methodological foundations for conducting such a study. It is important to point out that development based on utilizing creative capital is not a mere substitution of natural resources with human capital as the thrust of ‘modernization’. The difference lies in the local embeddedness of the creative capital – that is, its relation to local and indigenous knowledge and institutions (Aarsæther 2004; Petrov 2011). In this sense, engaging creative capital and the knowledge economy is an integral part of a larger *sustainable development strategy* for Arctic cities and towns.

This paper provides an overview of creative capital geography and characteristics in Arctic cities. The first objective of this analysis is to apply the creative capital metrics to a selection of key Arctic urban settlements. The second objective is to utilize the metrics in order to describe the geography of the creative capital in the state, identifying its clusters and possible northern urban centers where alternative development policies may be most applicable.

### **Creative Capital and Economic Development in Arctic Cities: The Theory**

In the Arctic’s staple-driven economy, the physical nature of a resource, not the volume of knowledge invested in its production, provides a necessary comparative advantage. Here, regional innovation systems depend on extremely thin streams of knowledge regulated by a few major institutional agents, first of all the state and large corporations (Bone 2009). In this context, there are few competing technologies or other forms of innovation that could weaken the rigidity of the current techno-economic trajectory (Clark et al. 2001). Consequently, the condition of path-dependency in the frontier remains exceptionally strong, preventing it from being successful in modern economic competition. It is typical for peripheral regions, which rely heavily on resources or the public sector, to develop a culture of dependency that discourages entrepreneurship and innovativeness (Polèse et al. 2002; Suorsa 2009). Moreover, the disconnectedness of the local firms from communities and networks of practice (Gertler 2005; Lagendijk and Lorentzen 2007) prevents the acquisition of the tacit knowledge that is so crucial for modern economic development

Human agency is a key transformative factor of economy: agents of transformation are another critical and necessary component of change. These agents can be political institutions, firms or non-governmental organizations. However, in the end, the agents of change are individuals and their groups who ‘write’ the innovation history of the region (Bassanini and Dosi 2001). *Creative capital* (CC), analogized to human capital, may be defined as *a stock of creative abilities and knowledge that has economic*

*value* and are embodied in a group of individuals who possess high levels of education and/or are engaged in creative (scientific, artistic, entrepreneurial or technological) activities (i.e. what Richard Florida (2002) calls “the creative class”).

Existing studies of innovation in peripheral areas also point to an important role for creative capital – which must, however, be embedded into social networks and embraced by the community (Aarsæther 2004; Barnes and Hayter 1992; Polèse et al. 2002). Whereas the importance of creative capital in regional development and endogenous growth is hard to dispute, research into this subject largely ignores urban regions outside the core metropolitan areas. As argued by Petrov (2007, 2008, 2011), although the preoccupation with large urban regions reflects the concentration of creative capital in metropolitan areas (Florida 2002; Gertler et al. 2002; Polèse and Tremblay 2005), it unjustly marginalizes peripheries as study sites. Instead, it can be argued that the importance of creative capital for economic development also holds in non-metropolitan contexts. Moreover, there are indications (Copus and Skuras 2006; Petrov 2008) that creative capital is likely to play an important role in the regional transformation of remote areas, including the Arctic.

The importance of creative individuals in innovative processes in remote urban regions was demonstrated in a number of studies from different regions (Aarsæther 2004; Copus and Skuras 2006; Doloreux 2003; Jauhilinen and Suorsa 2008; Hayter et al. 1994; Hall and Donald 2009; Petrov 2008; Cavin and Petrov 2012). Some researchers have observed that less favorable business and social environments amplify the importance of creativity and require individual innovators and firms to be more creative than in the core (Aarsæther 2004; Copus and Skuras 2006; North and Smallbone 2000; Petrov 2011). Looking at results of creative capital analysis in the Canadian North and other similar reports, Petrov (2008) concluded that there is now enough evidence to suggest that the availability of creative capital improves prospects for future economic transformation and development in the periphery.

The idea of CC as an alternative driving force of economic development in the Arctic is also appealing, since it provides a way to reconcile the *realities of capitalism* (which the Arctic inevitably faces) with *local modernities*, which rely on Arctic communities’ endogenous capacities and often have their roots in traditional cultures. Due to the *endogenous* nature of CC-based development and its lesser vulnerability to decoupling and marginalization effects, CC-driven development is an enabling process that not only brings prosperity, but also empowers communities to define their own economic destiny and advance towards sustainable development.

## Methodological Framework

**Measuring creative capital.** The CC metrics closely follow the four-sector structure of creative capital (Petrov, 2007). Four separate indices describe specific groups of creative capital: entrepreneurs, leaders, scientists and bohemia. This is an attempt to design a basic system of comprehensive measures of creative capital, based on both educational and occupational characteristics.

The majority of indices are occupation-based. There have been different attempts to identify the occupational categories that would be most useful in this case (Florida 2002; Gertler et al. 2002; Petrov 2007, 2008). All indicators are defined as location quotients (LQ). LQ is an advantageous measure, because it compares all regions (communities) with a single common denominator (their country's baseline), whether a national benchmark or some other chosen indicator. Most measures are computed for a labor force aged 15 years and over. The following indices are utilized:

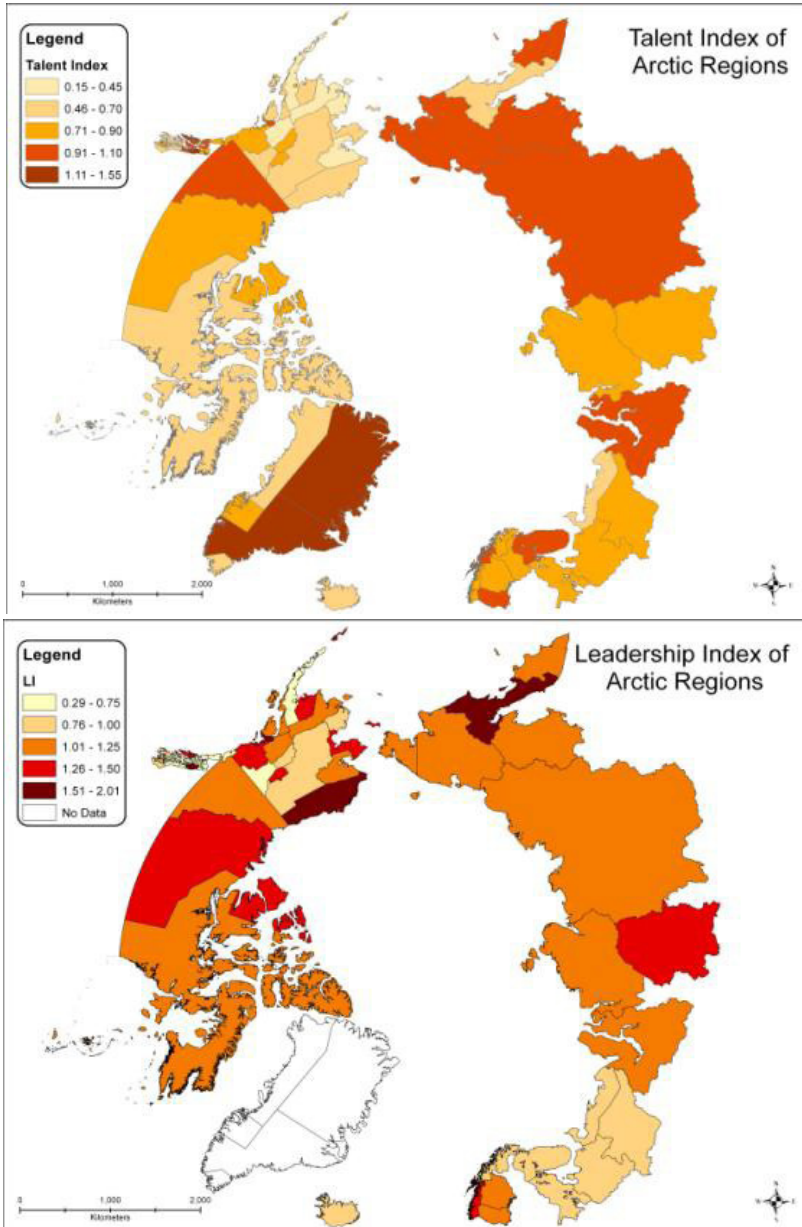
- *Talent Index (TI)* is an LQ of the adult population with a university degree.
- *Bohemian Index (BI)* is an LQ of people with artistic and creative occupations.
- *Leadership Index (LI)* is an LQ of people with leadership and managerial occupations.
- *Entrepreneurship Index (EI)* is an LQ of people with business occupations.
- *Applied Science Index (ASI)* is an LQ of people with occupations in applied and natural science, computer science and engineering (not used in this study due to data constraints).

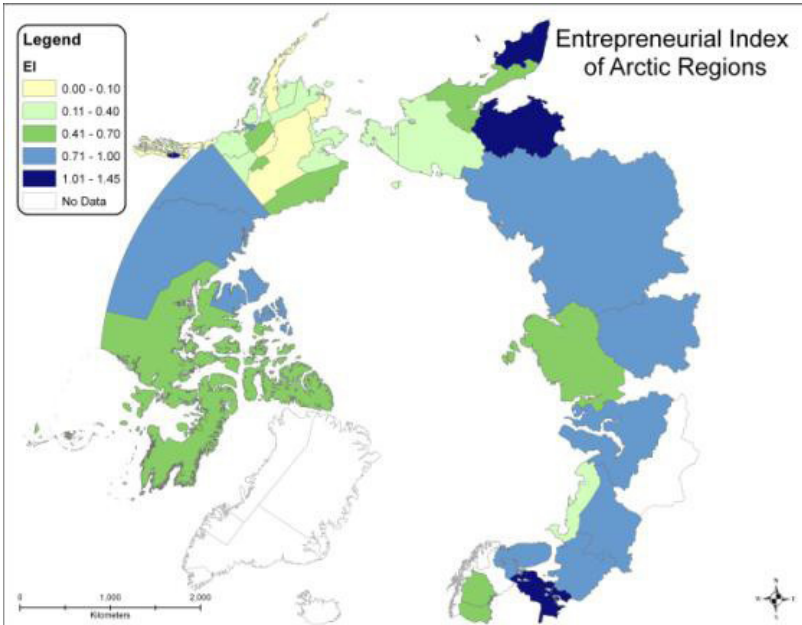
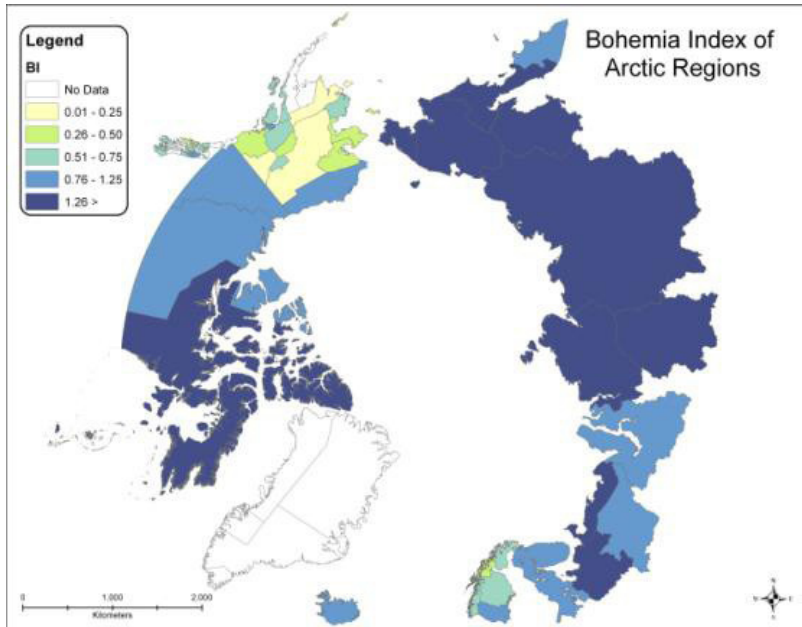
**Data.** Most data come from census or annual reports by the national and regional statistical agencies. As in many comparative studies that cross jurisdictional boundaries, data comparability and compatibility is a constant issue. Inconsistencies in definitions and timing of data acquisition create difficulties in comparing countries directly, but are largely indicative of the overall trends and appropriate for regional compassions within a given country. Most data used in this study date from between 2006 and 2010.

## **Results and Discussion. Creative capital in Arctic Regions and Cities: The Circumpolar Evidence**

**Arctic Regions.** The first objective of this study is to provide an overview of creative capital in the Arctic. Figure 1 presents Talent Index, Leadership Index and Bohemian Index maps for the circumpolar region. The indices are calculated at the regional level to give the necessary background for the city-focused discussion that follows. 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, Greenland (Nuuk region), Yukon and certain parts of Russia (Murmansk, Yamal- Nenets and Eastern Siberia) demonstrate levels of TI near or exceeding 1.0 (i.e. their respective national averages). In fact, Yamal-Nenets Okrug and Kamchatka Oblast were ranked 9th and 10th among Russian regions in 2002. Many Arctic regions register remarkably high LI (a pattern observed in other studies (e.g. Petrov and Cavin 2012)). The highest indices are associated either with larger urban and administrative centers (Juneau) or with very remote and sparsely populated regions (former Koryak Okrug, North Slope Borough). The geographic distribution of BI largely reflects the prevalence of the indigenous population. Most Arctic regions exceed national baselines in terms of the proportion of their residents with occupations in arts and culture, suggesting the presence of cultural capital and considerable potential for an Arctic cultural economy. In Russia, the Taimyr, Koryak and Chukotka Okrugs and Yakutia ranked among the top 10 regions in terms of BI in 2002. Finally, EI illustrates rather weak entrepreneurial capacities in the circumpolar North, especially in remote areas with large indigenous populations. Some high indices are observed in Russia, but these have to be interpreted in the context of the overall low EI baseline in Russia itself.

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

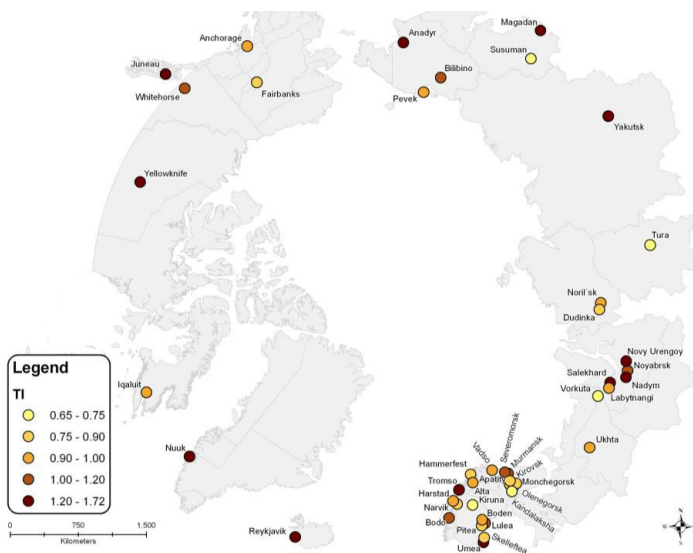




**Arctic Cities.** If CC metrics are well documented at the regional level, data constraints limit our ability to measure CC at the municipal level. This is especially the case for occupational statistics. The educational attainment data required for computing *Talent Index* are mostly accessible. TI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

As seen in Figure 2, Arctic cities demonstrate widely varying degrees of ‘talent’ concentration (see also Table 1). Some are certainly ‘creative hot spots:’ for example, Anadyr’s TI (1.72) 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, Tromso, Reykjavik and Nuuk. 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 these cities exhibited substantial growth in TI between 2002 and 2010.

**Figure 2.** Talent Index (TI) in Selected Arctic Cities



**Table 1.** Talent Index in Selected Arctic Cities (Ranking)

<b>City</b>	<b>Population</b>	<b>TI</b>
Anadyr	10,071	1.72
Nuuk	15,469	1.55
Umeå	112,547	1.51
Salekhard	32,218	1.50
Novy Urengoy	82,532	1.47
Nadym	34,228	1.42
Yakutsk	224,083	1.39
Yellowknife	18,700	1.29
Juneau	30,661	1.29
Reykjavik	201,585	1.28
Magadan	84,575	1.27
Tromso	55,014	1.25
Murmansk	240,369	1.16
Severomorsk	53,418	1.16

<b>City</b>	<b>Population</b>	<b>TI</b>
Noyabrsk	89,507	1.14
Bodo	38,618	1.11
Luleå	73,405	1.11
Bilibino	4,449	1.09
Whitehorse	20,461	1.09
Iqaluit	5,236	0.99
Ukhta	97,942	0.98
Harstad	19,164	0.98
Norilsk	135,666	0.96
Alta	14,815	0.96
Labytnangi	21,302	0.96
Boden	27,554	0.96
Anchorage	290,588	0.95
Vadso	6,125	0.92
Pevek	3,660	0.91



City	Population	TI
Hammerfest	8,022	0.89
Narvik	15,175	0.88
Faribanks	93,779	0.87
Apatity	47,224	0.84
Monchegorsk	37,182	0.83
Olenegorsk	24,184	0.80
Taimyr/Dudinka	24,090	0.80
Kirovsk	24,469	0.79
Piteå	40,934	0.77
Skellefteå	71,870	0.76
Vorkuta	68,685	0.74
Tura	12,234	0.69
Kandalaksha	30,334	0.67
Kiruna	23,049	0.65
Susuman	7,417	0.63

On the other hand, small remote urban communities, such as Iqaluit, Dudinka, Tura, and Susuman have low levels of TI (Figure 2). Slightly higher, but still relatively low, TI is observed in the ‘old’ industrial cities of the Russian Arctic: Noril’sk (0.96), Apatity (0.84), Olenegorsk (0.80), Monchegorsk (0.79) and Vorkuta (0.74).

In Russia, it was also possible to calculate the ‘*super-talent*’ index that accounts for residents with post-Masters degrees (professional and PhD). Some Arctic cities performed remarkably well. Salekhard, Nadym, and Yakutsk achieved figures greater than 2.0 on this index, far in excess of Moscow (1.83). In addition, Novyi Urengoi, Anadyr, Murmansk, Severomorsk, and Apatity topped Russia’s baseline (1.0). Some of these cities are booming industrial and political centers, while others are well-established research hubs (e.g. Apatity). At the same time, very remote and small communities were almost completely devoid of residents with advanced degrees (0.03% and 0.05% of the labor force in Tura and Pevek, respectively, for example).

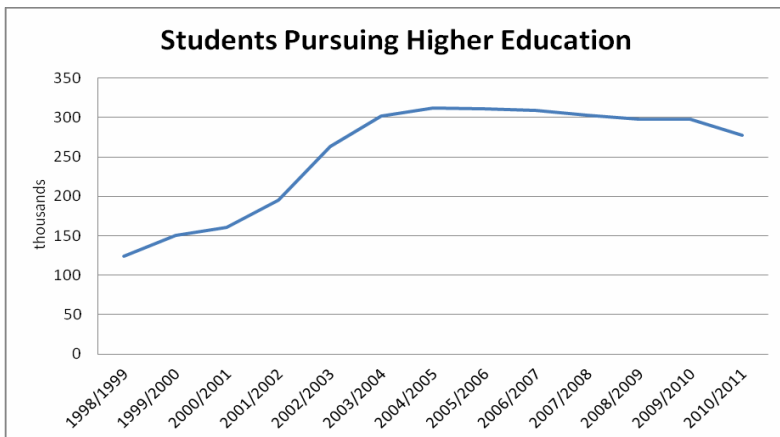
Arctic cities, especially in Russia, also demonstrate a very low *Entrepreneurial Index*. The measure was calculated for several Russian cities (most regional data agencies have not yet published relevant data from 2010 census). The northern cities of Vorkuta, Noril’sk and Dudinka exhibited extremely low EI – 0.43, 0.49 and 0.43 respectively. In other words, entrepreneurs (defined as labor force participants who hire other

labor) comprise less than 1% of their working-age population.

### **Creative Capital Flight and Turnover: Challenges in Russian Northern Cities.**

Migration plays a key role in regulating CC accumulation in urban communities. Faced with the collapse of the Soviet economy and/or bust-and-boom cycles of the resource sector, many educated residents leave the Arctic (Heleniak 1999; Petrov 2006, 2010). At the same time industrialization and attractive labor compensation brings CC to the North during favorable times. Both processes create considerable volatility and turnover in human capital in the region. The most effective mitigation strategy for this problem is education and retention of local youth. In recent years, many northern cities have increased their own educational capacities. Yukon Territory heavily invested in Yukon College, Greenland developed its own university, and some Russian cities saw increased enrollment in higher education. In fact, the number of students pursuing higher education in Russia's Territories of the Extreme North and Equated Areas more than doubled between 1999 and 2009 (Figure 3).

**Figure 3.** Number of students pursuing higher education in the Russian North.



Source: Rosstat 2011

Nonetheless, out-migration of college students and young professionals is one of the primary problems for many northern regions. In a pilot survey conducted by the University of Northern Iowa and State Polar Academy (Van Drasek 2012), most student-northerners who left the Arctic in order

to receive education in St. Petersburg indicated that there were few or no opportunities for higher education in their respective home regions. Prospects for professional success were also generally considered lower at home and students felt compelled to pursue opportunities elsewhere.

When asked about plans to return to their home regions, the vast majority of participants replied that jobs and career prospects were the most important factors. Many students also indicated that they might not return to the same town, village, or community, but would be interested in relocating to *a larger city within their home region*. Many also indicated that they would have stayed to pursue their studies and careers in the Arctic if similar professional and educational opportunities existed in their home region. When asked what could be done to improve opportunities for young people to pursue creative careers in their home regions, most students suggested an increase in government spending on higher education institutions, related infrastructure, and university instructors. Investment in skilled trades and jobs in Northern regions was also cited as a possible way to train and employ local residents rather than lose them to other regions.

These results are indicative of two things. One is that Russian northern cities are not well positioned to educate and retain CC. Another is that young northerners are willing to consider being educated and living in their home regions, if educational and job opportunities are good. Investment in education in Arctic cities in Russia and in other Arctic counties is an important priority that can assist in maintaining the economic viability of Arctic cities over the long term.

## **Concluding Remarks**

A development paradigm based on engaging creative capital and a knowledge economy is an integral part of a larger *sustainable development strategy* for Arctic cities and towns. Bringing, nurturing and sustaining talent and creative capital (broadly defined) provides a new opportunity for northern urban communities to diversify their economic base, break away from boom-bust cycles, reduce dependence on external economic and political actors and ultimately improve quality of life for local residents. As we start to quantify and understand creative capital in the Arctic, it is evident that some Arctic cities have considerable concentrations of highly educated workers and creative professionals. These are predominantly administrative and economic centers, such as Yellowknife, Juneau, Salekhard and Anadyr. Some of these cities rival their much larger southern counterparts like Moscow, St. Petersburg and Krasnoyarsk. On the other hand, remote urban communities are almost devoid of creative capital.

While unavoidable, the leakage of students and creative professionals

from the North is a problem that can be partially alleviated if cities, regions and national actors introduce meaningful efforts to attract and retain CC in the North. Without such actions, even the most highly ranked Arctic cities may lose their potential in times of crisis (as was demonstrated in the Russian and Canadian Norths in the 1990s). Investment in education is important, but it should come hand-in-hand with policies supporting local CC, which are based on better understanding its needs and behavior. This pertains both to talent/creative professionals and to local artisans and crafters (the pillar of the Arctic cultural economy). Though only a few Arctic cities could benefit significantly from building a knowledge economy, it is certainly a key ingredient in achieving sustainable development in northern urban communities. In other words, *by sustaining creativity, cities will be able to create sustainability.*

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# VULNERABILITY OF POLAR URBAN CENTERS: THE CASE OF WESTERN SIBERIA

YVETTE VAGUET

UNIVERSITY OF ROUEN

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The rapid growth of the Arctic population in urban settlements raises the question of urban sustainability at the margins of the ecumene. Since mid-1960s, with the development of the oil and gas industries, Western Siberia has unfolded as an appealing and new urban territory, leading to a new regional identity. Today, fifty years later, of about thirty towns, 23 were created *ex nihilo*. This region therefore constitutes an interesting case study for a discussion of Arctic urban sustainability.

Applied to this region, the concept of vulnerability allows researchers to approach the question of sustainability at multiple levels and in different and complementary fields, including demographic dynamism, economic diversification, and integration into urban systems; and, at local scale, the transformation of urban landscapes and social integration of residents. The Western Siberian region, which has several towns in different situations, will be introduced and discussed, using GIS and data from remote sensing, as well as interviews with residents, as research tools.

First of all, sustainable settlement implies a certain demographic dynamism; it is important to distinguish shrinking and flourishing centers experiencing migration flows, natural balances, or both. Secondly, many western Siberian towns (like many Arctic towns in general) are often mono-activity related, or even single-enterprise. Therefore, they present a great economic vulnerability that influences their demographic dynamism. The ability of these towns to diversify their economies is key to their sustainability. Thirdly, these urban settlements are often viewed as a periphery of the national center, which is outside the boreal zone. In terms of integration into networks and urban systems, these peripheral towns may be viewed as vulnerable due to their isolation, with connections mainly oriented toward the national center, creating a tunnel effect. Their level of integration with urban systems, especially their very limited connection to other regional sub- and supra-centers indicates another dimension of their vulnerability. Fourthly, at local scale, the transformation of urban



landscapes evokes the dynamism of the center. However, the new exposure to potential ecological risks like flooding is another major component of their vulnerability. Finally, the social integration of newcomers and the identity of the polar center are important aspects of social sustainability.

# HUMAN CAPITAL OF THE RUSSIAN ARCTIC AND THE ROLE OF SUSTAINABLE CITIES IN ITS PRESERVATION AND DEVELOPMENT

EVGENY SHEPELEV

NORTHERN ARCTIC FEDERAL UNIVERSITY

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**H**uman capital may be called the most important resource of any state or society in the 21st century. It consists of people, their knowledge, skills, and will. Numerous mineral resources, vast territory, powerful military – all these things are significant. But if there are no people to use the resources, to explore and develop the territory wisely and effectively, a state will not last long.

The role of human capital can be seen very clearly in the example of Singapore. In the 1960s, when this city became independent, it had no industry, no natural resources, no skilled workers, and no reputation in international affairs. It was nothing but a small island between Malaysia and Indonesia. This city was predicted to lead a miserable life forever. But within 20 years, it became the center of the regional economy, its financial and transportation center, and the richest country in the region, with a well-educated population. Why? Because its leaders knew that the only resource they had was their people, and that only education and adequate laws could give Singapore an advantage. They have saved and fortified their human capital, and they have succeeded in statebuilding and development.

Today, the Arctic is becoming more and more interesting for many countries due to its natural resources and transportation prospects as a result of climate changes. For Russia, the Arctic is a strategically important region due to its military role and the amount of natural resources it has; these resources are necessary for the Russian economy.

If we think about the Russian Arctic, which evidently needs developing, we see at least two obstacles:

- Climate conditions are severe

- Infrastructure is quite poor

And these points lead to the main problem with the development of the Russian Arctic: nowadays, we do not have enough human capital to develop the Arctic effectively.

Human capital and its problems can be measured with the Human Development Index, which considers income level, life expectancy, and education level, as well as some other indicators. Russia's HDI is lower than that of other Arctic states, and the HDI measurements of the North of Russia are even lower.

In 2007, a study of HDI in Russian regions was conducted. Thanks to this, we can see the measurements of the regions situated in the European North of Russia, and we can compare them to the average measurements of Russia and the countries of Northern Europe (Table 1).

**Table 1.** HDI measurements in the countries of Northern Europe and some northern regions of Russia

Country or region	GDP per capita, US dollars (PPP)	Life expectancy	HDI
Norway	58 258	81.0	0.938
Sweden	36 139	81.3	0.885
Finland	34 107	80.1	0.871
Russia	15 719	67.2	0.719
Arkhangel'sk region	10 878	66.1	0.704
Murmansk region	9 709	66.4	0.696
Republic of Karelia	9 115	65.1	0.687
Komi Republic	13 382	65,5	0.711
Republic of Sakha	12 658	65,5	0.799

*Sources: Based on SocPol.ru and HDR.*

Unfortunately, there have been no such studies in Russian regions since 2006-2007, and since the methodology of HDI measurement changed in 2010, it has become more difficult to calculate it (we have to consider gender disproportions and extreme deprivation, and this data is hard to obtain). As a result, the contemporary situation requires further research.

At the same time, we can note some other facts that show the human capital problems in the North of Russia. Between 1989 and 2002, Russia's polar regions lost 25% of their population due to a rise in mortality and migration. Murmansk region lost 33% of its population between 1990 and 2011, Komi Republic lost 27%, Arkhangel'sk region 22%, and Republic of Karelia 18% (Fauzer 2013). Many people moved from the countryside and small towns to cities, many moved to cities in other regions, hoping to find better jobs and climate. As for income, it is insufficient in regions that do not have oil and gas industry – understandably so, given the severe climate conditions, huge distances and resultant higher prices of goods.

Considering all that has been said above, we have to ask ourselves the following question: how do we intend to develop the Russian Arctic in the face of such troubles?

Before answering that, we must also consider that the North of Russia is an urbanized region, where the role of cities is very important. This means that the fate of human capital in the Arctic and the fate of cities are interconnected. There are at least 3 possible ways forward:

1. Shift work. We let people move to other regions, and by mid-century, the only people who will live in the North will be those who work in the oil and gas industry, forestry, shipping and the military. Existing cities will disappear step by step. This is the easiest way. (Some scholars have posited that it is not necessary to have cities in the North.) (Hill and Gaddy 2003).
2. Construction of new high-tech settlements, which will become the center of new development in the North, while maintaining (not developing) the existing settlements. This is the most expensive way.
3. Sustainable and effective development of existing cities: Murmansk, Arkhangel'sk, Severodvinsk, Kotlas, Naryan-Mar and tens of others. It will take many years, substantial effort and funds, and detailed legislation to ensure that development is effective.

It is obvious that shift work is not suitable for complex development of a region. Shift work is good for extracting minerals and supporting some infrastructure, but this approach will turn the Russian Arctic into nothing but a storehouse of minerals, a place that is a workplace for less than 300,000 people and a home to no-one. This is not an approach that

would make the Russian Arctic and people who live there prosperous, as the income from such shift-work activity would go to the headquarters of corporations – to Moscow and Saint-Petersburg. This is not the fate the Arctic deserves.

Sustainable and effective development of existing cities seems to be the most reasonable idea. The term “sustainable development” became popular after it was used by the Brundtland Commission in 1987, in the report titled “Our Common Future.” The term was defined as development “which implies meeting the needs of the present without compromising the ability of future generations to meet their own needs” (UN 1987). All institutions, and the UN itself, were encouraged to implement this principle in current and future activities.

When we speak of sustainable development of urban settlements, we mean that all municipal activities – from construction and engineering to education – should be implemented in ways that do not harm the environment or the needs of future generations. We already have a lot of cities and towns in the North, with several million people, more or less developed infrastructure, industry, and educational institutions.

The North’s basic trouble is being an underdeveloped, cold, and (in some ways) boring periphery. It is situated far from the more developed regions of the South; it has no centers (regional capitals) which could attract attention and be of interest to new people from other regions, especially young specialists. This is not a uniquely Russian problem – the same can be seen in the north of Norway, for example, where the youth are slowly leaving in favor of more promising cities in the South. This is precisely the same process we see, for example, in Murmansk region.

The condition of the environment is also problematic. The condition of bodies of water throughout the Russian Arctic is quite poor and does not meet international standards. In industrial cities and their vicinity, soil samples are also of poor quality. The atmosphere is polluted.

On the UN’s definition, northern Russian settlements are more or less sustainable: they are secure, they have food and water supplies, infrastructure, etc. But considering what I have just explained, it is not enough to make people want to live there, not enough to save and develop human capital. The task is to make these cities and towns:

- Attractive for people, so that people migrate **to** the North, not **from** it;
- Economically effective, so that northern regions become a source of income for the entirety of Russia without compromising the region’s own needs (become donor regions, not subsidized territories);
- Safe for the environment and the needs of future generations.

When speaking of sustainable development, many researchers give priority to the environment (Kliuchikova 2013), sometimes to the detriment of the economy. Yes, we must consider that the environment of the Arctic is vulnerable. At the same time, I would propose using the term “sustainable” in the economic sense: that is, to describe an approach that uses resources wisely and has prospects of non-stop development for the foreseeable future. We should make human capital, its preservation and further development, as well as economic development, one of the top goals of the entire development strategy of the Russian Arctic.

We would like to see the Arctic as a set of valuable regions with developed economies, infrastructure, and happy people who consider the Arctic their home. This certainly does not mean that we should spoil the nature with industrial pollution, oil or the like. We can do nothing in the Arctic without people living there. Human capital is to be protected and developed – sustainable cities and towns will help to reach this goal.

The North of Russia has potential. It has natural resources, more or less developed infrastructure, and, despite the low population density, the Russian Arctic still has more inhabitants than the Arctic zones of other countries.

To conclude, what can we do to develop human capital in the Arctic, develop the economy and protect the environment?

- Use foreign experience and international cooperation (the reconstruction of factories in Murmansk region with the help of Norway is an example of such cooperation). Separated waste collection (this already exists in several buildings in Severodvinsk);
- Develop power engineering, using gas and granulated wood (waste from the timber industry and woodworking) instead of fuel oil, and nuclear power plants instead of gas. The power plant built by “Vorkutaugol”, which uses methane from their coal mine to produce electricity and heat, is an interesting project that makes the mine almost self-sufficient – which is one of the indicators of sustainability (*Sdelano u nas* 2014). Hopefully, in future we will be able to use fast-neutron reactors and thermonuclear power plants. “Nuclear batteries” are a good option for some cases too (remote stations, small villages...);
- Create new industrial and postindustrial facilities; use innovative technologies in all possible spheres. The government should encourage this with tax incentives and low-cost loans. The economy is based on resources, production, and knowledge, not only on shopping centers and banks;
- Encourage migration to the North, giving plots of land and financial support to new residents;
- Create free economic zones (in ports, at least);

- Make the minimum wage for the North higher than that in other parts of Russia (they are currently equal, which is not reasonable, as the cost of living in the North is higher);
- Pay increasing attention to medicine, education, transport, and communications.

If we look at the example of Arkhangel'sk and its region, we see that it is necessary to do the following:

- Continue developing NArFU, which may become the foundation of new development of Arkhangel'sk (it is currently not). We must also remember that another university in Arkhangel'sk, Northern State Medical University, is the only medical university in the North of Russia.
- Develop transport (traffic jams in the city are becoming a problem, bridges cannot handle the traffic, and road quality in the region is poor);
- Build a waste recycling complex near Arkhangel'sk (it was scheduled for 2015, but nothing has been done yet, so it will take several more years...);
- Build new industrial facilities, producing granulated wood (a renewable power source), for example, and develop the ship-building cluster of Arkhangel'sk and Severodvinsk, which is of great importance to these cities and the entire country.
- Use polymer pipes for heating mains instead of metal ones. The polymer ones cost more, but they greatly reduce energy losses and do not need so many changes and repairs. This is important for other cities as well, as 80% of heating mains are degraded and need replacing as soon as possible.

And this is only a small list of things to do.

Hopefully, within several years all levels of government will take measures to develop the Arctic, its cities and towns, thus ensuring that human capital is preserved and developed. We should discuss this topic and come up with ideas, which may be useful if implemented.

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# ВЗАИМОДЕЙСТВИЕ ОБЩЕСТВА И ГОСУДАРСТВА КАК ОСНОВА УСТОЙЧИВОГО РАЗВИТИЯ ГОРОДОВ (НА ПРИМЕРЕ Г. ПЕТРОЗАВОДСКА)

НАДЕЖДА БОРИСОВНА ПОЛЕВЩИКОВА

ИРИНА ВИКТОРОВНА ЩЕКОЛДИНА

ПЕТРОЗАВОДСКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ

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**П**ереход к устойчивому развитию - процесс весьма длительный и требует решения масштабных социально-экономических задач. Ситуация в России носит неоднозначный характер. С одной стороны, сохраняется нерациональное использование природных ресурсов, что ведёт к деградации среды обитания; имеют место кризисные социальные процессы. С другой, – утверждена на законодательном уровне Концепция перехода Российской Федерации к устойчивому развитию (далее - Концепция). В рамках Концепции предусматривается развитие интенсивной экономики, на базе которой предстоит создать финансовое, материально-техническое, интеллектуальное, и нормативно - правовое обеспечение сбалансированного социально- экономического развития, благоприятного состояния окружающей среды и природно-ресурсного потенциала в целях удовлетворения жизненных потребностей нынешнего и будущего поколений. Социальная устойчивость территории предусматривает создание демократических институтов и включает активное участие гражданского общества в решении задач и определения перспектив развития территории проживания.

В преобразованиях социально экономического пространства существенную роль играют два основных фактора: внутренний, вызванный социально-экономическими изменениями внутри страны; внешний, складывающийся под влиянием процессов, происходящих

в других странах. Под влиянием этих факторов преобразования проявляются на различных уровнях: пространственном, отраслевом, организационном, социо-культурном и образовательном. Качество и скорость преобразований зависит от многих причин: специфики географического положения, существующей социально-экономической структуры, условий для инвестирования отечественного и зарубежного капитала и т.д., в том числе от возможностей внедрения принципов устойчивого развития.

Территория Республики Карелия имеет как внешнюю границу с Финляндией, так и внутренние границы с Ленинградской, Вологодской, Мурманской и Архангельской областями.

Карелия входит в состав Северо-Западного федерального округа, располагается в пределах Европейской части Севера России, часть территории республики находится за Северным полярным кругом. Республика входит в международную организацию Баренц-Арктического региона. Республика богата лесными, водными, минеральными ресурсами, привлекательными ландшафтами.

Город Петрозаводск является столицей Республики Карелия (официальное название - Петрозаводский городской округ). Территория городского округа составляет 135 кв. км, население около 270 тыс. чел. - это примерно треть населения республики. Занимая «периферийное» положение по отношению к центральным районам России, республика приобретает некую функцию центра благодаря границе с Европейским Союзом. Международное взаимодействие в различных сферах способствует проникновению зарубежного опыта управления территориями.

Город Петрозаводск многофункционален: это и промышленный, и научный, и культурный, и туристский центр Северо - Запада России. Особый колорит городу придаёт его расположение на берегу Онежского озера - одного из крупнейших озёр Европы. Город имеет развитую транспортную инфраструктуру, связывающую его с крупнейшими центрами страны.

Представления о развитии территории могут различаться у различных групп населения, «привязанных» к определённой территории. Для жителей города суровость природных условий предопределяет особую ценность природно- антропогенных ландшафтов городской среды.

Мнение общества, конкретного человека на ту или иную проблему существует, но как донести его до органов власти? Как государство доводит информацию до жителей о планируемых и реализуемых мероприятиях по развитию территории? Какие существуют инструментарию взаимодействия общества и государства?

Из существующих видов взаимодействия в г. Петрозаводск

можно выделить те, которые дают представление о складывающейся системе прямых и обратных связей общества и государства.

Одной из форм взаимодействия являются открытые конференции, где с разных точек зрения рассматриваются проблемы и перспективы развития территорий. Например, в г. Петрозаводск состоялась II Международная конференция по городскому маркетингу «Города у воды: образы реальные и виртуальные» (20 – 21 февраля 2014 г.). Среди организаторов конференции были Администрация Петрозаводского городского округа, Союз российских городов, общественные и научные учреждения. Широкий круг заинтересованных лиц - организаторов и участников - определил многоплановость точек зрения и выступлений. Представители различных органов власти имели возможность ознакомиться с интересными идеями и увидеть возможные формы взаимодействия с обществом. Коллектив кафедры географии ПетрГУ выступил с докладом «Эстетическая оценка урбанистических ландшафтов как основа инвестиционной привлекательности городов» (Щеколдина, Вага, Полевщикова 2014). В представленном докладе к одному из приоритетных направлений развития территории Карелии относится развитие рынка рекреационных услуг и, следовательно, определение туристско-рекреационного продукта (как для городских, так и для сельских поселений). Авторы доклада исходили из того, что рекреационное использование пейзажно-эстетической привлекательности городов способно сохранить и расширить возможности природно-ресурсного потенциала территории, повышая инвестиционную привлекательность. Это направление является актуальным для поиска оптимальных путей развития городской территории и может быть предложено местным органам власти различных территориальных образований.

Другая форма взаимодействия - общественные слушания. Например, благодаря активной позиции горожан удалось сохранить несколько особо привлекательных и любимых горожанами мест: Левашовский бульвар, аллея по ул. Энгельса и ряд других объектов. На общественные слушания администрация города стала выносить большее число вопросов для обсуждения. Но времени, выделяемого для ознакомления с проблематикой общественных слушаний, не всегда достаточно для подготовки обсуждения того или иного вопроса.

Одной из форм традиционного взаимодействия является деятельность различных общественных организаций. В городе Петрозаводск сосредоточено большинство общественных организаций республики (около 30), в деятельности общественных организаций принимают участие всего 8% горожан (Лауринмяки, Линкола, Прятта 1996). Силами общественных организаций в городе реализовано несколько

проектов в разных сферах, например: «Права человека начинаются в школе», «Электронная сеть карельской молодежи», создан Совет неправительственных организаций при Законодательном Собрании Карелии, проведена конференция для школьников «Шаг в будущее» (школьники представляли свои собственные проекты в различных областях науки, в том числе, экологии) и др. Всего в 2013 году в городе действовали 28 долгосрочных целевых и ведомственных программ, направленных на решение ключевых социально-экономических проблем Петрозаводского городского округа. Объем расходов на реализацию мероприятий программ составил 683,6 млн рублей.

В Администрации работает электронная приёмная, куда могут обратиться жители города с вопросами, связанными с состоянием городской среды: по экологическим проблемам, по архитектуре и градостроительству, эксплуатации жилья и др. В электронной приёмной от граждан принимаются обращения, которые проходят регистрацию в трёхдневный срок и рассматриваются в течение 30 дней со дня регистрации.

В Российской Федерации принят Федеральный закон «Об общих принципах организации местного самоуправления в Российской Федерации» (Федеральный закон... 2003). Данный закон предоставляет возможности привлечения граждан для решения местных проблем. В соответствии с законом, в Городском округе Петрозаводска принят Устав (Устав Петрозаводского городского округа), который отражает право граждан на участие в местном самоуправлении (гл. 11). Глава 16 Устава предусматривает следующие формы организации системы территориального общественного самоуправления населения: общие собрания (сходы), конференции граждан, референдумы, иные формы непосредственной демократии, формирование органов территориального общественного самоуправления населения (советы или комитеты микрорайонов, жилищных комплексов), а также иных органов самоуправления населения по месту жительства (советы или комитеты улиц, кварталов, домов и т. п.).

Органы территориального общественного самоуправления образуются на базе микрорайонов (кварталов, улиц, территорий домов и т. п.). В главе 17 говорится о местных референдумах. На городской референдум выносятся наиболее важные вопросы местного самоуправления. Решения по вопросам, находящимся в компетенции органов местного самоуправления, принятые путем городского референдума, обязательны для исполнения всеми расположенными на территории города Петрозаводска государственными, муниципальными органами и общественными организациями, предприятиями, учреждениями (независимо от подчиненности и форм собственности), должностными лицами и гражданами. Они могут быть отменены или

изменены только по результатам соответствующего референдума или в ином установленном законодательством порядке. К формам общественной демократии относятся экспертные советы, общественные и публичные слушания.

Общественные и публичные слушания актуальны при решении вопросов застройки города. Существовавшие ранее строительные нормы и правила в районной планировке изменены, нарушается существовавший комплексный характер застройки, изменены и условия строительства новых домов. Особенное беспокойство вызывает у горожан «точечная» застройка: когда на месте школьного стадиона, детской площадки и других значимых для населения объектах возводятся дома.

В качестве положительного примера взаимодействия общества и государства можно привести утверждение в 2014 г. новой редакции «Правил благоустройства, обеспечения чистоты и порядка в Петрозаводском городском округе» (Петрозаводский городской округ). При разработке документа Администрацией города учитывались поступающие обращения граждан, выявлялись проблемные места в вопросах содержания территорий Петрозаводска, анализировался опыт других городов Российской Федерации, проводились совещания с депутатами Петрозаводского городского Совета, представителями прокуратуры г. Петрозаводск, учитывались предложения, поступившие в ходе публичных слушаний, проведенных 18 февраля 2014 года. Новая редакция Правил создана в целях приведения городских территорий в надлежащее санитарное и эстетическое состояние, улучшения внешнего вида города.

Для привлечения населения к обсуждению вопросов, связанных с развитием города, планируется ввести электронное голосование, когда каждый житель может высказать своё мнение по конкретному вопросу (официальный сайт Правительства Республики Карелия).

Но есть и некоторая особенность учёта общественного мнения: она носит рекомендательный, а необязательный характер.

Важен опыт местного самоуправления других стран, особенно Финляндии. Приграничное положение республики, достаточно высокая «прозрачность» границы способствует диффузному внедрению западного опыта на организационном и пространственном уровне. Совместные российско-финские проекты, наличие двух городов – побратимов г. Петрозаводск (г. Йоенсуу и г. Варкауса) повышают уровень и скорость преобразований, связанных с развитием различных форм сотрудничества.

Опыт Финляндии показывает, что важным элементом самоуправления является не только право на участие граждан в местном самоуправлении, но и право граждан не согласиться с решением

местных органов власти или подать жалобу (Лауринмяки, Линкола, Пятта 1996).

Рассмотрев институциональные особенности взаимодействия общества и государства, нельзя не подчеркнуть ещё одну важнейшую составляющую устойчивого развития: это становление определённой системы ценностей, связанной с воспитанием и поддержанием новых человеческих качеств, ориентированных на понимание необходимости сохранения окружающей среды и гармонизацию общественных отношений. Недостаточно провозгласить демократическую свободу в принятии решений по вопросам местного самоуправления, необходимо научить людей инструментарию воздействия на власть, заинтересовать в участии в преобразовании городской среды, развить эгоцентричное мышление.

Географические исследования целей и результатов человеческой деятельности в пространстве и во времени могут быть направлены на изучение экономической, экологической и социальной ситуации конкретной территории; возможных экологических ограничений хозяйственной деятельности (своеобразные внешние ограничения развития хозяйственной системы); представлений людей, живущих в

Именно тесное взаимодействие людей, предлагающих пути решения задач устойчивого развития и людей, принимающих решения по реализации идей устойчивого развития, возможно, изменит ситуацию к лучшему.

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# RELUCTANT ENTREPRENEURS OF THE RUSSIAN FAR EAST

AIMAR VENTSEL  
UNIVERSITY OF TARTU

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The dividing line between socialist society and ‘what came next’ is apparently when the former ‘economy of shortage’ was transformed into a market economy, where goods became widely available and entrepreneurship was allowed to exist legally. The collapse of the socialist planned economy in Eastern Europe was hailed not only as an economic transformation but also as the emergence of an entrepreneurial class, associated in Weberian tradition with the appearance of a fundamental need for innovation, free thinking and democracy.

My paper focuses on a group of entrepreneurs in the Russian Far East that I call ‘reluctant entrepreneurs’, people who often took up their new occupation not because they dreamed of becoming entrepreneurs but because ‘*biznis*’ (Russian for business) seemed to them to be the best option for survival.

## **The Republic of Sakha (Yakutia) and the economic environment**

The Republic of Sakha (Yakutia) is the largest territorial unit of the Russian Federation and belongs to the easternmost territory, called the Far East Federal District, which contains nine different territorial units. The republic is a large but scarcely populated territory: covering more than three million square kilometers, it is inhabited by slightly less than a million people, of whom 55% belong to the titular ethnic group, the Sakha.

The republic is famous for its diamond resources, producing 30% of the world’s diamonds and almost 100% of Russia’s diamonds. The extraction of natural resources is the domain of big companies, as well as large-scale construction, air and water transport. 73% of the population in the Republic of Sakha are urban inhabitants.

In 2009, there were 181,514 small enterprises in the whole of the Russian Far East. 80% of these were ‘microenterprises,’ or enterprises that have up to 15 permanent employees. Small enterprises tend to have very low investment and profit levels: 60% of Russian Far East small



enterprises are engaged in whole and retail sales.

In 2010, 115 medium size enterprises and 4,952 small enterprises were registered in the Republic of Sakha (Yakutia). In the year 2009, small enterprises contributed only 6.6% of the regional GDP, but gave work to 40% of the local workforce. The particularity of the region is that 80% of these enterprises are concentrated in four cities (the capital Yakutsk; Neriungri, famous for its coal industry; Mirnyi, the center of the diamond industry; and Lensk). The statistics shows that, in Sakha, small enterprises are engaged in wholesale, building, real estate and transport. The role of small-scale enterprises in different spheres can be high: 94.3% of service (*bytovye uslugi*) and 100% of small bus transport is performed by small enterprises, as are the majority of tourism, clothing repair, cargo transport, and car and truck repair services. Local economists have highlighted one peculiarity of small-scale enterprises: their need for high-skilled specialist labor is much lower than their demand for unqualified manual labor.

In this paper, I draw on the fieldwork I conducted in the Republic of Sakha in July and December 2013 and in July 2014.

## **The beginning**

In general, one expects that a person who enters into a small business wishes to be engaged in entrepreneurship and has some vision or strategy for how he or she will develop the business. Another popular argument in academic literature is the “path dependency” argument, an assumption that entrepreneurs have role models, have been active in the business before, or that new post-socialist enterprises follow in the footsteps of similar socialist-era state companies.

The group studied had quite similar motivations in changing their occupations. “When in the 1990s wages were not paid I had nothing else to do but to open my own kiosk. We sold everything, day and night!” The majority of such people worked, until that period, in low-paid public sector jobs, which were the first to go unpaid or receive extremely poor salaries in the new economic conditions. Among the respondents were former teachers, library workers, day care teachers, university teachers, accountants and mid-level clerks in various state enterprises.

There is one different story in my data. One of the informants was forced to start leading a fishing and hunting enterprise because her mother died and left the enterprise behind. “My mother died and I had no choice. Somebody had to take control. That was an enterprise she had built up and we could not abandon it!” In answer to my question as to why she felt obliged to take over the leadership, she replied:

My mother had established the enterprise, how could I give it up?  
Moreover, all the people working for the company are our relatives

in the North (in the village of Tiksi at the coast of the Arctic Ocean).  
How will they receive their salaries if the company ceases to exist?

## **Morality of the business**

The last quotation introduces another phenomenon related to the reluctant entrepreneurs in the Russian Far East: the moral dimension of business that follows these entrepreneurs during their active careers. Different moralities seem to play a significant role in shaping business ideology. These norms are embedded in local kinship ideology, a notion of social value and morality. Different theoretical approaches to morality agree that the perception of what is moral or not is anchored in cultural values (Brandtstädter 2003; Estrin, Aidis, and Mickiewicz 2006), although according to some scholars, morality should be publicly demonstrated through behavior and the decisions made (Robbins 2007).

As mentioned, entry into the world of entrepreneurship was involuntary for most informants; the incentive was a need to seek alternative income, not a desire for self-realization. This entry did not exclude, however, following certain moral principles that remained consistent. It was not only providing income for relatives and demonstrating kinship solidarity that was important for Far Eastern entrepreneurs in the early 1990s:

Working in a kiosk is quite dull. You just sit in there and sell what people want. I never hired young men (*parnei*) because this is not a man's work to sit and sell cigarettes. Girls are more able to adapt [to the situation], this work is more suited for them. Moreover, girls have a better sense of discipline. They do not drink heavily and then skip the next day. For a girl, it is a good opportunity to earn some money when they have just arrived to the city and need some finances. But this is not a job for a guy to start a career.

In this and similar statements, practical reasons merge with local perceptions about gender and masculinity. In the Russian Far East, the man is first and foremost a breadwinner. Work in a kiosk contradicts the local perception of masculinity, where a man should earn money through heavy physical work, not sitting in a small booth. Perceptions of gender are important for hiring employees, as is the obligation to provide income for relatives. Moreover, many respondents confessed that they prefer to hire pensioners. From a practical perspective, pensioners in Russia usually agree to work without a contract, are more disciplined, and accept lower pay. Some entrepreneurs also saw this practice as a form of charity, as old people were able to earn income to supplement their low state pensions.

Sometimes, the entrepreneurs made decisions that were clearly unprofitable, especially in the short term. Most respondents who had food shops stated that they refused to sell alcohol. I was told, “We do not support it [alcohol trade]. We support a healthy way of life (*ZOZh* in Russian, a very common abbreviation of *zdorovye obrazy zhizni*).” To sum up, it seems that when economic rationale comes into conflict with social norms, precedence is given to social norms.

### **Explaining reluctance**

As is apparent from various anthropological, sociological or economic works, the emerging entrepreneur class may not behave according to the rules of transparent trade. They possess, however, a certain amount of the required way of thinking: a desire for enlargement, a keen eye for innovation, and a rational, cost-effective strategy.

First, a story of a successful female entrepreneur who had moved to the city in the early 1990s, when salaries remained unpaid in the villages. She started with kiosks, and soon opened a small enterprise, initially producing toilet paper. After some years, she sold her business and invested the money in some food shops. The accumulation of income was not used to enlarge her initial business but to open a laundry. When the laundry became successful, she opened a hair salon. After speaking with her and getting additional information from other people, I came to understand that she managed her enterprises herself, with only occasional help from her children. A similar pattern became apparent with other entrepreneurs: they relied on informal kinship networks and were not very interested in the growth of their enterprise, but rather sought to diversify risks by investing in an unrelated sphere. Their reluctance to grow and develop an otherwise well-functioning enterprise was also signaled by the near invisibility of the shops. Most enterprises I visited had either extremely modest signs on the street or nothing at all. As the owner of a non-marked laundry explained to me, her customers come to her by word of mouth. People who were engaged in supplying village people with furniture and domestic tools relied upon a network of customers and had no formal catalog or web site.

The mistrust of formal institutions and a preference for informal networks in the post-socialist economy is widely known. It is stressed that the institutional environment explains the low level of entrepreneurial development in Russia, and this is true, but in a different way. Namely, in the Russian Far East, small enterprises are unexpectedly free in their activities. Local government structures have little interest in controlling this segment of the economy and support large companies. In a situation where nearly 60% of the Yakutsk population has trouble finding suitable work, most small entrepreneurs are engaged in reselling imported goods

and focus on satisfying the elementary needs of the population.

People's reluctance to follow "normal business rules" was especially obvious when it became clear that entrepreneurs do not form a community, as one would expect. All the respondents told me that they have little interest in knowing their competitors and that they do not communicate with them at all.

### **Concluding remarks**

Personal relationships in the world of business include a variety of social norms and strategies that affect "economically rational behavior." The entrepreneurs of the Russian Far East demonstrate that economic practices can be better understood when the economic environment in the region and people's biographies are considered.

In the case of reluctant entrepreneurs, entry into business was often involuntary, a way to choose the best of the bad options available. While there is a widespread understanding that private business maintains affiliation with the state structures in order to profit from that connection, my research shows that this connection is also needed in order to withdraw from private entrepreneurship "when the time comes." All but one of my informants told me that being a "state employee" is significantly better than being a self-employed entrepreneur. In a state job, one receives a stable income, sick leave and (very important in the Far East) annual paid travel within the Russian Federation during the holidays.

Considering the future plans, biographical facts and business ideology of my respondents, their reluctance to follow "normal" business rules is explained by the fact that they see their activity as temporary. They are reluctant to let their enterprises grow beyond the point at which they would need to hire educated managers; instead, the "reluctant entrepreneurs" often prefer to exist in a grey area and diversify their activities to avoid economic risks.



**NEW MOBILITY AND  
NEW MIGRATION  
PATTERNS**



# THE QUALITY OF LIFE IN ARCTIC CITIES: HOW IS NORTHERN DISCOMFORT COMPENSATED FOR BY VACATION TRIPS?

NADEZHDA ZAMYATINA

LOMONOSOV MOSCOW STATE UNIVERSITY

(2015)

Quality of life is a complex phenomenon, including not only economic living conditions, housing and infrastructure, but also the perception of it, which depends on values and past living experience. Particularly important for the sustainability of Arctic cities is the compensation mechanism for northern discomfort.

As for economic living conditions, they differ dramatically between Arctic cities. West Siberian Russian cities are among the highest-income cities in Russia, with highly developed social infrastructure. But some Russian cities suffer significantly from the collapse of their single industry and the degradation of infrastructure. The diversity of economic conditions creates many demographic and psychological effects. In low-income regions, for example, there is a high incidence of abortion and a high percentage of children live in one-parent families (in Russia, this is not due to the second demographic transition but is a marker of social deprivation and marginalization). We can also see dramatic diversity in quality of life satisfaction.

This qualitative analysis of quality of life feeling in Russian Arctic cities is based on fieldwork in Noril'sk (2013) and Noyabrsk (2014) and previous field trips, as well as the literature on this topic. It found that quality of life feeling depends on a very complex set of factors, but regular, long vacation trips are of great importance. Russian labor laws allow those who have a job in the Arctic zone an extensive holiday (2 months or more) every two years, for which they are financially compensated. Arctic residents feel that their long vacation trips to southern places are legitimate compensation for the discomfort of living in the Arctic.

First of all, such a trip is thought as a chance to get “season diversity”



and “see real summer.” The expansion of experience is also very important. The northerners think they are more mobile, more informed and have a broader mental outlook and higher creativity than those who are called “Southerners” or “middle-zone citizens” (“*srednepolosniki*”), simply due to their opportunities to go on long vacation trips and “see the world.”

The next role of the vacation trips is maintaining social networks and using weak social ties. For Russian Arctic people, the majority of informal communication takes place during vacation trips.

For example, our respondents made decisions about which university to attend or what real estate to buy thanks to friends’ advice received while vacationing in southern cities. For inhabitants of low-income cities, the vacation is also a chance to get cheaper goods, including vegetables and other food items.

The vacation trips also invite controversy. On their regular trips to large cities like Moscow or southern resorts, the northerners absorb the value of a high standard of living. On their return to their Arctic cities, they feel disappointment, not only because of the cold but also because these cities lack some of the features of large cities. A McDonald’s restaurant is such a marker of a “normal city” for Arctic youth that the lack of it is thought as deprivation, for example. Many young Arctic people are not satisfied with conditions that are “objectively” much better than in dozens of small cities in other parts of the country. On the other hand, the high quality of life standards observed on the vacation trips push northerners to improve their own cities.

# INTERNATIONAL MIGRATION INTO THE ARCTIC

TIMOTHY HELENIAK  
GEORGE WASHINGTON UNIVERSITY  
(2016)

With “globalization,” there has been increased international migration into the Arctic, though there has not been a lot of systematic data on, nor study of, these flows. Lack of knowledge of these “newcomers” and their impact was cited as one area in need of further research in the recent Arctic Human Development Report (Larsen and Fondahl 2015). This chapter quantifies the number of international migrants living and working in the Arctic as background for understanding international migration patterns in the Russian Arctic.

## Methods and Data

### *Definition of the Arctic*

There are a number of different definitions of the Arctic used in the natural and social sciences. Even within the social sciences, definitions differ depending on the phenomena being analyzed. The definition in the Arctic Human Development Report (AHDR) is a common one, used when analyzing social and economic issues in the Arctic. However, even within that report, the chapters differ in the definition of the Arctic that they use when they explicitly define the region. One issue when using socio-economic data is the availability of data and at what geographic scale.

The definition used in this paper is as follows. In the United States, the state of Alaska. In Canada, Yukon, the Northwest Territories, and Nunavut (and provincial north). All of Greenland, Iceland, and the Faroe Islands. In Norway, Nordland, Troms, and Finnmark. In Sweden, Västerbotten and Norrbotten. In Finland, Lappi, Kainuu, and Pohjoil-Pohjanmaa.

Defining the Arctic within Russia is difficult for several reasons. Russia has a definition of a Far North (*Kraynyi sever*), which is something of a holdover from the Soviet period, when the designation of Far North was used to set regional wage premiums and other benefits. Such a definition is still used for some purposes, though it has been modified considerably in the post-Soviet period. This definition cut across

oblast-level boundaries, and most social, economic, and demographic data are presented only at the oblast level. This definition encompassed fifteen regions; in 2013, these regions had a population of about 7.6 million (Federal State Statistics Service of Russia). Russia has recently defined a narrower Arctic zone, which on January 1, 2015 had a population of 2.4 million.<sup>1</sup> Another complication when defining an Arctic within Russia is that many of the ethnic homelands of northern and Siberian peoples, which are located in the north or along the Arctic coast, have recently been administratively downgraded and have been subsumed into the larger unit to which they were previously subordinated. Data for these units is often not included separately when data for the current 83 regions is presented.

Thus, a slightly larger definition of the Arctic in Russia than the new official definition is used in this analysis. This includes all of the Murmansk oblast; Republic of Karelia; Arkhangel'sk Oblast; Nenets Autonomous Okrug; the city of Vorkuta in the Komi Republic; Yamal-Nenets Okrug; Khanty-Mansiy Okrug; the cities of Noril'sk and Igarka, the Taymyr Dolgan-Nenets municipal rayon, and Turkhansk municipal rayon in Krasnoyarsk Krai; Allaikhovskiy municipal rayon, Anabarskiy national okrug, Bulunskiy municipal rayon, Nizhnekolymskiy municipal rayon, and Ust-Yanskiy municipal rayon in the Sakha Republic; and all of the Chukotka autonomous okrug; Kamchatka Oblast; Koryak autonomous okrug; and Magadan Oblast.

### *Data on international migration in the Arctic*

The definition of an international migrant is not the same across the Arctic. In Alaska, data are taken from the census, American Community Survey, tax returns, and permanent fund dividend records. For Canada, data are from the census and register data. For the Nordic countries, most data are register-based, but there are differences in the definition of international migrants. In Russia, data are taken from the census and the resident permit system, though the latter is deteriorating in coverage. Because of these quite different levels of geography and international migration data, there is no attempt at comparisons across Arctic.

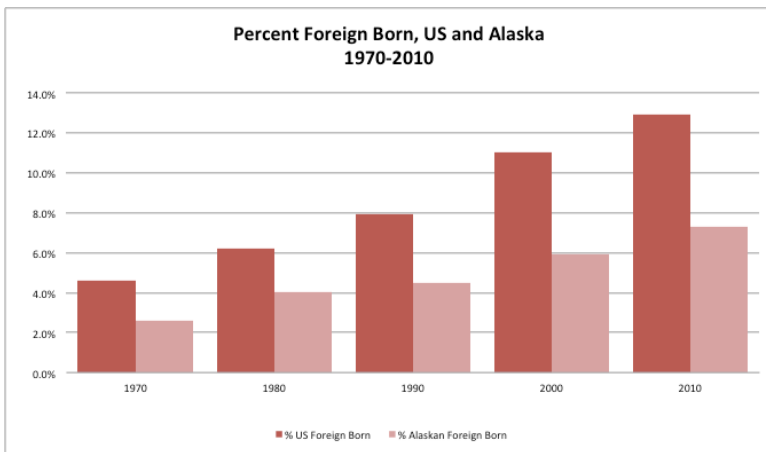
## **Results**

### *Alaska*

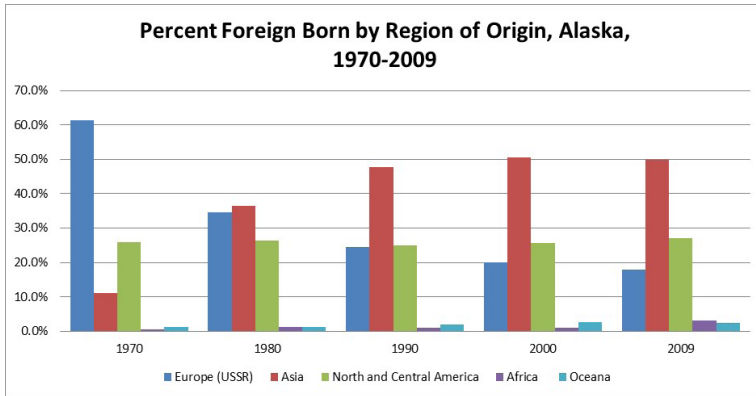
Among US states, Alaska has traditionally had one of the largest shares of its population born outside the state. Other states with large shares of their populations born outside the state are California, Arizona, and Florida. In these states, those born outside the state also include large numbers born

abroad, whereas in Alaska, most of those born outside the state originated from elsewhere in the United States. The percentage foreign born as a share of the population has been increasing in both Alaska and the United States, but much slower in Alaska than the rest of the country. The percentage foreign born in the country as a whole has risen from just over 4% in 1970 to over 12% in 2010, approaching the historical highs that occurred during the early twentieth century (see figure 1). Over this time, the percentage foreign born in Alaska increased from 2% to 7%. Over this time, the country of origin of the foreign-born population has shifted. In 1970, two-thirds of foreign-born residents originated from Europe (see figure 2). By 2010, those originating from Europe had declined to less than 20% and international migrants from Asia made up half of all foreign-born residents. This differs from the United States where the majority of foreign-born residents originate from North and Central America.

**Figure 1.** Percentage of foreign-born residents, US and Alaska (1970 – 2010)



**Figure 2.** Percentage of foreign-born residents by region of origin, Alaska (1970 – 2009)



### *Greenland*

Between 1960 and 1990, Greenland vacillated between being a country of net immigration and net emigration – though there was a net outflow of people during these decades. However, since 1990, there has been a clear trend of net emigration from Greenland, which, as noted above, has been roughly equal to the amount of natural increase, resulting in a rather stable population size. Since 1993, an average of 2,400 people per year have migrated to Greenland and 2,800 have left the country. Because of Greenland’s small population size, these flows represent a larger share of the total population and constitute considerable churning. Each year, nearly 5% of the population leaves Greenland, mostly to Denmark; a flow proportional to 4% of the population moves to Greenland, a large proportion of whom were born in Greenland.

### *Iceland*

Being a small, geographically isolated country, Iceland has long had a history of both permanent and temporary emigration from the country (Statistics Iceland 2009). Until recently, these outflows mainly consisted of native-born citizens of Iceland, as the foreign-born population was quite low until recently. As late as 2005, the share of foreign-born residents of Iceland was only about 3.5% (Statistics Iceland 2015). With the recent increase in migration, this has risen to about 7.5% of the population.

Over the period 1986 to 2014, immigration to Iceland increased considerably, from 2,703 in 1986 to a peak of 12,546 in 2007 (just prior to the banking crisis). Immigration then declined by more than half to 5,625 in 2010, before increasing again to 6,988 in 2014. In 1986, 64% of

immigrants came from the other Nordic countries, 14% from the EU-15, and 10% from North America.<sup>2</sup> Flows from other regions were quite small, including from other European countries, a category which encompasses the new member states of the EU. In 1986, Denmark, Sweden, Norway and the United States were the top countries of origin, together making up more than three-quarters of all immigrants in that year (see table 1).

**Table 1.** Iceland: Top Ten Countries of Immigration by country of citizenship, 1986 to 2014 (percent of total immigration)

	1986		1996		2005		2007		2011		2014	
	Percent	Total	Percent	Total	Percent	Total	Percent	Total	Percent	Total	Percent	Total
Total		100		100		100		100		100		100
Denmark	30	Denmark	28	Poland	20	Poland	20	Poland	45	Denmark	23	Poland
Sweden	21	Sweden	20	Denmark	19	Denmark	19	Denmark	13	Poland	14	Denmark
Norway	14	Norway	11	Sweden	11	Norway	7	Sweden	5	Norway	11	Norway
United States	11	United States	6	Norway	6	Lithuania	6	Lithuania	5	Sweden	8	Sweden
United Kingdom	5	Poland	5	China	5	United States	6	United States	3	United States	4	United States
Faroe Islands	4	Germany	3	Germany	3	Germany	5	Germany	3	Germany	4	Germany
Germany	2	United Kingdom	3	United States	3	Norway	5	Norway	2	United Kingdom	4	Germany
Sri Lanka	1	Thailand	2	United Kingdom	3	Norway	5	Norway	2	United Kingdom	4	United Kingdom
Luxembourg	1	Finland	1	Portugal	3	United Kingdom	3	United Kingdom	2	Lithuania	3	Spain
Australia	1	France	1	Portugal	3	Portugal	3	Portugal	2	Latvia	2	Lithuania
Other	10	Other	10	Lithuania	1	Latvia	3	Latvia	2	Spain	1	France
				Other	10	Other	24	Other	17	Other	25	Other

In 2007, the last year before the banking crisis, immigration peaked at 12,546, with the share from other Nordic countries falling to 22% and the share from other European countries increasing to 55%. In that year, Polish citizens were by far the largest group of immigrants. The number of Polish citizens migrating to Iceland went from just 5 in 1986 to a peak of 5,653 in 2007 before dropping considerably to 780 in 2011, then increasing again to 1,406 in 2014. Overall immigration increased in 2014 to 6,988, with declines in the relative shares from other Nordic countries and increases from other European countries. Poland again became the largest sending country.

### *Faroe Islands*

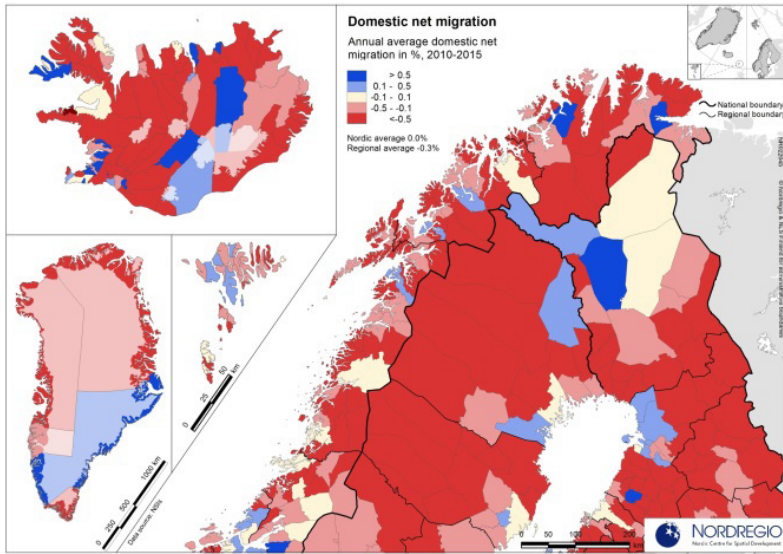
The Faroe Islands have had a similar trend to that of Greenland, with significant inflows and outflows each year. Since 1990, there has been a net immigration amounting to 3.2% of the population and a net emigration of 3.7% of the country's population. There was a period of high outmigration in the first half of the 1990s, but since then, migration has been relatively balanced between immigration and emigration.

### *Northern Fennoscandia*

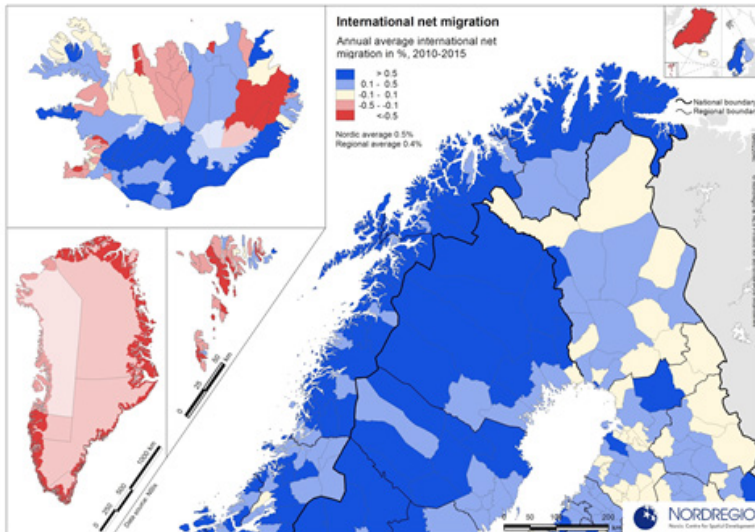
The Arctic regions of Norway, Sweden, and Finland will be treated together, and I will begin with a brief discussion of national population trends. From the time of its independence from Sweden in 1905 until after World War II, Norway was predominantly a country of emigration. Norway has been a country of net immigration since 1970, with increasingly large inflows in recent years. With the exception of a couple of years in the 1970s, Sweden has predominantly been a country of immigration since 1960 (figure 4). Levels of emigration have fluctuated and risen slightly, but it is levels of immigration that have driven overall net migration. There have been several periods of higher-than-usual immigration into Sweden, one in the early 1970s and another in the 1990s. However, since 2000, levels of immigration have increased considerably, accelerating from 2006. Between 2006 and 2015, immigration into Sweden has averaged 104,000 people annually. Finland was predominantly a country of emigration in the 1960s and 1970s, with some periods of quite high emigration during economic downturns, much of this directed toward the other Nordic countries. However, since 1981, Finland has been a country of immigration, though not at the same level as the Nordic countries. Finland, even more recently than the other Nordic countries, has begun to view itself as a country of immigration (Tanner 2003).



**Figure 3. Domestic net migration**



**Figure 4. International net migration**



In the Arctic regions of these three countries, there has been a pattern of domestic out-migration for most of the regions, combined with international immigration (see figures 3 and 4). In other words, international migrants are replacing natives who are migrating south to the capitals and other larger urban settlements. The percentage of foreign-born residents is increasing in all of the Arctic regions of Fennoscandia. At the same time, there has been a long-term trend of the downsizing of smaller settlements and increased concentration of the population up the urban hierarchy into larger settlements.

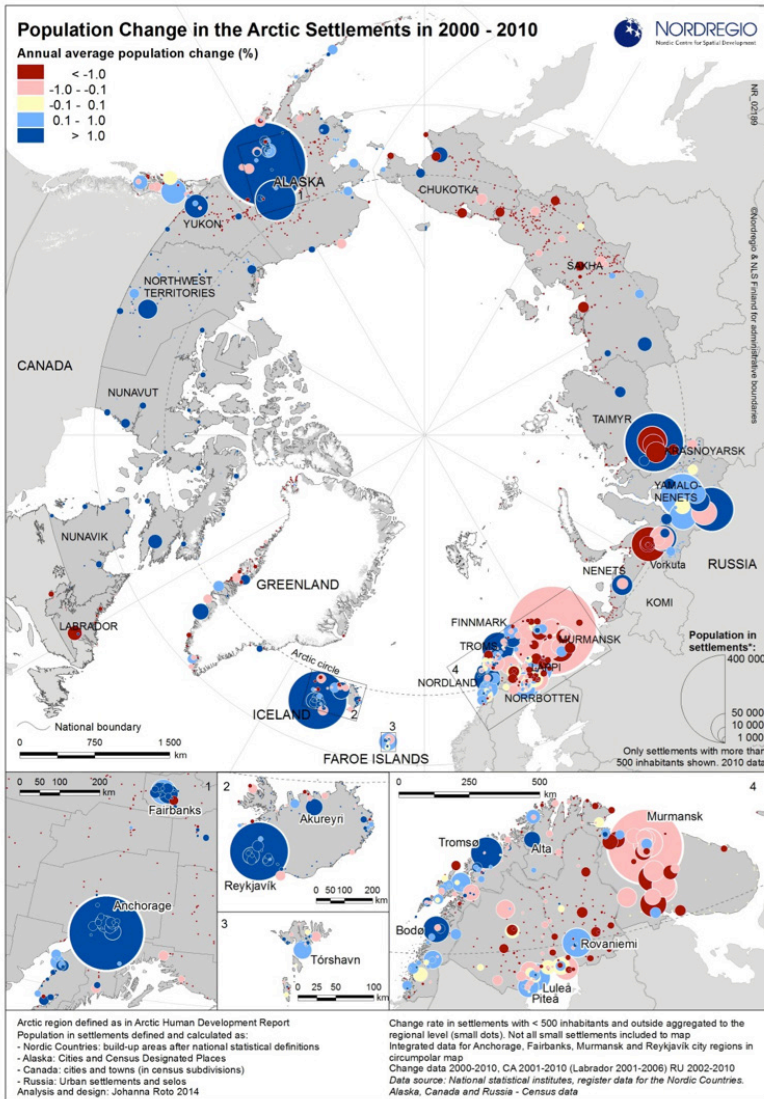
### *Northern Russia*

The shrinkage or downsizing of the population of the Russian Arctic in the post-Soviet period has not been a universal decline, but rather shrinkage with significant decline in most regions and settlements, combined with growth in others. The population of the entire Russian North declined by 20% 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 economic transition, with a 22% population decline from migration.

Reinforcing the fact that two distinctly northern economies have developed during the post-Soviet period, 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% consisted of a natural increase of 19% and positive net migration of 4%. For Yamal-Nenets, its growth of 10% consisted of natural increase of 21% offset by outmigration of 12%. These two regions had by far the highest percentage natural increase in the North because of the young age structure of their populations, which results from having such large populations of migrants.

Over the entire period, all northern regions except for the Khanty-Mansiy 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, the Karelian Republic and Arkhangel'sk oblast, the latter two of which are closer and better connected to central Russia. 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% 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.

**Figure 5.** Population change in the Arctic settlements (2000 – 2010)



It is useful to compare patterns of population change in the other Arctic regions to those in the Russian Arctic. Figure 5 shows the pattern of population change by settlement in the Arctic from 2000 to 2010. Settlements shown in red have experienced population declines, while those in blue

have had a population increase. There is a contrast between the Russian Arctic and other Arctic regions: many of the settlements in the Russian Arctic have faced declines in their populations, while most of the Arctic outside Russia has enjoyed population increases, at least in the larger settlements. Noril'sk, along with a few of the cities in the Khanty-Mansiyskiy okrug and the Yamal-Nenetskiy okrug, grew in population in that time. Most of the smaller places in Fennoscandia and Russia have been declining markedly in size; a substantial number of the larger places have suffered the same fate. The places which have experienced major growth in Fennoscandia and northwest Russia are places where educational opportunities are available. Similar patterns are shown in the North Atlantic region, where Torshavn, Nuuk, and Sisimiut have experienced the greatest population gains. The Russian Arctic is similar to other Arctic regions in that there is the same movement up the urban hierarchy, with growth, or less shrinkage, in larger settlements.

<sup>1</sup> The Arctic zone encompasses all of the Murmansk oblast, Nenets autonomous okrug, Chukotka autonomous okrug, and Yamal-Nenets autonomous okrug, the city of Vorkuta within the Komi Republic, five northern regions within Yakutia, the city of Noril'sk, and the Taymyr and Turkhanskiy municipal rayons within the Krasnoyarskiy kray, and five urban districts and three municipal rayons within the Arkhangel'skiy oblast.

<sup>2</sup> The Nordic countries include Greenland and the Faroe Islands and the EU 15 includes Switzerland and Liechtenstein.

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# DYNAMICS OF INTERREGIONAL MIGRATION IN POST-SOVIET RUSSIA

TIMOTHY HELENIAK  
GEORGE WASHINGTON UNIVERSITY  
(2017)

The migration system of Russia, the world's largest country, has undergone considerable change over the past two decades. Three significant events contributed to these changes - the breakup of the Soviet Union, the economic transition away from a centrally-planned to a market economy, and the liberalization of restrictions on migration. Using an 89-by-89 origin-destination matrix of interregional migration flows for the regions of Russia in the years 1989 to 2010 (similar to the 51-by-51 origin-destination matrix of interstate migration flow data often used in analysis of U.S. migration), this paper computes migration efficiency measures to examine changes in the Russian migration system over this turbulent period. Economic and other factors driving these changes to the Russian migration system are identified at the national and regional levels. The paper shows that there is a strong negative correlation between migration system efficiency and economic growth in Russia. At the regional level, in the early 1990s, migration efficiency was either highly positive or negative, with most northern and eastern regions having quite negative migration efficiencies, most regions in central and southern Russia having very positive efficiencies, and few having migration efficiencies near zero.

The migration system in Russia has undergone considerable change over the past two decades. Three significant events have contributed to these changes. The first is the dissolution of the Soviet Union and the emergence of fifteen newly independent states in its place, the largest of which is Russia. This caused what had previously been internal migration among the states of the former Soviet Union to become international. The breakup resulted in the addition of some 28 million persons to the global stock of migrants, defined by the United Nations as a person living outside their country of birth (United Nations Population Division 2011). As a result, Russia now has the second-largest stock of international migrants in the world after the United States. It is Russia which has become the migration magnet in the post-Soviet region, gaining a net 6 million documented

migrants since 1992 and nearly the same number of undocumented migrants (Ivakhnyuk 2009, 16). The second major change to the Russian migration system has been its liberalization and the partial withdrawal of the state from planning and directing population movements. Freedom of movement without requiring permission from the state, including the right to emigrate, was written into the 1993 constitution (Ivakhnyuk 2009, 12). The third major impact on the migration system in Russia was the economic transition away from the centrally planned economic system that existed in the Soviet Union toward a market economy. This resulted in considerable economic restructuring of national and regional economies, as well as a large increase in income disparities between Russian regions.

The spatial distribution of Russia's population has undergone what many regard as a necessary adjustment from one suited to the closed, centrally-planned economy that Russia had during the Soviet period to one better suited to an open, market economy (Hill and Gaddy 2003; Mikhailova 2005). Though the influence of the state in directing population movements in the country is less than during the period of central planning, there remains a legacy of top-down planning of the spatial distribution of the population. A recent government proposal called for increased population mobility and the consolidation of the country's population into twenty large urban agglomerations (*Peredel Rossii* 2010). The purpose of this paper is to determine the efficiency of migration in redistributing the population during this period of economic, social, and political restructuring and to measure changes in the migration system.

This paper shows how these abrupt changes at the macro-economic, political, and societal levels have impacted the magnitude and direction of migration in Russia. Significant changes between the Soviet and post-Soviet periods at the national and regional levels would be expected. After nearly two decades since the onset of the migration system reforms, a transition to a new static/steady state can also be expected. The paper begins by discussing the links between migration and economic growth in Russia and positions this analysis against previous research on migration in post-Soviet Russia. This is followed by a description of the Russia migration data used in this analysis and of migration measures used. The main section of the paper analyzes Russian migration efficiency at the national and regional levels, as well as for selected migration streams. A final section discusses the implications of the analysis for migration patterns and policy in the country.



## Migration in post-Soviet Russia

Russia is by far the world's largest country, which is both a blessing and a curse. Much of this large land mass is not only distant from concentrations of economic activity and large urban settlements but is covered with permafrost and has an extremely cold climate, making transportation and economic activity very difficult. In a recent assessment of the spatial aspects of Russia's economy, the World Bank suggested that in order to become a high-income country, the country needs to become more mobile, more concentrated, and more internationally integrated (World Bank 2011). According to the study, many of Russia's problems relate to its economic geography and the legacy of seven decades of central planning, which attempted to spread people and production out across the entire landmass. In post-Soviet Russia, this has left Russia inefficient and uncompetitive, in part because of the inability of the population to reverse these spatial legacies.

Russia's spurt of economic growth in the first decade of the 21st century has largely rested on natural resource exports. Compared to other large countries (the United States, Canada, Australia, Brazil, China, and India are used as comparators in this study), the population of Russia is much less mobile and much more dispersed. In order to continue to grow and to expand away from a resource-based economy, several policy measures need to be taken. For Russia to change its economic structure away from dependence on oil and gas, it will also need to change the location of production and the population. A spatial component seems to be missing from economic growth models, including the spatial distribution of the population.

There is a legacy of immobility in part because of decades of the state attempting to direct the distribution of the population. This started with Stalin sending millions to labor camps in the north and Far East. Compared to the population and economic densities of Canada's northern and frontier peripheries, there is a surplus population of 17.6 million in Siberia and the Far East (Mikhailova 2005). While there has been considerable migration away from the northern and eastern peripheries toward central Russia, there are still many people who would like to leave these regions but are unable to do so. There is also a fear on the part of the state of depopulating these periphery regions and thus losing their sovereign claims over them.

While international comparisons of mobility are difficult, Russia appears at the bottom when compared to other large countries. Based on official data, the average Russian only makes 1.3 moves in their lifetime (Rosstat 2010). Another source says that the average Russian moves two times in their lifetime while the average American moves thirteen times



and the average Brit seven times (Aleshkovski 2006). Another source gives the following mobility figures for selected countries for 1998 (moves as a percentage of population): Korea (11.8), Finland (10.0), Australia (7.9), Norway (6.5), Switzerland (6.1), Japan (4.9), Netherlands (4.0), Hungary (4.0), Czech Republic (1.9), and Russia (1.8) (Mkrtchian 2009).

This legacy of low mobility is seen clearly in the many mono-towns spread across Russia, urban settlements with economic bases dominated by a single industry or enterprise. While definitions vary, one source gives totals of 476 cities and 332 smaller towns classified as such (Expert Institute 1999). Mono-towns produce 30% of Russia's industrial output. While a few are profitable, most are not and are a drain on public resources designed to keep them operating, when policy should be to facilitate their downsizing and the outmigration of the population.

While many feel that Moscow is already too large, it needs to continue to grow in order to enjoy the benefits of agglomeration. The rank-size rule predicts that Moscow and Saint Petersburg should be thirteen and seven million instead of 10.5 and 4.8 million respectively (World Bank 2005, 27). Compared to comparable large resource-rich countries, the population of Russia is actually quite dispersed. More than two-thirds of Australians and Canadians live in the three largest conurbations, while in Russia just one-in-eight people reside in the three largest cities. While Moscow is now highly congested and very expensive, the urban hierarchy is oddly bereft of any cities between 1.5 million and 5 million people, which become the engines of growth when congestion disadvantages begin to outweigh agglomeration advantages. The lessons of growth in other large countries such as the United States are helpful when applied to Russia. Part of the structural transformation of the U.S. economy away from primary production in rural areas to urban manufacturing and services entailed a spatial transformation and migration away from Midwest farms toward coastal cities, which in recent decades have become engines of economic growth.

The population of Russia peaked in 1993 at 148.6 million and – because of low fertility, high mortality, and an aging population – has since declined by 6.7 million, to 141.9 million (Goskomstat Rossii 1999, 19; Federal State Statistics Service of Russia 2011). Russia has become the migration magnet within post-Soviet space. Since 1992, 6 million more people have migrated to Russia than have left the country (on a legal, permanent basis, not including illegal or undocumented migrants). This only compensates for about half the excess of deaths over births. While Russia is the largest country in the world in terms of territory, it has slipped from the 6th largest in population size (after it became independent following after the breakup of the Soviet Union) to the 9th largest (United Nations Population Division 2011). By mid-century, its rank will fall to 16th in the

world, as Russia's population is projected to continue to decline to about 110 million by mid-century (US Census Bureau 2005; United Nations Population Division 2011; World Bank 2010). Thus, to continue economic growth, it is imperative that Russia make optimal use of its dwindling human and labor resources; the remaining spatial efficiencies will become an increasingly important policy priority.

There is a small but growing literature examining migration and mobility in post-Soviet Russia, with contributions by Russians and non-Russians from a variety of disciplines. This body of work examines causes of migration in Russia such as changes in laws concerning migration; the breakup of the Soviet Union and attendant social destabilization; the initial period of economic reforms; the development of market relations and privatization; and new socio-economic differentiation of the post-Soviet space (Zayonchkovskaya 1999). Numerous analysts have cited increased disparities in income and standard of living as a major factor driving migration in post-Soviet Russia (Kadochnikov 2009; Gerber 2005; Gerber 2000; Sutherland and Hanson 2000). Another analysis found that a majority of moves were for non-economic reasons; family reasons were the most common, amounting to 42% of all responses in the period 1985 to 2001, whereas economic causes were cited as the primary motive for migration 24% of the time (Gerber 2005). These survey data are corroborated by official administrative data from the Federal State Statistics Service of Russia (Rosstat), which publishes data on reasons for migration (Rosstat 2010).

Other research has examined barriers to migration, such as the high cost of transport; poverty and liquidity traps, which make moving prohibitively expensive; poorly-developed financial and real estate markets; firm-specific human and social capital, which are not transferable to other enterprises or locations; high levels of in-kind payments, which bind workers to enterprises; and continued administrative barriers, as legal registration at a place of permanent residence is tied to housing, utilities and a number of social benefits, such as medical insurance.

One of the most-cited works on Russia's problems with its inheritance of a non-market distribution of labor and capital is *The Siberian Curse: How Communist Planners Left Russia Out in the Cold* (Hill and Gaddy 2003). The main argument of the book is that the historical legacy has made economic reforms in Russia a rather difficult barrier to overcome. The book describes why there has been so much migration in the post-Soviet period but also why there needs to be more for Russia to become a more productive economy.

## The Russian *propiska* system and origin-destination migration data

Russia has a rather complex and constantly changing administrative geography, consisting of both administrative units and ethnic homelands (Figure 1). The migration data are published for eighty-nine regions that constitute the ‘subjects of the federation’. This used to comprise eight-nine regions, but six autonomous okrugs have recently been downgraded to ‘special status’ regions and so this level now comprises eight-three regions (although some data still continue to be published for these six downgraded regions). These eighty-three regions are made up of twenty-one republics, eight krais, forty-seven oblasts, two federal cities, one autonomous oblast, and four autonomous okrugs. The republics, autonomous oblast, and autonomous okrugs are ethnic homelands of non-Russian ethnic groups. Most of the autonomous okrugs are administratively subordinated to a parent region and the migration data for them are included with the parent region. Thus, to eliminate double-counting, a reduced 77-by-77 matrix is used for some calculations. The two federal cities, Moscow and St. Petersburg, deserve special mention because of their population size as well as their importance in migration patterns in the country. Each are surrounded by oblasts (districts), the Moscow oblast for Moscow city and the Leningrad oblast for St. Petersburg, which have also become prime migration destinations, as the cost of living has become quite expensive in the cities. These eighty-nine regions are grouped into seven Federal Districts, which were created in 2000 by Vladimir Putin as an attempt to bring the regions under federal control. In 2010, seven regions in the Southern Federal District (Dagestan, Ingushetia, Kabardino-Balkardino, Karachaevo-Cherkassaya, North Ossetia, Chechniya, and Stavropol) were separated to form a new North-Caucasus Federal District, so there are now eight federal districts. Each has its own appointed Presidential Representative and administration.

Residents of Russia are required to register when they change their place of residence, though they are no longer required to obtain permission to do so, as they were during the Soviet period. However, there is a strong incentive to register, as housing and many social benefits and other services are tied to a local resident permit, called a *propiska* (its full name is *propiska po mestu zhitel'stva*, record of place of registration). The tabulations from these data comprise an 89-by-89 origin-destination matrix of migration from region to region in Russia (Goskomstat Rossii 2001). This is similar to the 51-by-51 origin-destination matrix of migration that is compiled by the U.S. Census Bureau from Internal Revenue Service (IRS) records and often used in analysis of state-to-state migration in the United States (Internal Revenue Service 2011). Similarly, it is the Federal State

Statistics Service of Russia, or Rosstat, which compiles the data from the Ministry of Internal Affairs, the agency with which people are required to register changes in place of residence. Tabulations from these data are used to estimate migration in inter-census periods. Though not a perfect accounting of all migration movements in Russia (neither are the IRS data), they do provide a reasonably accurate count of flows within the country. Because registration is tied to the *propiska*, people have a stronger incentive to register at their place of destination than their point of origin. Like the IRS data, international migration movements are excluded; like the US, international flows into the country constitute a portion of all movements in the country. The origin-destination matrices for the eighty-nine regions are not available on the Rosstat website nor in any print publications but must be requested via a special request (Goskomstat Rossii 2001). Only the matrices for the seven federal districts for the years 2000 to 2008 are available on the Rosstat website and in several print publications (Federal State Statistics Service of Russia 2011). There were several changes in the manner in which these data were published, making the time series incompatible for comparisons across the entire period since 1992. Thus, for some types of analysis, such as correlations of stream flows, only the period 1992 to 2002 is presented. However, this is still quite illuminating, as this was a decade of considerable change in Russia's economic, social, and migration systems.

**Figure 1.** Regions of Russia



- Key to numbered regions
- |                      |                  |              |
|----------------------|------------------|--------------|
| 1. Adygey            | 4. North Ossetia | 7. Mordovia  |
| 2. Karachay-Cherkess | 5. Ingushetia    | 8. Chuvashia |
| 3. Kabardino-Balkar  | 6. Chechnya      | 9. Mari-El   |
|                      |                  | 10. Udmurtia |
- Moscow

## Migration efficiency measures

Three measures of migration efficiency, also referred to as the demographic effectiveness of migration, are calculated and applied to migration in Russia during the period between 1992 and 2010. Migration efficiency measures are calculated for the Russian migration system, the eighty-nine regions, and selected migration streams between two regions. Migration efficiency is not measured against some optimum level but is rather calculated to determine the extent that migration, as a component of population change, is distributing people across regions or within a migration system. Effectiveness is a better measure than the more commonly used net migration rate (Plane and Rogerson 1994, 98-99).  $E_j$  gives us the percentage of turnover that results in population change. It is used to describe the spatial and temporal characteristics of the migration system, and the magnitude and redistributive power of migration varies over time.

The summary measure of *migration system effectiveness* is:

$$E = 100 \sum_j |N_j| / \sum_j T_j$$

Where:

$|N_j|$  = absolute value of net migration for region  $j$

$T_j$  = total migration for region  $j$  (in-migration plus outmigration)

This can range from 0 (when migration across regions within a system balances out among regions, resulting in no redistribution) to 100 (when all migration results in redistribution of the population).

The *migration effectiveness of a region* is calculated as a percentage:

$$E_j = 100 (N_j/T_j)$$

$N_j$  = net migration for region  $j$

$T_j$  = total migration for region  $j$

It varies from -100 when there is unidirectional out-migration from a region to 100 when there is unidirectional in-migration to a region. It is 0 when the number of in-migrants is equal to the number of out-migrants, in which case migration is regarded as not efficient in redistributing people.

The *migration stream efficiency* is calculated as:

$$E_{ij} = 100 (N_{ij}/M_{ij} + M_{ji})$$

$N_{ij}$  = net migration between region  $i$  and region  $j$

$M_{ij}$  = gross migration flow from region  $i$  to region  $j$

$M_{ji}$  = gross migration flow from region  $j$  to region  $i$

This can also vary from -100 when there is unidirectional out-migration from a region  $i$  to region  $j$  to 100 when there is unidirectional in-migration from region  $j$  to region  $i$ .

Measures of migration efficiency have been applied extensively to detect changes in the migration system in the United States, in order to describe and measure the extent to which migration is effective in redistributing the population temporally and spatially (McHugh and Gober 1992; Miller 1995; Vias 2010; Plane and Rogerson 1994). These measures are useful in detecting fluctuations in migration systems in response to structural economic change. These studies have shown that over a long period in the US, between the periods 1935-1940 and 1965-1970, migration efficiency declined from 21.1% to just 11.6%. It stayed at these low levels, fluctuating between 8% and 14% from the 1980s through the mid-2000s. There is some disagreement to what happens to migration system efficiency during periods of economic boom and bust – whether it is pro-cyclical or counter-cyclical. The majority of migration scholars seem to believe that the redistributive power of migration increases during periods of economic expansion and decreases when the economy is in recession. McHugh and Gober (1992) believe that the opposite occurs: that in periods of economic decline, regional differentials in economic activity serve to increase the redistributive power of migration. Conclusions as to how migration efficiency responds to periods of economic expansion and contraction depend in part on the period and length of time being examined, and whether the migration efficiency is lagged to allow people time

to adjust to changing economic conditions. A later paper by Vias (2010) showed that over the period 1988 to 2006, system migration efficiency was positively correlated with annual employment growth ( $r = 0.38$ ) and even more strongly correlated when migration was lagged by one year ( $r = 0.60$ ). However, annual fluctuations in GDP or employment growth in the US and structural changes in the economy over the past few decades pale in comparison to the extent of economic decline, employment contraction, and structural change that occurred in Russia during the first two decades of its transition to a market economy.

There does seem to be agreement among these studies that there is considerable change in state-level migration efficiencies over time, with the fluctuating economic fortunes of the energy-dependent states (e.g. Texas, Oklahoma and Louisiana), declining regions such as Michigan and much of the northeast, and large states such as California driving much of regional change in the US migration system.

There have also been several studies of the changing migration system in China, another large formerly socialist country undergoing significant economic and social restructuring (Fan 2008; Fan 2005). Using census data, these studies showed that migration system efficiency increased from 28% in 1985-1990 to 63% in 1995-2000 as migration became unidirectional from the interior to the booming coastal regions. Provincial migration efficiencies ranged from 69 to -55 in 1985-1990 and increased significantly in 1995-2000, to 93 to -83, as “gainers are gaining more and losers were losing more population through migration.”

There has recently been a call for a set of standards for comparison of internal migration along four dimensions: overall intensity of migration, distance of migration, migration connectivity, and the effect of migration on the redistribution of the population (Bell, Blake et al. 2002; Bell and Muhidin 2009). This paper computes migration efficiency for post-Soviet Russia in an attempt to bring it into global discussions of migration.

### **Migration system efficiency in Russia**

Typically, migration turnover slows during an economic downturn for a variety of reasons. These include that people are reluctant to leave positions that they already have, the overall slowdown in job creation, and – in many countries, such as the United States – difficulty selling houses in depressed economic circumstances. In Russia, many are reluctant to migrate during weak economic periods because so many of their social benefits are tied to their workplaces, a legacy of the Soviet period (Friebel and Guriev 2000). Periods of economic expansion and contraction are rarely geographically uniform across any country and coincide with structural economic change at both national and regional levels.

There were a number of simultaneous trends underway during Russia in the 1990s that impacted migration efficiency. It is difficult to disentangle these various trends and to isolate their impact on migration efficiency.

The first was the steep output decline brought about by the economic transition away from central planning to a market economy, a decline much more precipitous than many had expected. From a peak in 1989, GDP per capita nearly halved by 1998 and did not return to its pre-transition level again until 2003. There was also a large contraction in employment as nearly 10 million jobs were shed in the Russian economy during the 1990s.

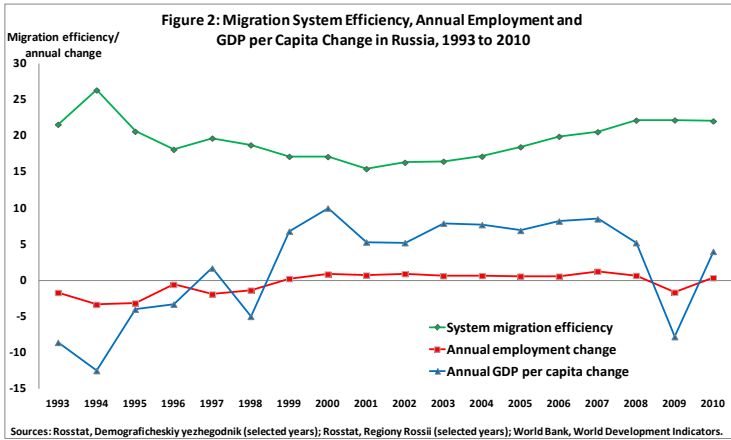
The second was the restructuring of the economy. Russia, like the other states of the former Soviet Union, had an underdeveloped service sector and an overdeveloped industrial sector during the Soviet period. During the 1990s, the service sector grew proportionally the fastest, while manufacturing (though not most mining sectors) contracted significantly. The effect of this restructuring varied across regions, with large cities able to take advantage of the growth in the service sectors and resource-rich regions able to benefit from extraction sectors that were now more profitable.

The third was the liberalization of prices and the privatization of many spheres of the economy. This caused prices and the costs of inputs in many distant and periphery regions to increase considerably and in an overall widening of income disparities among regions, giving a push to migration that had not existed previously. The question is whether these factors would lead to a period of more efficient migration during the 1990s while the population of Russia transitioned to the spatial distribution of its population that it might have had if seven decades of central planning had not taken place.

As shown in Figure 2, there is a strong negative association between migration system efficiency and annual employment change ( $r = - 0.60$ ) and an even stronger negative association with annual GDP change ( $r = - 0.64$ ). Migration system efficiency was highest in 1994 (at 26.3%), when both employment and GDP declines were at their steepest. From this peak in the mid-1990s, migration system efficiency steadily declined before a slight upturn in recent years. From lows in the mid-1990s, both employment and GDP had smaller declines and eventual increases starting in 1999 (except for the recession year of 2009). These results support the notion that periods of high migration efficiency were associated with economic recession and employment contraction. The 1990s in Russia was also a period of massive economic restructuring at the national and regional levels. This spurred what many would regard as a necessary alteration in the spatial distribution of the Russian population and labor force. The next section examines migration efficiency at the oblast level to determine the



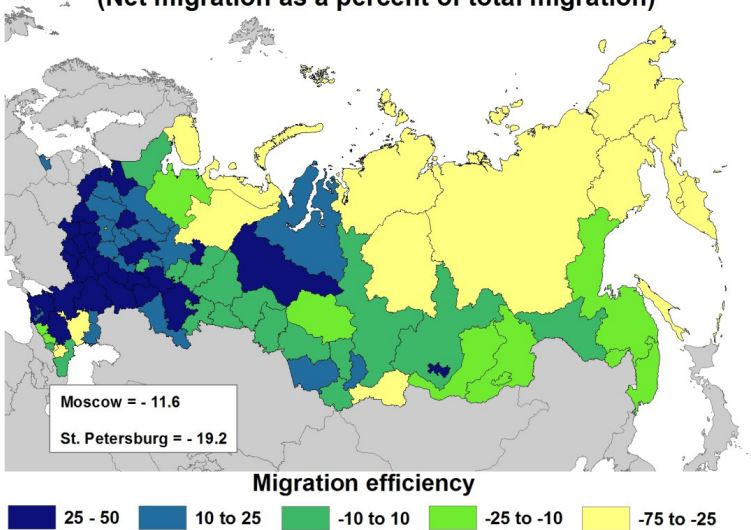
regional patterns of these migration flows.



## Regional patterns of migration efficiency in Russia

Given the high levels of migration system efficiency in Russia and the significant economic and structural changes taking place, it follows that many regions would have high migration efficiencies and that movements taking place would have a large effect on the redistribution of the population across regions. This is seen in the map of regional migration efficiencies for 1993 (Figure 3). There is a noticeable west-east gradation in regional migration efficiencies, with the highest positive efficiencies in regions in central and, especially, southwest Russia. At the time, these regions were prime destinations for migrants from both elsewhere in Russia as well as outside the country. Most of these regions had migration efficiencies of ten or greater, with several having efficiencies of greater than forty including Belgorod (50), Voronezh (44), Krasnodar Krai (43), Lipetsk (41), and Ul'yansovsk (40). These high migration efficiencies meant that there were three people migrating to these regions for each person who left. One notable exception of a region within central Russia that did not have high migration efficiency was the city of Moscow (-12). In Russia, the early 1990s was a brief period where the long-term trend of rural-to-urban migration slowed and even reversed. Russia's second city, St. Petersburg, had similarly negative migration efficiency (-19), meaning that both major cities were losing many more persons than they were gaining. However, soon after 1993, job growth in Moscow and St. Petersburg began; migration efficiencies turned positive, became quite high, and have remained at high levels.

**Figure 3: Migration Efficiency by Region in Russia, 1993**  
(Net migration as a percent of total migration)



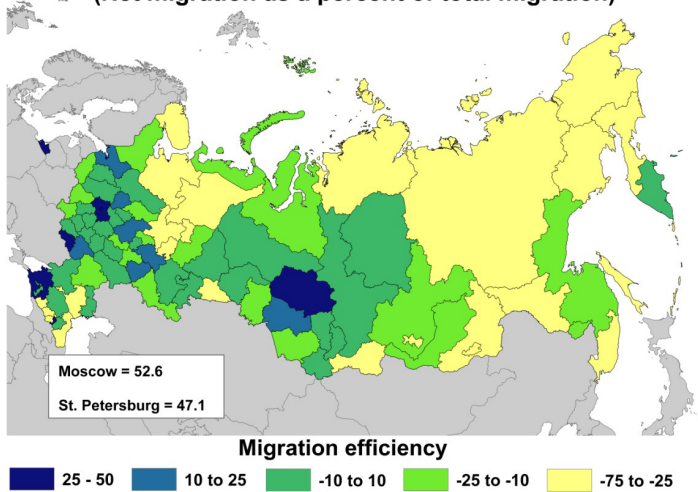
Regions with highly negative migration efficiency were located in peripheral regions of the European north, Siberia, and the Far East. These regions were part of the Far North that had been the target of a long-term regional program and had received considerable direct and indirect subsidies.<sup>1</sup> During the period of economic transition, with the removal of subsidies, especially for transport, the true cost of living and economic activity in these remote regions came into the open, causing people to leave these regions in large numbers. Keeping mind that a regional migration efficiency of  $-100$  indicates that all migration turnover is out of a region, some of the measures in these remote, peripheral regions at this time were extraordinary, such as Magadan (-50), Chukotka (-54), Kamchatka Oblast (-56), Evenki Okrug (-59), and Koryak Okrug (-74). As can be seen, the Khanty-Mansi and Yamal-Nenets okrugs were already emerging as outliers among northern regions by having positive and, in the case of the Khanty-Mansi okrug, quite high efficiency, meaning that the migration turnover that was taking place was quite positive into the region. There were actually comparatively few regions with low migration efficiencies (between 10 and -10); these regions formed something of a regional band between those with high positive efficiencies in central Russia and those with high negative efficiencies in Siberia and the Far East. At this time, the migration that was taking place was quite efficient in redistributing people

among regions, as was to be expected. Migration system efficiency at that time in Russia was quite high, at 21.6% (it would peak in 1994 at 26.3%).

One factor that has severely impacted the northern regions has been the increased cost of traveling across the vast distances within these regions and between the regions and central Russia. The 'cost of distance' has increased considerably. However, with increased income disparities, different groups have emerged across Russia and the North. The first are those with the means to easily navigate the distances across the Russian North; the second, majority group contains those for whom the increased 'cost of distance' has become a burden, often forcing them to become stuck in their current locations. Both groups are eloquently described by Niobe Thompson in his book on Chukotka (Thompson 2008).

By 2010, overall migration system efficiency had lessened somewhat to 22.0 as the rate of change of economic restructuring had slowed, many of the regional migration efficiency levels had lessened, and the regional pattern had shifted somewhat (Figure 4, shown with the same class intervals as Figure 3 to facilitate comparison). The highest positive regional efficiencies were no longer in the southwest, but were more concentrated in central Russia around Moscow. Moscow city (53) and St. Petersburg (47) had the highest positive migration efficiencies in the country, followed by Moscow oblast (42) and Krasnodar krai (34). The number of regions with low migration efficiencies (between 10 and -10) increased. Those with the highest negative efficiencies were still peripheral regions in Siberia, the Far East, and the European North, as well as a few regions in the newly-formed North Caucasus federal district, though they were more efficient than in 1993.

**Figure 4: Migration Efficiency by Region in Russia, 2010  
(Net migration as a percent of total migration)**



### Changing structure of regional migration efficiency in Russia

Over the period between 1993 and 2010, there were some dramatic shifts in migration patterns among the regions of Russia, resulting in large shifts in migration efficiencies among the regions. Those with the largest increases were the two federal cities of Moscow and St. Petersburg, which both had percentage point increases of more than 60. Moscow went from a migration efficiency of -12 to 53 over these years while St. Petersburg went from -19 to 47. The early 1990s in Russia was a period of high inflation and shortages of consumer and food products, resulting in a slowdown of long-term rural-to-urban migration, which especially impacted Russia's two primary cities. Since then, both cities, but especially Moscow, have become major migration destinations for internal (as well as international) migrants, thanks to the growth of the service sectors and the overall increase in living standards in these cities.

Another group of regions with large increases in migration efficiency over this period were a number of sparsely-populated peripheral regions. The reason for the large increases in migration efficiency over this period was simply that migration efficiency was so low to begin with. No region, especially ones with such small populations as these can sustain out-migration for long periods of time. For example, Chukotka, in the northeast corner of the country across from Alaska went from having a migration efficiency of -54 in 1993 to -20 in 2007 before declining again to -40 in 2010. The overall migration turnover in the region still resulted in large

population losses, albeit smaller than in the early 1990s. Other periphery regions in the Far East and the European North also had significant increases in their migration efficiencies for similar reasons.

Regions with large decreases in their migration efficiencies over this period included a number in central and southwest Russia. Many of these were primary destinations of both internal and international migrants in the early post-Soviet period when migration turnover was much higher. Once these temporary flows subsided, the direction of migration into these regions has reversed and many went from migration efficiencies of about 20 to about -20. Many of these older industrial regions in central Russia could not sustain long-term in-migration because of the deteriorating nature of their economies and their inability to take advantage of structural change favoring services.

To determine the stability of migration streams over time, a correlation matrix is computed for the period 1992 to 2002 (table 1). A strong positive correlation indicates that the stream efficiencies are quite similar, indicating stability in patterns of population redistribution. A low correlation indicates shifts in the geographical patterns of population redistribution in the system. A negative correlation indicates a reversal of the migration streams and counter-streams in the migration system, which is rather unlikely for the system as a whole. The low correlation between 1992 and 2002 indicates significant transformation of the spatial pattern of migration flows in Russia in the first decade of economic reforms. The direction of the migration flows in the immediate post-Soviet period changed considerably a decade later, after structural and economic change had sorted the regions into those which would prosper under a market economy and those that would see significant downsizing.

**Table 1: Correlation among efficiencies of oblast-level migration streams, 1992-2002**

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
1992	1.00										
1993	0.73	1.00									
1994	0.67	0.75	1.00								
1995	0.60	0.69	0.76	1.00							
1996	0.54	0.62	0.70	0.70	1.00						
1997	0.48	0.60	0.66	0.69	0.68	1.00					
1998	0.47	0.56	0.65	0.65	0.67	0.76	1.00				
1999	0.45	0.54	0.63	0.66	0.63	0.71	0.76	1.00			
2000	0.34	0.46	0.54	0.57	0.59	0.69	0.69	0.70	1.00		
2001	0.33	0.41	0.51	0.52	0.56	0.65	0.68	0.66	0.71	1.00	
2002	0.30	0.39	0.48	0.50	0.54	0.65	0.65	0.66	0.71	0.73	1.00

Economic reforms began in Russia in the mid-1980s during the *perestroika* period, when a limited amount of private enterprise was allowed in the form of cooperatives. This caused some shifts in migration patterns. Net migration in the regions of the Far North, which had been positive for decades, peaked in 1985 and became negative in 1989 (Heleniak 2010). The beginning of 1992 was when the economic reforms began in earnest, with mass privatization, price liberalization, removal of many restrictions on foreign trade, and fiscal decentralization. January 1992 was also when Russia became independent. Most of the 1990s was a period of significant economic contraction. From 1990 to 1998, 11.5 million jobs were lost, a decline of 15% (table 2). The impact of these reforms was to widen income gaps between regions and to create groups of ‘winners’ and ‘losers’. During the initial transition period, regions dominated by heavy industry tended to fare worst, while resource regions tended to do better (Hanson and Bradshaw 2000). Those regions that were able to develop robust service sectors – a sector that had been underdeveloped in the centrally-planned economy – tended to do quite well.

**Table 2: Average annual employment by region, 1990-2010 (thousands)**

	1990	1998	2010	Percent change, 1990-1998	Percent change, 1998-2009
RUSSIAN FEDERATION	75,325	63,812	67,582	-15	6
Central Federal District	19,546	16,599	18,624	-15	12
Moscow City	5,197	5,221	6,387	0	22
Northwest Federal District	7,766	6,373	6,764	-18	6
Southern Federal District	9,643	7,708	9,428	-20	22
Volga Federal District	16,260	13,590	14,357	-16	6
Urals Federal District	6,561	5,564	6,067	-15	9
Siberian Federal District	10,465	8,421	9,027	-20	7
Far East Federal District	4,048	3,157	3,313	-22	5

Sources and notes:

1990, 1995, 2000-2005: Rosstat, *Regiony Rossii* 2006, 2007, pp. 102-103.

1991-1994: Goskomstat Rossii, *Regiony Rossii*, 2001, pp. 70-71.

1996-1999: Rosstat, *Regiony Rossii* 2005, 2006, pp. 80-81.

2006-2009:: Rosstat, *Regiony Rossii* 2010, 2011, pp. 106-107.

Employment declined in every region of the country except Moscow city. The number of jobs in Moscow reached a low in 1992 and, between that year and 1998, the city added half a million jobs. Among federal districts, the largest declines in employment between 1990 and 1998 were in the Southern and Siberian districts, which contracted by 20%, and the Far

East district, which lost 22% of jobs. Employment contraction was greatest in the most remote regions of the Far East. Employment declined by 29% in Khabarovsk, by 33% in Sakhalin, by 50% percent in Chukotka, and by 62% in Magadan. The latter two regions had the lowest migration efficiencies over this period.

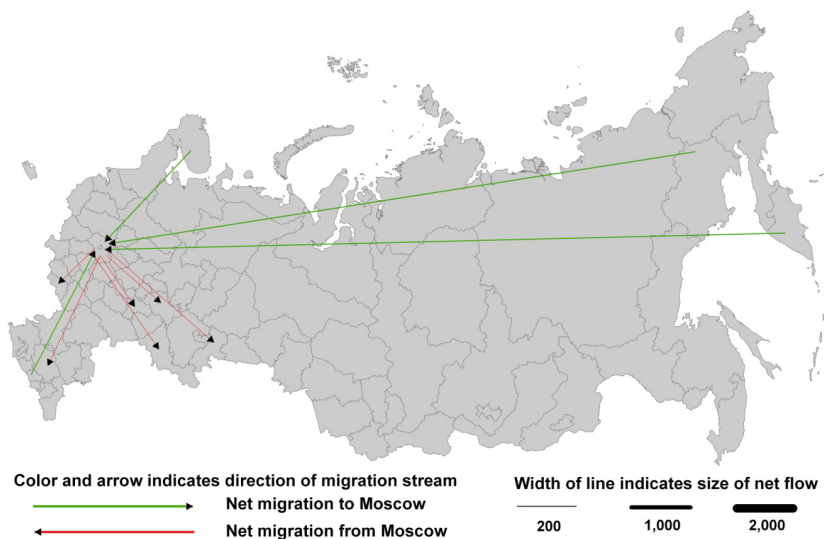
Following a fiscal crisis in 1998, when the Russian ruble lost three-quarters of its value, the economy began to grow again. Between 1998 and 2010, 3.8 million jobs were created, an increase of 6%. Like the contraction during the 1990s, the expansion during the 2000s was not uniform across regions. The largest increase in employment was in the Southern federal district, which increased by 22%, followed by the Central district, which includes Moscow city and oblast, which expanded by 12%. The expanded employment in the Central district was almost entirely in Moscow oblast, which grew by 24%, and Moscow city, which grew by 22%. These figures are reflected in high and increased migration efficiencies. Employment in the Far East grew the slowest of any federal district, which is reflected in continued negative migration efficiencies. Magadan had the largest employment decline of any region over this period, shedding another 24% of jobs, which is also reflected in its continued highly negative migration efficiency.

One-quarter of Russia's GDP is produced in the city of Moscow; including the surrounding Moscow oblast, 30% is produced in the Moscow capital region (Rosstat 2009). The per capita gross regional product in Moscow is the second highest in the country, to the oil and gas producing regions of West Siberia, and is 3.3 times higher than the national average. Both the total and per capita figures are increases from the mid-1990s. Thus, the increasing primacy of the city of Moscow as a destination is clearly evident. In 1993, Moscow was the destination of just 2.8% of all migrants, 1.5% of foreign migrants and 3.6% of internal migrants. By 2004, the share of migrants choosing the capital city as a destination rose to 8.6%, 5.5% of foreign migrants and 9% of migrants from elsewhere in Russia. Moscow's share of migrants declined somewhat after that, in part because of changes in methods of counting migrants, but also due to the high cost of living in the city.

Figure 5 shows the major migration streams to and from Moscow city in 1992 (the first year for which the migration matrix is available). Major migration streams are defined as those with a migration stream efficiency of greater than 30 (positive or negative) and a net flow size of greater than 250 persons. In 1992, Moscow city had net out-migration and thus negative stream efficiencies with most other regions of Russia. Of the ten largest flows, only four were positive into Moscow. Three of these were from northern or Far East regions with rapidly deteriorating economies – Murmansk, Magadan, and Kamchatka; the last was from war-torn

Chechnya. Moscow was losing people to various industrial regions in western Russia, such as Tatarstan and Stavropol. The flows were quite small, resulting in relatively small amounts of population redistribution. However, as the 2002 census revealed, this likely included an element of under-reporting as the population of the city of Moscow was some 1.5 million more than estimated due to an undercount of migration.

**Figure 5: Major Migration Streams with Moscow, 1992  
(stream efficiency greater than 30 and flow greater than 250)**



By 2002, Moscow had positive net migration with all but a couple of other Russian regions and rather high positive migration stream efficiencies with nearly all (figure 6), meaning that Moscow was gaining larger numbers of people through migration and not losing them to other regions. After a brief period of uncertainty regarding the economic situation in the capital in the early years of independence and economic transition, Moscow began to re-establish itself as the primary migration magnet in the country, even more so than during the Soviet period. The most prominent flows into Moscow had become both larger and more localized. Migration from the periphery regions had been replaced by flows from nearby industrial regions, with many finding work in construction and the expanding service sectors.



**Figure 6: Major Migration Streams with Moscow, 2002**  
 (stream efficiency greater than 30 and flow greater than 1,000)



## Discussion

The 1990s and 2000s were a period of considerable restructuring of the Russian economy and society. This restructuring has had the inevitable consequence of also causing a redistribution of the population across regions. Using data and migration measures often used in the United States and other countries, this research has shown that the inter-regional migration movements that took place across Russia were quite effective in redistributing the population. Had there not been a certain amount of immobility of the Russian population (a legacy of the Soviet period) and barriers to migration such as cost, there might have been even more redistribution. During the 1990s, migration efficiencies for the regions of Russia reflected the large-scale outmigration from the northeast peripheral regions towards the central and southwest regions. These patterns were an abrupt reversal of the patterns of seven decades of Soviet central planning that moved so many people to Siberia and the Russian north. In the late 2000s, the negative regional migration efficiencies from the northern and far eastern periphery continued, albeit at somewhat lower levels. The primary cities of Moscow and St. Petersburg had become major destinations, and many regions in southern Russia shifted from positive to negative efficiencies. After having high positive migration efficiencies in the 1990s, many regions in central Russia, outside of a core centered around Moscow, have declined to having migration efficiencies near zero, where in-migration is balanced by roughly similar levels of out-migration.

There needs to be continued and increased mobility and migration for Russia to continue to develop into a high-income country. Part of this will require a shift away from place-based interventions such as providing subsidies to failing enterprises and local populations. Workers in lagging regions need to be able to monetize the equity in their homes in order to be able to migrate to regions of growth where their skills better match opportunities. Administrative and regulatory barriers to movement need to be removed.

The purpose of this research was to add the experience of migration in post-Soviet Russia to international comparisons of migration and mobility. If the efforts advocated by Bell for a standard set of measures for examination of internal migration are to be achieved, it is necessary to include the experience of the world's largest country (Bell and Muhidin 2009). This would help in further developing the theoretical basis of internal migration, not only because of Russia's size and importance but also because of the extreme structural changes the country has gone through in the past two decades. Given the importance of this unique dataset for examining migration, it would behoove the Russian federal statistical agency to make the data more readily available so that more migration researchers and policymakers could use them for analysis.

<sup>1</sup> Parts of all of sixteen regions are classified as being in the Far North – Karelia, Komi, Arkhangel'sk, Nenets Okrug, Murmansk, Khanty-Mansiy Okrug, Yamal-Nenets Okrug, Tuva, Taymyr Okrug, Evenki Okrug, Yakutia, Chukotka Okrug, Kamchatka, Koryak Okrug, Magadan, and Sakhalin.

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# BOOM AND BUST: POPULATION CHANGE IN RUSSIA'S ARCTIC CITIES

TIMOTHY HELENIAK

UNIVERSITY OF MARYLAND

(2013)

Russia inherited a number of spatial misallocations that hinder economic efficiency, including the spatial allocation of the population.<sup>1</sup> This is most evident in the peripheral regions of the Russian North and Arctic, from which there has been considerable out-migration, resulting in the contraction of the settlement structure. Maintaining settlements across this vast area has become expensive. However, most natural resources critical to Russia's economic growth are located in these regions. The term sustainability can be defined in a number of different ways and at different geographic scales. The broad question addressed is whether the current size of the population of the Russian Arctic is sustainable. From a national standpoint, this means asking whether there are too many or too few people in large urban settlements in the Russian Arctic. Within each Arctic city, can the current infrastructure support the current population size or is there excess infrastructure in view of population decline? If the latter, what should be done about it? For companies operating in the Russian Arctic, is the size of the labor force optimal to maximize profits? How will the rapidly changing climate across the Russian Arctic impact the population residing there? This chapter analyzes changes in population and migration patterns in the Russian North and Arctic over the past two decades.

This note links with the others in the conference by providing data on the changing population size in the regions and settlements of the Russian Arctic since the breakup of the Soviet Union and the start of economic reforms. Analysis is based on data from the 1989, 2002, and 2010 population censuses conducted in Russia, as well as annual data on births, deaths, and migration. This note analyzes population change by region, between urban and rural areas, and in the largest northern settlements. A final section concludes.

## Defining the Russian Arctic

For planning, economic development, statistical and other purposes, the Russian government defines two different types of northern regions – the Far North (*Krainyi Sever*) and regions equivalent to the Far North (*mestnosti priravnennyye k raionam Krainego Severa*). The entire territory of ten regions is classified as being in the Far North - Nenets Autonomous Okrug, Murmansk Oblast, Yamal-Nenets Autonomous Okrug, Taimyr Autonomous Okrug, Evenki Autonomous Okrug, Republic of Sakha (Yakutia), Chukotka Autonomous Okrug, Kamchatka Oblast, Koriak Autonomous Okrug, and Magadan Oblast. The Russian government classifies sixteen regions as belonging to the Far North on the basis that all or a majority of their territory is classified as 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, Tuva Republic, and Sakhalin Oblast (Figure 1). The city of Noril'sk, which is administratively part of the Krasnoyarsk Krai but physically located in the Taimyr Autonomous Okrug, is also included in the Far North. In 1989, these regions encompassed 54% of the territory of Russia but only 6.6% of the country's population.

**Figure 1.** Regions of the Russian Far North



## Migration and Population Change in the Russian North

Analysis of changing settlement patterns across the Russian North will start at a broad level and then increase the level of geographic granularity. The level of spatial resolution makes a difference: there is not one northern economy but many, as the Russian North is simultaneously both under- and overdeveloped. For the entire Russian North, migration has been the main driving force of population change over the period of economic transition, with a net out-migration of 21% of the 1989 population (table 1). This caused the population of the North to fall from 9.8 million to 7.0 million currently. By 1990, all northern regions had more people leaving than arriving and this trend has continued, 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-Mansiy Autonomous Okrug have experienced out-migration. Ten of the sixteen northern regions have had one-quarter or more of their populations migrate out since 1989. At the extreme are Magadan, which saw an out-migration of 61% 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 50,000 currently.

**Table 1.** Population Trends in the Russian North, 1989-2011 (beginning-of-year; in thousands)

Region	Total population		Percent change, 1989-2011			Absolute change, 1989-2011			Intercensus percent change	
	1989	2011	Total	natural increase	migration	Total	natural increase	migration	1989 to 2002	2002 to 2010
<b>RUSSIAN FEDERATION</b>	147,022	142,914	-2.8	-8.3	5.5	-4,108	-12,173	8,065	-0.9	-1.9
<b>The North</b>	9,774	7,970	-18.5	2.7	-21.1	-1,804	260	-2,065	-14.1	-5.0
Karelian Republic	790	644	-18.4	-10.5	-7.9	-146	-83	-62	-8.7	-10.7
Komi Republic	1,251	900	-28.1	-1.7	-26.4	-351	-21	-330	-17.7	-12.6
Arkhangel'sk Oblast	1,570	1,225	-22.0	-7.3	-14.6	-345	-115	-230	-14.0	-9.3
Nenets Autonomous Okrug *	54	43	-21.1	6.7	-27.8	-11	4	-15	-24.3	4.2
Murmansk Oblast	1,165	795	-31.8	-1.8	-30.0	-370	-21	-350	-22.3	-12.2
Khanty-Mansiy Aut. Okrug *	1,282	1,537	19.9	16.5	3.3	255	212	43	10.1	8.8
Yamal-Nenets Aut. Okrug *	495	525	6.0	19.1	-13.1	30	95	-65	1.6	4.3
Tuva Republic	308	308	0.0	19.0	-19.0	0	59	-59	-0.9	0.9
Taymyr Autonomous Okrug *	56	37	-34.6	8.4	-43.0	-19	5	-24	-30.1	-6.4
Evenki Autonomous Okrug *	25	16	-34.8	8.0	-42.8	-9	2	-11	-29.0	-8.2
Sakha Republic (Yakutia)	1,094	958	-12.4	13.1	-25.5	-136	143	-279	-13.0	0.7
Chukotka Autonomous Okrug	164	50	-69.3	5.0	-74.3	-114	8	-122	-66.3	-8.9
Kamchatka Oblast	472	321	-31.9	0.8	-32.8	-151	4	-155	-23.4	-11.2
Koryak Autonomous Okrug *	40	20	-49.0	-0.8	-48.2	-20	0	-19	-35.8	-20.6
Magadan Oblast	392	157	-60.1	0.8	-60.8	-236	3	-238	-52.2	-16.4
Sakhalin Oblast	710	497	-30.1	-4.3	-25.8	-213	-30	-183	-22.2	-10.1

*Sources and notes: Rosstat.*

In the Russian Arctic, the 1990s was a unique period of rapid social and economic restructuring. This caused massive population losses across much of the north, reflected in trends between the last Soviet population census conducted in 1989 and the first Russian census, which took place

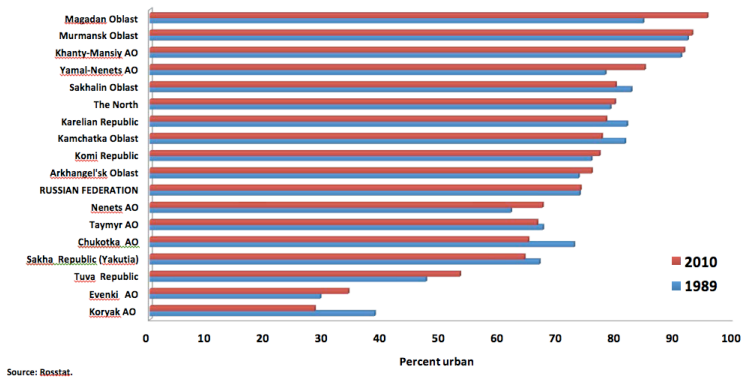


in 2002, when the population declined by 14.4%. Population declines continued into the 2000s but at much lower rates: between the 2002 and 2010 censuses the population only declined by 5.0%. Population decline was less in the 2000s than in the 1990s in every northern region, and a number of northern regions actually had population increases.

### Urban-Rural Population Change in the Russian North

The Soviet Union was a land of large cities, and the Russian north even more so than the rest of the country. 40% of the population of the north resides in the sixteen northern cities with a population of 100,000 or more. The urban population consists of those living in cities, towns, and urban-type settlements. These are settlements with 12,000 or more inhabitants of whom no less than 85% are workers, employees, and family members (though this criterion differs among regions). Hill and Gaddy observed that Russia’s population is concentrated in cities with few physical connections between them. This applies even more so to distant northern cities. The Soviet Union underwent one of the most rapid urbanizations in world history as a result of the industrialization of the 1920s and 1930s. This urbanization took place even faster in the east and north than in the rest of the country.

**Figure 2.** Percent Urban in the Russian Arctic, 1989 and 2010



Because the economic structure of the north is based primarily on resource extraction and the small size of the agricultural sector due to climatic conditions, the north was more urbanized than the rest of Russia, with 79% of the northern population classified as urban in 1989 compared to 74% of the country as a whole (Figure 2). There were differences between northern

regions in the share of their populations classified as urban, based primarily on the extent of development of the resource-extraction sector. In some of the smaller northern homelands of Siberian natives that lacked industrial raw materials, large urban settlements were never constructed and their populations remained primarily rural. At the other extreme, in northern regions such as Murmansk, the home of the North Sea Fleet and a number of resource extraction settlements, and the Khanty-Mansi Autonomous Okrug, the center of the Russian oil sector, over 90% of their populations were classified as urban.

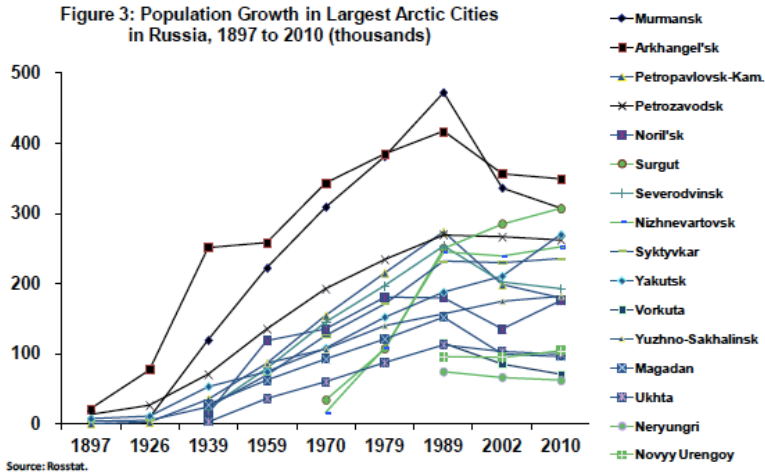
For Russia, the urban population declined by 3.1 million (3%) between 1989 and 2010, primarily because the large excess of deaths over births was concentrated in urban areas. In the north, urban areas declined by 1.3 million (17%) and rural areas slightly more so, by 0.4 million (21%). The urban population decline in the north can be attributed to the same trend of more deaths than births, as well as to the fact that out-migration took place primarily from urban areas. The absolute size of the urban population declined in all but three of the sixteen northern regions: the oil and gas regions of west Siberia, where there has been considerable investment and economic growth, and the Republic of Tuva. Both urban and rural out-migration prevailed, and the rate of urbanization declined in all but a few northern regions.

### **Population Change in the Largest Northern Settlements**

This section examines population change in the largest settlements in the Russian North. Before doing so, it places these cities in the Russian urban hierarchy by size and function.

There are three broad groups of northern cities. A first group is those that are older, have long been part of the Russian/Soviet economy, are located closer to the more densely populated areas of Russia and are part of the established urban hierarchy of the country (those in black in the figure). A second group is those established and rapidly populated during the period of industrialization and urbanization from 1920 to 1960 (blue). A third group includes the newer oil and gas towns in west Siberia, founded and developed after 1970 (green).

**Figure 3.** Population Growth in Largest Arctic Cities in Russia, 1897 to 2010 (thousands)



In his classic study, Chauncy Harris classifies the 304 cities with populations over 50,000 in 1967 into 8 different groups based upon their economic structure. Of the northern cities, Murmansk, Arkhangel'sk, Petrozavodsk, Syktyvkar, Petropavlosk-Kamchatskii, Yakutsk, Yuzhno-Sakhalinsk and Magadan were classified as diversified administrative centers. Severodinsk was classified as an industrial city based on manufacturing. Vorkuta was classified as an industrial city combining mining and manufacturing. The remaining northern cities were unclassified because they had fewer than 50,000 inhabitants in 1967. Older northern settlements in European Russia were closer and better connected to population centers in central Russia, while those in Siberia and the Far East were distant from other population centers. Thus, the latter did not benefit from the positive agglomeration effects of being close but suffered from the costs of being distant.

Analysis of changes in the largest northern cities (defined here as those with a population of 100,000 or more in 1989) is important for two reasons. One, together they contain 40% of the population of the North; and two, many are unique creations of Soviet northern development practices. The largest of the northern cities were the only 6 cities that lie north of the main inhabited portion of the country and were most suitable for agriculture in the Soviet Union. This belt stretched from St. Petersburg, southward through Moscow, across Central Russia, and southern Siberia. Of 201 cities of over 100,000 in 1967, only six cities - Petrozavodsk, Murmansk, Arkhangel'sk, Severodinsk, Syktyvkar,

Noril'sk, and Petropavlosk-Kamchatskii - were in the North. As Harris states, most cannot be considered regional centers that serve as central places with tributary areas, as most are localized special-function cities.

Many northern settlements, both large and small, are new cities, specifically created to exploit northern resources, something that was a more peculiarly Soviet phenomenon. Many were not cities in the classical sense so much as physical collection points, repositories, and supply centers, with very few responsibilities assigned to the municipal governments.

### **The boom and bust by city**

People tend to migrate towards areas of economic growth and away from areas where the economy is declining. Thus, population change in Arctic cities is a good indicator of their vitality. As noted above, the principal trend was toward a downsizing of the northern economy, although this was hardly uniform. This section highlights population change in some of the principal cities across the Russian Arctic.

The largest Arctic city used to be Murmansk, though it is now smaller than Arkhangel'sk. It does remain the largest city north of the Arctic Circle. Murmansk Oblast is one of the most urbanized regions in Russia, with the population concentrated in Murmansk city and many smaller resource-extraction settlements. Until World War One, the Kola Peninsula remained on the periphery of the Russian economy and was developed partly out of military necessity, when the need for a large warm water port was realized. The city of Murmansk was founded in November 1916, just a few months after the completion of the railway from St. Petersburg. It became an important port, with a population of 27,000 in 1928. Murmansk also became the northern base of the Northern Sea Route and the population grew rather spectacularly from 8,800 in 1926 to 117,000 in 1939, and then to 222,000 in 1959. In addition to being a transport center, the region also has enormous mineral resources. Deposits of apatite-nepheline, copper-nickel, and iron ore were discovered in the Kola region. These include the twin cities of Apatity and Kirovsk, which have among the richest apatite deposits in the world and which supplied most of Soviet demand. During the transition period, the city of Murmansk has had one of the largest population declines experienced by large northern settlements, falling by 35% since 1989.

The city of Arkhangel'sk has been a part of the Russian economy and urban hierarchy for much longer: it was founded in the late 1500s and was an important trading place in the 17th century. It later became the ship-building center of Russia and was the oldest seaport in Russia. By 1920, more than 400,000 people lived in the region, and it was the most populated

part of the North. The population has declined by 16% since 1989.

Petropavlovsk-Kamchatskii, the largest city and oblast center of Kamchatka, really developed in the Soviet period, growing from just a small village to 35,000 inhabitants in 1939, peaking at 230,000 in 1989. The economy is based on fish processing but also some ship repair. With its location on the far eastern periphery, the population has had among the largest population declines in the Arctic, declining by 34% since 1989.

Noril'sk, located in the northern portion of the Krasnoïarsk krai at 69 degrees north, is the classic example of a Soviet-era northern city that was founded and populated specifically to exploit important industrial resources. While Dudinka, the port on the Yenisey, existed as long ago as 1616, Noril'sk, to which it was linked by rail, is new. Noril'sk is one of the world's largest producers of non-ferrous metals: it is a leading producer of nickel (22%) and palladium (65%), the second largest producer of platinum (23%), and also produces copper and cobalt (Rautio 2003, 52). It was founded by decree during the Second Five-Year Plan and the decision to start mining was taken in 1935. The nickel smelter went into operation in 1942, when plant equipment was moved from Monchegorsk on the Kola Peninsula. The settlement grew from a population of almost nothing to 92,000 in just 25 years, though most of the growth came after the war. The population of the Noril'sk industrial region peaked at 267,000 in 1990 but has since declined by 34%, largely as a result of restructuring.

Surgut, Nefteyugansk, Nizhnevartovsk in the Khanty-Mansiy Okrug and Novyi Urengoi in the Yamal-Nenets Okrug are examples of northern cities founded later in the 1970s or 1980s to exploit the oil and natural gas resources of west Siberia, and are among the few northern settlements that continued to grow in the post-Soviet period.

Vorkuta, in the northern part of the Komi Republic, has been a major supplier of high-quality coal to St. Petersburg region and other parts of northern European Russia. Like many others, it was founded on forced labor. By 1967, the city proper had a population of 65,000 and, including the surrounding mines, a population of 150,000. With closure of many of the mines and downsizing of production in others, the population fell by 39% between 1989 and 2010.

Yuzhno-Sakhalinsk, on the island of Sakhalin, has deposits of coal, oil, and natural gas. Oil, concentrated in the northern portion of island, has been in commercial production since the 1920s. Oil production has made the region one of the largest sources of foreign direct investment in the country, and as a result, the population of Yuzhno-Sakhalinsk has grown by over 16% since 1989.

Magadan was the center of operations of Dalstroy, based on gold mining, thanks to forced labor on a ruthless and enormous scale (Armstrong 1965, 132, 168). The Kolyma area, along with portions of Chukotka and

Yakutia, are among the most important for production of gold as well as other rare resources, including industrial diamonds. After its founding, Magadan grew from 27,000 in 1939 to 62,000 in 1959 and peaked at 152,000 in 1989 before losing more than one-third of its population in the post-Soviet era due to the depletion of the mines in the region and huge cost of living increases.

## **Conclusion**

Overall, the population of the Russian Arctic continues to decline, albeit not as steeply as during the 1990s. Natural increase (the difference between births and deaths) is positive in the Arctic, unlike the country as a whole, because of the younger age structure in most Arctic regions. The main driver of population change in the Arctic is migration, which impacts both growing and declining regions in the Arctic. Most of the migration assistance programs that were developed during the 1990s have closed; most migration takes place without state assistance and knowledge. The evidence of this is that for most northern regions, there was a significant downward adjustment of population estimates following the 2010 census because of unrecorded migration since the 2002 census. In spite of a reputation for immobility, the populations of the Arctic regions are actually quite mobile and are able to adjust to changing circumstances. It would not be a surprise to anybody that Chukotka has the highest rate of outmigration of all Russian regions. It would be a surprise to many that it also has the highest rate of in-migration, indicating considerable churning of the population. However, there is considerable path dependency to the settlement structure in the Russian Arctic and it cannot be expected to resemble other Arctic regions.

A recent World Bank report titled “Eurasian Cities: New Realities Along the Silk Road” calls for a rethinking of cities in the region and their role in the economies of these countries. While the report focuses on the southern regions of the FSU, many of the lessons apply to the Arctic cities, and some even doubly so. The changing demographics and mobility of Eurasian cities factor into their prospects for the future. Two decades after the start of economic reforms in Russia, a clear distinction has emerged between a small group of Arctic cities which are booming economically and those whose economies have downsized considerably.

According to the report,

the central planners got some things right – easy access to public transportation, district heating networks, almost universal access to water systems, and socially integrated neighborhoods,” said Indermit Gill, World Bank Chief Economist for Europe and Central Asia. “But they failed to acknowledge the importance of markets and individual

choice in shaping places for people to live in. To become sustainable, Eurasian cities need to find the right balance between markets and institutions.

To become catalysts of growth, Eurasian cities need better connectivity, better planning, to become more environmentally friendly, and to mobilize additional financing for these changes. These lessons should selectively be applied to Arctic cities.

<sup>1</sup> This note is an update of several previous chapters by the author including 2009. "Growth Poles and Ghost Towns in the Russian Far North." In *Russia and the North*, edited by Elana Wilson Rowe. University of Ottawa Press: Ottawa, 129-163 and 2008. "Changing Settlement Patterns across the Russian North at the Turn of the Millennium." In *Russia's Northern Regions on the Edge: Communities, Industries and Populations from Murmansk to Magadan*, edited by Markku Tykkylainen and Vesa Rautio. Kikumora Publications University of Helsinki: Helsinki, Finland, 25-52. Supported by a Research Collaboration Network grant from the National Science Foundation "Building a Research Network for Promoting Arctic Urban Sustainability in Russia."

**THE ROLE OF THE LONG-DISTANCE COMMUTE WORKER (LDC) IN CONNECTING THE NORTHERN WITH CENTRAL RUSSIAN REGIONS: INFLUENCES OF LDC ON THE HOST (VORKUTA, NOVYI URENGOI) AND HOME COMMUNITIES (REPUBLIC OF BASHKORTOSTAN)**

GERTRUDE EILMSTEINER-SAXINGER

AUSTRIAN ACADEMY OF SCIENCES

AUSTRIAN POLAR RESEARCH INSTITUTE (APRI)

ELISABETH ÖFNER

UNIVERSITY OF VIENNA

ELENA NUYKINA

UNIVERSITY OF VIENNA

(2013)

**W**e examine the long-distance commuting (LDC) of inter-regional workers as a factor affecting the development of both host communities, located in the Russian Far North, and the workers' homes in Central Russia. Both of the cities we studied in the North, Vorkuta in the Komi Republic and Novyi Urengoi in the Yamalo-Nenets Autonomous District, are hubs for the distribution of inter-regional LDC workers to fill positions on remote sites in the petroleum industry. Despite these common general



characteristics, the two towns have different histories in terms of the type of extractive industries they host and the challenges they have faced in terms of economic development over the past two decades. Vorkuta is a coal mining region, whereas Novyi Urengoi is the center of the Russian gas industry. Whereas Vorkuta has experienced an influx of inter-regional LDC only in the past few years – chiefly due to its proximity to the extraction fields of the Yamal Peninsula and the construction site of the Yamal-Europe pipeline – Novyi Urengoi has been a base and hub town for LDC workers since this flexible method of labor force provision was introduced in the early 1980s.

Residents of both Northern cities frequently see the influx of mobile workers from central Russia as problematic. Key sources of unhappiness include rising housing prices and a perception that the workers engage in deviant behavior on the trains to and from the city or in the cities itself. The chief cause for concern, however, is that inter-regional commuters provide labor at lower costs, forcing local workers into an uncompetitive position on the Northern labor market.

Interestingly, neither city keeps data on this mobile group's potential to develop the local economy. This absence of information is particularly striking in the case of Novyi Urengoi, where shift workers have been active for two decades, with their numbers increasing in recent years.

The Republic of Bashkortostan, located in the southern part of the Ural mountains, which serves as an example of a sending region of LDC workers in this article, boasts a nearly one-hundred-year tradition of oil extraction and industry. Accordingly, this region has long provided qualified personnel to the northern hydrocarbon industries: since the 1960s as migrants to the North, and from the late 1970s onwards as inter-regional LDC workers. Today, the Russian petroleum industry has an increasing demand for workers with a wide range of qualification levels. People from numerous places in the Republic of Bashkortostan are working in the Russian North today. The region and its family networks benefit significantly from the revenues sent home by employees in the North. These remittances are a crucial source of revenue for the Bashkortostani economy, given the still disadvantaged socio-economic situation of central Russian regions outside the capitals of Moscow and St. Petersburg. Even though Bashkortostan is one of the central Russian regions with a comparably well-developed and diversified economy, socio-economic mobility for individual residents depends heavily on jobs in the North because there are high unemployment rates in the rural areas and smaller towns of the republic.

Our central argument is that LDC is a process which links Russia's Northern and Central regions through the mobile lives of people travelling thousands of kilometers for work and new life and job experiences. In this

way, Russia's northern cities are not remote "islands" either of wealth or of extreme harshness and remoteness, as they are often perceived to be by outsiders. Tight regional relationships are bolstered by the people commuting back and forth.

Geographical distance vanishes if the social dimension of space is perceived. The people of Bashkortostan benefit from their traditional linkages to Northern work brigades, the recruitment practices of companies and previously the Soviet state, and extensive kin-relationships and regional networks spread out across the North, because these ties link them to a wealthy space in the North that helps spur development in the South. Today, these ties provide increased access to the most profitable and sustainable industrial sector in Russia.

Not surprisingly, the growing willingness of workers to commute to the North, combined with the strong demand for increasingly cheaper laborers by an industry that acts not just in a national framework but under the influence of a global liberalized market, brings about a key problem: degrading work conditions and declining salaries. This downward pressure on salaries holds true for local workers in the North as well as for the increasing number of inter-regional LDC workers from the central Russian regions (and not just the ones from our case study region of Bashkortostan).

Our analysis shows how long-distance commuting has changed the life of host and home communities and how LDC has become a linkage that works to increase the social- spatial proximity of Russia's northern and central regions.



# INTERCITY NETWORKS AS A FACTOR PROMOTING ARCTIC CITY SUSTAINABILITY

NADEZHDA ZAMYATINA

LOMONOSOV MOSCOW STATE UNIVERSITY

(2013)

North Russian cities, especially the largest ones, always experience significant migration outflows. However, inflows usually compensate for the outflows.

This “flowing migration regime” is typically interpreted as a cause of instability in Arctic cities. In this paper, we will rethink emigration flows out of Northern cities. Such flows do not destabilize the cities, but help to include Northern cities in wider social networks. Accordingly, they help improve their sustainability.

## **Theoretical approach**

Social networks are even more important in shaping economic interactions in Russia than they are in Europe or the US. The vast spaces of the country, in conjunction with relatively low infrastructural and institutional development, make connections between the regions much more expensive than in Europe and the United States. Moreover, as is typical for countries with economies in transition, Russia is characterized by the large role played by informal communications and contracts. The transitional nature of the economy compels economic actors to use their social capital to reduce their transaction costs. As such, the involvement of urban residents in different social networks facilitates economic contacts for the city as a whole. Social networks shape inter-company contacts, innovation and knowledge flows, and also influence local identity and the adoption of modern living standards.

Youth migrations are both cause and effect of the social networks. The institutional order and high transaction costs compel young Russians to use strong social ties to cut transaction costs as they move from one city to another. The data on migration between cities shows us that the force of strong institutional ties is sometimes greater than the force of distance or of the agglomeration effect: some very distant and small cities are closely

tied due to migration flows.

We therefore have to speak about social proximity between cities in addition to the well-known organizational proximity and geographical proximity. This type of proximity is marked by migration flows.

## **Data and methods**

The data driving this research is the career information available on the personal pages of the most popular Russian online social network, [www.vk.com](http://www.vk.com) (this network connects no less than 70% of Russian youth): in particular, data on birthplaces, schools, universities and current residences. The data was extracted by specially designed software (developed by A. Yashunsky). We employed this method due to the lack of city-level migration data in official Russian statistics.

With the help of our colleague A. Yashunsky, we have collected 3,000 to 14,000 personal data files per city for people aged 20 to 29 years old (which is approximately 10—15% of the whole city population) for the following big Arctic cities: Noyabrsk (109,200 inhabitants; 15,050 personal records collected), Noril'sk (177,300 inhabitants; 14,832 personal records), Magadan (95,700 inhabitants; 12,738 personal records), and also for two small Arctic cities: the city of Muravlenko (33,500 inhabitants; 5,221 personal records) and Gubkinsky (23,500 inhabitants; 3,263 personal records).

## **Results**

The majority of youth migrants move from the North to cities where a kind of “Northern diaspora” forms. First of all, they move to the largest Russian cities (“the group of capitals”): more often to St. Petersburg than to Moscow (Table 1) and also to the nearest macro-regional center, such as Novosibirsk or Ekaterinburg (Table 2).

**Table 1.** Youth northern “diaspora” in Moscow and St. Petersburg

Youth migrants moved to:	Moved from the cities of:									
	Noyabrsk		Muravlenko		Gubkinsky		Noril'sk		Magadan	
	%*	Total	%*	Total	%*	Total	%*	Total	%*	Total
St. Petersburg	10.1	373	8.5	190	7.4	98	21.6	1155	19.8	846
Moscow	9.7	359	6.1	135	13.1	175	13.7	735	18.5	791

\*Of the total number of youth who moved away from the investigated home city

**Table 2.** Migration to the regional centers of Siberia and the Urals (Percentage of the total number of youth who moved away from the investigated home city)

Youth migrants moved to:	Moved from the cities of:				
	Noyabrsk	Muravlenko	Gubkinsky	Noril'sk	Magadan
Regional center 1	Tyumen' 18.4	Tyumen' 13.0	Tyumen' 16.9	Krasno- noiarsk 10.3	Novosibirsk 3.8
Regional center 2	Ekaterin- burg 7.0	Ekaterin- burg 6.4	Ekaterin- burg 5.7	Novosi- birsk 3.5	Khabarovsk 3.6
Regional center 3	Novosi- birsk 4.8	Ufa 5.6	Ufa 4.1	Ekaterin- burg 1.3	Vladivostok 2.0

The leading role of St. Petersburg is not surprising. In the USSR, Leningrad (St. Petersburg) had strong institutional ties with the Russian North: many scientific, construction and consulting organizations in Leningrad worked on the development of the North. Leningrad State University was the traditional place for those interested in the North to get an education. Hence, young people who move from the North to St. Petersburg follow their parents' trajectories rather than today's economic opportunities. However, the lower cost of St. Petersburg real estate and education may play a role here as well.

The choice of regional center is affected by (1) its administrative status (Tyumen' is an administrative center for Noyabrsk, Muravlenko

and Gubkinsky; Krasnoiarsk is the same for Noril'sk); (2) prestige and economic opportunities; and (3) similar specialization. The second cause could be illustrated by the fact that very few people move to Omsk, which is just as close and well populated (1 million inhabitants) as Novosibirsk, but Novosibirsk is developing more rapidly and has a better university, so it attracts more migrants. The third cause is illustrated by the example of Ufa, which has an oil university (Tyumen' has similar institutions), so it attracts migrants from the oil-producing cities of Muravlenko and Gubkinsky. There is also two-way migration here: there are a lot of people in Muravlenko and Gubkinsky who were born in Bashkortostan (Ufa is the capital of the Republic of Bashkortostan). As such, strong diaspora ties also play a role. Finally, distance also impacts these decisions: people from Magadan move to Vladivostok and Khabarovsk, which are the two nearest big cities to Magadan.

The second group of "recipient" cities include small and medium-sized "professional cities:" cities which are specialized in the same industries as the corresponding Northern cities or in which there are opportunities to receive an education in disciplines related to such industries. For oil-producing Noyabrsk, Muravlenko and Gubkinsky, such cities are those with organizations in the oil industry: Sterlitamak, Surgut, Almetyevsk, Nadym, Novyi Urengoi, Salavat, etc.

The third is a group of "grandma towns." Our research shows that there are two-way migration flows between Northern cities and some peripheral cities: some people were born here and moved to the North, others were born in the North and moved to these peripheral cities. Such cities have a consistently negative migration balance and often are depressed regional centers, such as Kirov or Kurgan. We believe that in these cases we are observing young people moving from the North to their parents' birthplace using social networks.

The last group is a group of "comfortable cities." These are usually located in the southern part of Russia or near Moscow. Comfort here refers not only to climate or business conditions; institutional conditions are also very important, especially the institutional conditions for the purchase of real estate. These include special resettlement programs or the presence of realtor firms specializing in real estate for former northerners (they often also have former northerners on their staff who are included in Northern social networks). This results in the emergence of cities specializing in the provision of housing for former northerners. Across Russia, such specialized centers include Belgorod, Krasnodar, Yeysk and some others.

Belgorod is a unique city: no less than 1% of all school graduates in Magadan and Noril'sk, and no less than 0.5% of all school graduates in Noyabrsk, Muravlenko and Gubkinsky, ultimately settled in Belgorod.

# POPULATION AND DEVELOPMENT POLICIES IN THE ARCTIC: WHAT ROLE FOR NON-STATE ACTORS?

GENEVIEVE PARENTE  
UNIVERSITY OF BRITISH COLUMBIA

(2013)

In the context of climate change and growing commercial and state interests in resource use in Arctic regions, migration and urbanization are on the rise in these areas. Russia, Canada and other Arctic states are attempting to balance the pursuit of national interest with transnational cooperation in a region where migration and economic development are closely linked.

As states negotiate new roles for themselves, non-state actors, localities, and public- private partnerships also seek to shape regional policies. These groups represent a variety of interests, although most derive their influence from their role in the natural resource sectors in northern zones. They include regional and city governments; domestic and international natural resource, shipping, and tourism companies; worker recruitment agencies; indigenous groups; and labor organizations. States and non-state actors are developing policies to manage populations in ways that reflect their various interests in the spheres of economic development, sovereignty, and governance.

This paper proposes new research pathways to examine decision-making by non- state actors in the Arctic and Subarctic. My focus is on policies as open-ended social *processes*. Analyzing the relationships and contingencies that underlie policymaking highlights the role of non-state actors in evolving forms of regional governance and improves our understanding of transnational policy processes, as well as population and economic development in the Arctic. In this discussion, ‘population’ includes both mobile<sup>1</sup> and non-mobile groups.

In sprawling, unevenly populated Arctic areas, economic development relies on the ability of state and non-state actors to mobilize and manage migrants and other populations. *How* they develop and administer policies shapes outcomes, with implications for social sustainability



– that is, “long term prospects for the region’s economic and human potential” (Thompson 2008). As socioeconomic and political developments expand the number of stakeholders, it is useful to ask: What is the role of non-state actors in the efforts of nation-states to manage population growth and migration in Arctic areas? How do population policies and development policies intersect in the region and what space is there for non-state actors at that intersection?

This paper suggests a policy process approach to addressing these questions in the regional context. Focusing on relationships and networks among policy actors elucidates the connections and interactions with larger (national, transnational, and global) institutions, actors, and trends. It “subverts the traditional distinction between domestic and international affairs habitually taken for granted in political geography” (Yacobi 2009, 576). It also connects Arctic research themes often studied in isolation from one other. For example, as Petrov (2010, 40) notes, much literature on the region’s economy “neglect[s]... demogeographic [population] factors of economic dynamics in favor of merely industrial ones.” I will first set the context, which serves as the basis for suggesting promising research themes.

## **Overview: Non-State Actors in Arctic Migration and Development**

Scholars ask what is unique about the relationship between migration and development in the Arctic; they also seek to connect the region to global socioeconomic and political changes since the 1970s and, in Russia, after 1990 (Huskey and Southcott 2010, 35). New research examines how state and non-state actors pursue what each considers ‘strategic population mobility’ in the region. This refers to the diverse and shifting interests that underlie their efforts to affect demography, settlement patterns, and human movement. As a result, circumpolar populations are urbanizing and centralizing; settlements range from large cities to camps for shift workers (Fossland 2012, 255). These actors work both cooperatively and competitively to develop migration policies as well as indirect (market-based) policies that impact human movement. For example, in some Russian Arctic cities, the extent to which localities and corporations (public, private, and semi-private) provide social services affects quality of life and, often, resident retention.

For states, managing northern populations has geostrategic implications for export-oriented businesses and for sovereignty. Commercial interests negotiate migration-related policies either individually, with other non-state actors (i.e. labor recruitment companies) or with state

bureaucracies at various levels. Their interactions do not always align with state sovereignty and resource claims. Regional and local governments have still other interests. Often, they seek to provide human capital and foster economic development while managing the costs of maintaining dispersed populations.

### **Transnational Policy Processes**

The Arctic region is often framed in neo-realist (i.e. state-centered) terms in academic, grey, and popular literatures. Against this background, a focus on non-state actors allows us to examine the implications behind the territorial and border claims and assumptions that underlie transnational policy processes (Kuus 2007, 7). As Arctic states attempt to maintain sovereignty in the face of pressures from other states and companies, *how* states negotiate with other groups illuminates transformations of power.

Researchers can situate specific policy processes in the context of growing transnational efforts to manage the region in ways that mitigate – or at least do not fuel – inter-state competition. State power is certainly important in the Arctic, but there are now non-state players in the region alongside, and sometimes intertwined with, state institutions. Evaluating policy processes allows us to see how conflicting interests play out among the various actors; we need to understand who these players are, how they operate, and with what effects.

A process-focused analysis decenters the state as the locus of analysis and emphasizes the growing role of transnational commercial actors at the nexus of migration and economic development policy. It highlights the question, ‘development for whom,’ and moves research beyond “a state-centric (neo)liberalism that sees state action in the Arctic as necessary to an ontology of capitalist development” (Dittmer et al. 2011, 206).

A critical analysis of policymaking will consider questions such as: how are socio-political issues constructed in ways that produce likely policy outcomes; how does ‘seepage’ in the discourse between academic, grey, and popular literatures construct legitimacy; how is political ‘neutrality’ in policy constructed through ostensibly apolitical actors and technology; and what are the interactions among actors in informal governance structures (Wedel 1998).

There is as yet little research on transnational policy processes, particularly in the Arctic. The region is a useful area to apply the process approach, as it offers researchers stark examples of the interactions among states and transnational actors, and also allows scholars to integrate the Arctic context into broader social science research on these themes.

## Population, Migration, and Development Policies

In terms of empirical research, Shore, Wright and Pero (2011, 2) note that analyzing specific policies provides

“windows onto [broader] political processes in which actors, agents, concepts and technologies interact in different sites, creating or consolidating new rationalities of governance and regimes of knowledge (...).”

*How* state and non-state groups negotiate population-related policies can illuminate new aspects of the region’s varied experiences of public cost cutting, corporate-led development, and blurred divisions between private and public entities. This research framework can help scholars understand how shifting governance practices operate in the region (and globally), and result in “new forms of social control and spatial administration” (Mitchell 2010, 290).

Localities and non-state actors pursue development strategies that often include administrative measures to manage migration or the size, location, and composition of settlements. In Russian cases, they may draw down large Soviet-era cities, consolidate settlements, or develop temporary camps for shift workers at resource extraction sites. Often, they accomplish this by employing several measures simultaneously, such as the rollback of social benefits and ‘closed city’ policies that restrict the in-migration of foreigners.

For example, city officials in Novyi Urengoi recently applied for a ‘closed city’ administrative status, citing a rise in crime accompanying foreign migrants. Noril’sk is already a ‘quasi-closed’ city, a holdover from the Soviet era. This designation was reinstated in 2001 at the request of city officials. During the same period, a transnational corporation, Noril’sk Nickel, made cuts to social benefits (pensions, healthcare, public transport and other services), shifting costs to the municipality.

Taken together, these steps had the effect of encouraging urban out-migration from Noril’sk. In these company towns, even though ‘closed city’ policies are ostensibly political, powerful natural resource companies played an important role in the decisions.

Selective regional in-migration also occurs through the recruitment of migrant workers, sometimes bypassing local residents. In Canadian northern provinces, transnational natural resource companies cooperate with provincial governments to recruit both low- and high-skill migrants from throughout Canada and abroad. In Russia, similar arrangements are in place in cities such as Noril’sk, where Noril’sk Nickel recruits highly skilled foreign and domestic specialists, offering a mix of financial and other inducements. Coupled with Noril’sk Nickel’s new corporate

efficiencies, these measures indicate an interest by both industry and local government in gradually drawing down the large population to a more sustainable size, and with a composition that includes fewer pensioners and foreign residents.

However, understanding the negotiations between these groups may help explain why these measures have not been entirely successful.

## **Conclusion: New Research Pathways for Arctic Population Research**

Examining the role of non-state actors in Arctic policies offers a new lens for scholars to analyze transnational policy processes and regional migration and development. Researchers can understand new techniques of governance as states negotiate with agents whose activities and identities often straddle and obfuscate national boundaries and public and private spheres.

Research on policies as processes is a growing field in several social science disciplines but is rarely applied to the Arctic context. This approach can provide researchers with the opportunity to apply global insights to the region and, at the same time, integrate circumpolar research into broader social science work. Population and development issues that can be usefully examined with a focus on the relationships undergirding policymaking include: (1) public-private labor recruiting arrangements; (2) the provisioning of social services in cities by transnational and private (and semi-private) companies; (3) the impact of the explosion of temporary work on permanent residents, particularly employment competition and state reluctance to invest in or subsidize permanent populations; and (4) political prospects for urban and regional economic diversification.

In these and other research paths, a focus on non-state and local actors highlights the shortcomings of neo-realist framings and deepens our understanding of transnational interactions in a region that is increasingly cooperatively governed. The Arctic's starkly defined links between commercial interests and the population provide useful test cases to examine the role of business in migration globally – valuable because much migration literature focuses on the state. Policy process approaches link the empirical, urgent issues in the Arctic to broader scholarly consideration of these questions. They connect state-level geopolitical issues to daily life via webs of relationships that illuminate transnational and non-state intervention in the social wellbeing of Arctic residents.

<sup>1</sup> This paper uses human 'mobility' as an intentionally broad term that "includes all types of territorial [human] movements, including but not limited to migration" (Hyndman 2012, 248).

The emphasis is not on the means of transport, but rather the movement of persons, including migration, state resettlement, and commuting.

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# СИМВОЛИЧЕСКИЙ КАПИТАЛ ГОРОДОВ РОССИИ КАК ФАКТОР ФОРМИРОВАНИЯ МИГРАЦИОННЫХ ПОТОКОВ (НА ПРИМЕРЕ МОЛОДЕЖНОЙ МИГРАЦИИ ИЗ НОРИЛЬСКА)

НАДЕЖДА ЗАМЯТИНА

МОСКОВСКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ ИМЕНИ

М. В. ЛОМОНОСОВА

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Опыт изучения социологических работ, посвященных влиянию представлений на социально-экономическую ситуацию, приводит к выводу о том, что точкой сопряжения когнитивной географии и работ по оценке влияния культуры на социально-экономическое развитие территорий является символический капитал территории. Проясним данное понятие.

Пространственная неоднородность социально-культурного пространства, как известно из социальной теории, обусловлена отношениями власти между отдельными социальными группами, и проявляется в концентрации капитала<sup>1</sup>. Капитал может существовать в разных формах: П. Бурдьё выделял экономический, социальный и культурный виды капитала (Бурдьё 2005). Эффективность использования отдельных форм капитала, возможности конвертации одного вида капитала в другой зависят от господствующей системы ценностей. Например, в некоторых обществах высоко ценится социальный капитал: «связи» играют большую роль в экономике и формировании политических режимов (классический пример – Южная Италия). Для описания того, как оценивается та или иная форма капитала в конкретном сообществе, используется понятие символического капитала.

По сути, символический капитал есть проекция других форм капитала, «преломленных» через господствующую систему ценностей. Его носитель наделяется признанием, его

мнение – легитимностью (в той сфере, в какой данный индивид обладает символическим капиталом). Иными словами, символический капитал – мера легитимности, мера признания за его носителем права на обладание другими формами капитала.

Символический капитал может быть разложен на показатели экономического, культурного и социального капитала, «взвешенные» в соответствии с системой ценностей оценивающего:

$$\text{СимвКТ} = \alpha \text{КультКТ} + \beta \text{СоцКТ} + \gamma \text{ЭКТ}$$
, где СимвК – символический капитал территории, КультК – ее культурный капитал, СоцК – социальный капитал, ЭК – экономический капитал,  $\alpha$ ,  $\beta$  и  $\gamma$  – коэффициенты, отражающие «вес» отдельных форм капитала в системе ценностей, в которой происходит формирование символического капитала.

Детали распространения понятия «символический капитал» в сферу пространственных представлений требуют уточнения. Так, например, в классическом понимании символический капитал определяет меру доверия к его обладателю. Аналогичное проявление символического капитала территории «в чистом виде» наблюдать сложно – скорее всего, это можно сделать, оценивая уровень доверия к уроженцам (представителям) этого места:

При прочих равных я найму москвича: «Если ты, сукин сын, выжил в Москве на голом асфальте, то на северном голом асфальте у тебя тоже есть шанс выжить». (Интервьюируемый житель Норильска, родившийся в Москве, о своих предпочтениях при наборе сотрудников).

На данном этапе ограничимся сделанным предположением. Для настоящей работы важно, что именно символический капитал может рассматриваться как связующее звено между собственно представлениями о пространстве и их ролью в социально-экономическом развитии территорий. Мы полагаем, что именно конвертация разных форм капитала в символический и обратно – этот тот механизм, который обеспечивает взаимодействие представлений с социально-экономическим развитием. Ключевым пунктом такого взаимодействия является доверие, обеспечиваемое символическим капиталом (в случае данной работы – доверие к территории, обеспечиваемое ее символическим капиталом).

В советское время символический капитал Севера для части общества был близок к символическому капиталу столиц – Москвы и Ленинграда. Для самих столичных жителей переезд на Север не означал бы такой резкой потери статуса как переезд из Москвы, допустим, на Урал<sup>2</sup>. Практика бронирования «второго жилья»<sup>3</sup>

создавала институциональную основу выравнивания статуса Севера и двух столиц (во всяком случае, в отношении временного проживания на Севере). В результате, наряду с наиболее маргинальными слоями общества, надеющимися улучшить свое положение, на Север попадали многие интеллигентные, хорошо образованные люди, в том числе уроженцы Москвы и Ленинграда: для них Север открывал не только материальные, но и профессионально-карьерные горизонты.

В итоге, по доле уроженцев Москвы и особенно Петербурга (Ленинграда) далекие Камчатка, Чукотка, Магаданская область, Таймырский, Эвенкийский и Ямало-Ненецкий округа занимали ведущие места среди всех регионов России (см. табл. 1); доля ленинградцев среди жителей Камчатки была почти равна доле ленинградцев в населении Москвы; доля урожденных москвичей в населении Магаданской области – не намного меньше, чем доля москвичей среди жителей Ленинграда.

**Таблица 1.** Регионы-лидеры по доле уроженцев Москвы и Петербурга в населении (по данным переписи 2002 г.)

Ранг (по доле уроженцев Москвы)	Доля уроженцев Санкт-Петербурга в населении, %	Доля уроженцев Москвы в населении, %
1	г. Санкт-Петербург 53,68	г. Москва 52,95
2	Ленинградская область 6,91	Московская область 4,32
3	Псковская область 1,43	Калужская область 0,98
4	Новгородская область 1,38	Тверская область 0,84
5	Мурманская область 1,20	Рязанская область 0,81
6	Республики Карелия 0,78	Владимирская область 0,63
7	Тверская область 0,53	Тульская область 0,63
8	Калининградская область 0,45	г. Санкт-Петербург 0,46
9	г. Москва 0,44	Смоленская область 0,45
10	Камчатская область 0,42	Калининградская область 0,43



11	Архангельская область 0,35	Республики Мордовия 0,43
12	Вологодская область 0,35	Тамбовская область 0,39
13	Московская область 0,31	Ярославская область 0,37
14	Ненецкий автономный округ 0,30	Липецкая область 0,34
15	Ярославская область 0,29	Мурманская область 0,33
16	Костромская область 0,27	Орловская область 0,32
17	Таймырский (Долгано-Ненецкий) автономный округ 0,26	Магаданская область 0,30
18	Республика Коми 0,26	Камчатская область 0,28
19	Чукотский автономный округ 0,25	Ивановская область 0,26
20	Магаданская область 0,23	Чукотский автономный округ 0,25
21	Эвенкийский автономный округ 0,18	Костромская область 0,25
22	Калужская область 0,17	Краснодарский край 0,23
23	Ямало-Ненецкий автономный округ 0,16	Нижегородская область 0,22
24	Смоленская область 0,16	Новгородская область 0,22
25	Тульская область 0,16	Ямало-Ненецкий автономный округ 0,22

Следствием высокой миграции москвичей и ленинградцев на Север становилась специфическая северная среда, содержащая немало прогрессивных элементов. В результате, в ходе практически «цепной реакции» дополнительно подкреплялся и высокий символический капитал Севера<sup>4</sup>.

После экономических реформ 90-х годов XX в. Север утратил былые материальные преимущества. Одной из причин этого послужил переход процесса эксплуатации сырьевых ресурсов от государственных к частным компаниям и одновременное резкое экономическое расслоение населения страны. В условиях появления депрессивных регионов ресурсодобывающие компании переориентировались на завоз дешевой рабочей силы из этих депрессивных районов страны (поскольку северяне привыкли к более высокому уровню доходов и

социальных льгот, чем требуется для найма вахтовиков).

Анализ интервью, а также ответов на вопросы «Что нужно, чтобы остаться в Вашем городе/уехать из Вашего города» приводит к выводу о необходимости расширения понятия символического капитала территории. Как уже было указано, символический капитал – как он определен в социологии – включает экономический, социальный и культурный капитал, признанный в определенном сообществе. Простое распространение данного определения на территории приводит к недоучету важного аспекта восприятия территории – ее комфортности. Климатические и экологические условия отдельных городов указываются респондентами как важное условие миграции. Кроме того, имеют большое значение административные (институциональные) сетевые каналы связей между городами (например, договоры между норильскими школами и вузами в других городах, политика отдельных риэлтерских компаний, работающих в Норильске).

В этой связи необходимо внести уточнение в ранее предложенную формулу символического капитала территории по сравнению с символическим капиталом личности или институции:

$$\text{СимвКТ} = \alpha \text{КультКТ} + \beta \text{СоцКТ} + \gamma \text{ЭКТ} + \varepsilon \text{КомфКТ} + \delta \text{АдмКТ}$$
, где АдмКТ – административный (институциональный) капитал территории, СимвК – символический капитал территории, КультК – ее культурный капитал, СоцК – социальный капитал, ЭК – экономический капитал, КомфКТ – капитал комфортности территории,  $\alpha, \beta, \gamma, \varepsilon, \delta$  – коэффициенты, отражающие «вес» отдельных форм капитала в системе ценностей, в которой происходит формирование символического капитала.

Как показало наше анкетирование 242 учеников старших классов 8 школ Норильска, в случае миграции молодежи ключевой составляющей символического капитала городов, в которые осуществляется миграция, служит их культурный капитал (престижность высших учебных заведений), а также комфортность климата и городской среды в целом. Экономический фактор на данном этапе не играет такой роли, что приводит в некоторых случаях к вторичной миграции по окончании вуза. Для отдельных категорий мигрантов на первый план выходит социальный капитал, а именно наличие в городе потенциальной миграции родственников и хороших знакомых.

Наиболее мощные потоки мигрирующей молодежи ориентированы на Москву, Петербург и Красноярск. Остальные направления потенциальной миграции можно разбить на следующие группы исходя из их размера, географического положения и роли в административно-территориальном делении<sup>5</sup>: крупные региональные

центры (более 900 тыс. чел.); средние региональные центры (за пределами Центрального экономического района); «Большое Подмосковье» (средние региональные центры и другие города в пределах Центрального экономического района); небольшие города южной части Красноярского края и Хакасии; Азербайджан.

Наиболее интересен случай Петербурга. Высокая миграция норильчан в Петербург – особенно выдающаяся на фоне несколько пониженной миграции в Москву – объясняется целым комплексом факторов. Данная установка на миграцию в Петербург, характерная именно для норильчан, связана с тесными социальными и институциональными связями между Петербургом (Ленинградом) и Норильском, а также с появившимся на их основе «ленинградским мифом» Норильска:

*...я почему знаю: я работала в Восточно-Сибирском банке, оформляла ипотеку. Так что из Дудинки, из Игарки, Туруханска – все покупали на юге. А как из Норильска – все в Санкт-Петербург. Был даже такой случай: готовились к дефолту ... – Восточно-Сибирский банк постановил оплачивать ипотеку только в Красноярском крае. Других и мало было – ну, может, у кого-то родственники в Самаре – им отказывали. Так Норильск поднял бунт: им подавай Санкт-Петербург. Так наш руководитель – он сначала был на Дальнем Востоке, потом его к нам перевели, а потом он пошел в банк, который как раз Санкт-Петербургом занимается – так через него как раз вели переговоры, как им организовать Санкт-Петербург через договор между Восточно-Сибирским банком и другим банком<sup>6</sup>.*

*Валить отсюда на берега Невы – традиция, причем это традиция интеллектуальной части населения<sup>7</sup>.*

В поддержании традиции «валить на берега Невы» большая принадлежит диаспоре ленинградцев в самом Норильске (возвращающихся домой в Петербург норильчан вместе с одновременно поступающими в петербургские вузы детьми):

*Так. Первое. 1953 год. Тут в значительной степени был представлен ленинградский контингент (дело товарища Кирова)... Второе. Полуразвалившийся институт сельского хозяйства Крайнего Севера. Его судьба такова: Н.С. Хрущев, помимо выращивания царицы полей ...имел еще одну идею: «Давайте-ка, товарищи ученые, поближе к производству!» Ну, и физиков – в Дубну, а ВНИИСХ, институт полярного земледелия повезло: «Давайте-ка, собирайте чемоданы и выдвигайтесь в Норильск!». Это было 55 лет назад, он как раз 55-летие отметил.... Большинство – временщики. Народ отваливал из института, отработав положенное, в основном, обратно в Питер. Третье. Норильский*

*промышленный район и город Норильск – мощнейшее гнездо, одна из мощнейших геологических школ СССР. Институт ВСЕГЕИ – геологоразведочный институт – у них тут филиал. И был сюда мощный неувядающий поток питерских геологов на протяжении многих, многих лет. Девчонки – за парнем. Каждая вторая девчонка здесь так нарисовалась. Они там снюхались, а его черт на север понес...<sup>8</sup>*

В современных условиях институциональные связи с Петербургом проявляются, в первую очередь, в желании норильчан из числа выпускников школ поступать (точнее, зачастую это решение их родителей) «в проверенные» вузы:

*В прошлом году у нас 53 выпускника. Все поступили, в том числе на бюджет 22 человека: в Екатеринбург; в Нижний Новгород – там неплохой лингвистический вуз, в Красноярск (СФУ); Петербург – просто сплошной. 2 дочери отучились там. Ранее оттуда были целевые наборы в ИНЖЕКО – Инженерно-экономический университет (по качеству знания они тогда были на 6 месте в России). Университет профсоюзов – был договор – приезжали, проводили вступительные экзамены, когда не было ЕГЭ – на нашей базе. Специальности – социальная педагогика (маркетолог), звукорежиссер (театральное отделение). Здесь у таких специальностей проблемы с трудоустройством – оставались там. ИНЖЕКО тоже проводили здесь вступительные испытания и обучали математике (заклучали договор с НИИ, и их профессора обучали здесь ребят).<sup>9</sup>*

Здесь очевидно влияние социального капитала на формирование привлекательного, позитивного образа Петербурга: пожалуй, здесь, как нигде социальный капитал влияет на формирование капитала символического, а во влиянии на миграционное поведение они тесно переплетены:

*Многие едут в Петербург. У многих там родственники. Или им просто город больше нравится. Он красивый, Санкт-Петербург. Я вот была, мне очень понравилось. Детей хочу свозить, показать.<sup>10</sup>*

Традиционное предпочтение Петербурга, в свою очередь, побудило ризлтеров создать ряд специализированных фирм, а также ряд поощрительных мер для закрепления клиентов за приоритетным направлением работы – так у Петербурга формируется вторичный административный капитал по отношению к Норильску:

*Сейчас «ЛенСпецСМУ» предоставляет скидку, если ребенок*

*поступает в Питер.<sup>11</sup>*

В итоге получается «цепная реакция» самоподдерживающейся миграции из Норильска в Петербург, подолжающая работать даже тогда, когда уже «иссяк» поток возвращающихся из Норильска ленинградцев (о том, что все они, по сути, уже уехали, интервьюируемые с сожалением упоминали многократно).

Выбор того или иного направления миграции зависит от социального статуса потенциального мигранта (см. табл. 2): учащиеся школ с наиболее высоким рейтингом предпочитают Петербург, учащиеся школ с более низким рейтингом (также, как показало специальное исследование – большинство выпускников Дудинки и Игарки) ориентированы на Красноярск. Среди учащихся школы с наибольшей долей азербайджанцев среди выпускников (последняя в рейтинге из изученных школ Норильска) почти пятая часть потенциальных выпускников собирается уезжать в Азербайджан.

**Таблица 2.** Распределение предпочтительных направлений миграции с Севера (то итогам опроса обучающихся в школах Норильска) =>

		<b>Доля отдельных направлений в предпочтениях учащихся конкретной школы (% от общей численности опрошенных в данной школе)</b>											
	<b><u>Всего анкет</u></b>	<b><u>Москва</u></b>	<b><u>Петербург</u></b>	<b><u>Красноярск</u></b>	<b><u>Крупные региональные центры</u></b>	<b><u>«Большое</u></b>	<b><u>Второстепенные региональные центры (Астрахань,</u></b>	<b><u>Небольшие города Юга Красноярского</u></b>	<b><u>Баку, Азербайджан</u></b>	<b><u>Останутся в Норильске или</u></b>	<b><u>Выбирают из нескольких конспектов и/у</u></b>	<b><u>Другие варианты</u></b>	<b><u>Не определились или нет ответа</u></b>
78,8	100	8,1	16,2	2,7	13,5	2,7	13,5	0,0	2,7	5,4	8,1	2,7	24,3
73,9	100	13,5	18,9	10,8	8,1	8,1	8,1	2,7	0,0	2,7	10,8	0,0	16,2
68,6	100	2,4	9,5	7,1	9,5	2,4	7,1	2,4	0,0	9,5	7,1	4,8	38,1
65,3	100	7,4	25,9	11,1	18,5	0,0	3,7	0,0	0,0	0,0	0,0	0,0	33,3
53,7	100	4,3	8,7	8,7	8,7	8,7	4,3	0,0	4,3	13,0	8,7	13,0	17,4
53,5	100	5,9	11,8	5,9	5,9	0,0	5,9	5,9	0,0	0,0	0,0	5,9	52,9
53,5	100	8,8	8,8	11,8	8,8	5,9	14,7	2,9	2,9	5,9	2,9	0,0	26,5
44,3	100	0,0	4,5	13,6	0,0	4,5	9,1	0,0	18,2	4,5	13,6	4,5	27,3

Таким образом, влияние символического капитала потенциального города миграции опосредовано собственным символическим капиталом потенциального мигранта (образовательный капитал, возможность купить в месте потенциальной миграции квартиру или получить помощь родственников). Итоговое решение является своего рода равнодействующей двух сил: притяжения городов с высоким символическим капиталом (в основе которого в данном случае заложен высокий культурный и социальный капитал городов потенциальной миграции) и ограничительного влияния собственного символического капитала потенциального мигранта.

<sup>1</sup> «Структура социального пространства определяется в каждый момент распределением капитала...» (Бурдьё 2005, 31).

<sup>2</sup> Во всяком случае, для интеллигенции.

<sup>3</sup> Жителям районов Крайнего Севера в эпоху существования жесткого института прописки официально разрешалось иметь более одной квартиры, и многие имели квартиры одновременно на Севере – и в Москве или Ленинграде.

<sup>4</sup> Первоисточником же высокого символического капитала Севера, по-видимому, следует считать целенаправленную советскую политику: Север был создан как регион больших возможностей не только за счет материальных стимулов, но и за счет мощной целенаправленной пропаганды, направленной на повышение статуса «покорителей Севера».

<sup>5</sup> Названные группы вместе дают 56% ответов.

<sup>6</sup> Интервью с жительницей Туруханска.

<sup>7</sup> Интервью с пожилым норильчанином (научный работник).

<sup>8</sup> Интервью с пожилым норильчанином (научный работник).

<sup>9</sup> Интервью с завучем норильской школы.

<sup>10</sup> Интервью с учительницей (и репетитором по английскому языку) г. Норильск.

<sup>11</sup> Интервью с сотрудником департамента образования г. Норильск.

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# CENTRAL ASIAN MIGRANTS AS NEW ACTORS IN RUSSIA'S ARCTIC URBAN LANDSCAPE

MARLENE LARUELLE  
THE GEORGE WASHINGTON UNIVERSITY  
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Urban sustainability in Arctic regions has multiple facets, among them social sustainability. Urban social sustainability can be defined as a set of elements including equity, diversity, social cohesion, quality of life, and governance.<sup>1</sup> This aspect of sustainability is especially important as the world trend toward urbanization is fundamentally changing human and natural environments, including in Arctic regions. Among the elements of urban social sustainability, such as diversity, governance and social cohesion, is situated the migration question: migration is the driver of urbanization.

This chapter investigates one of the most understudied faces of Russia's Arctic urban landscapes: the presence of migrant populations from abroad, in particular populations whose culture is marked, in one way or another, by Muslim traditions.

The Russian case is not unique. In Canada, Alberta is home to a growing Muslim community: the largest mosque in the country is located in Calgary, and the town of Fort McMurray, an outpost for oil sands exploitation, has opened an Islamic school that teaches the Alberta curriculum from an Islamic perspective. Svalbard, which has a specific legal status that enables individuals who not have not received political asylum in Europe to settle locally, has a rapidly growing community of Middle Eastern migrants (from Iran, Iraq, etc.). In Russia, the phenomenon is even more marked: there are hundreds of thousands of people of Central Asian origin, principally from Tajikistan, Uzbekistan and Kyrgyzstan, working there year round. Added to this are the Azeris, Tatars and Bashkirs that have been present since the Soviet period, and a rising number of Dagestanis.

These migrants are often left out of analyses of local urban landscapes, which tend to concentrate on the arrival of indigenous peoples in town, and on the migration of Russians between European and Arctic regions. The "Muslims" of the Arctic are, however, just as populous as the indigenous groups: today, the Yamalo-Nenets Autonomous District has as



many Kazan Tatars as it does Nenets (about 5.5%), as many Azerbaijanis as Khant (close to 10,000), and Central Asians whose numbers are difficult to calculate because they are often undocumented (Starostin 2013). This chapter briefly explores the main trends of Central Asian migration to Russia's Arctic cities, and outlines the contours of the ongoing research.

### **A New Phenomenon....with a Historical Past**

If the massive arrivals of Central Asians in the Russian Arctic are a new phenomenon dating from the 2000s, they are part of a larger historical context that connected Muslim regions of the Soviet Union to the Arctic.

In Azerbaijan, which has exploited its oil wealth since the start of the 20<sup>th</sup> century, many Azeris quickly became specialized in the oil sector. In the 1960s, exploitation began on the large deposits of Western Siberia, in particular in the Khanty-Mansiy autonomous district, by Azeri engineers who had trained at the Azerbaijan Oil and Chemistry Institute of Baku. As a result, in towns such as Surgut, there is a relatively large and well-organized Azeri community.<sup>2</sup> In the 1970s, it was the turn of the Tatars and Bashkirs to specialize in the oil industry and take up positions in the sector, which they did throughout Western Siberia. In the 1990s and 2000s, the number of Azerbaijanis in Arctic towns multiplied, this time not in the oil sector, but in the domain of services, particularly the small trade and bazaar economy.

The case is similar for the Central Asians, as well as for the North Caucasians, in particular the Dagestani peoples. With the exception of some young Kazakhs trained in the Kazakhstani oil and gas institutes and who have moved to Russia, the Central Asians who have arrived in Russia's Arctic cities in the post-Soviet period are mainly unskilled workers rather than engineers. As such, they cannot be sociologically compared to the Azeri, Tatar and Bashkir graduates who preceded them, though many Tajiks and Kyrgyz, who have been settled in Russia for a decade now, have succeeded in climbing the professional ladder and are today positioned as mid-level skilled personnel. Despite these differences, the imprint on the urban landscape left by these Central Asian migrants is in part similar to that of the Azeris, Tatars, and Bashkirs: sites of Muslim worship have become one of the most surprising facets of Russia's Arctic cities, and Arctic markets are in part supplied by so-called "Asian" or "southern" produce, such as fruits and vegetables.

### **When Demographic and Economic Trends Meet**

This inflow of Central Asian migrants can be explained by long-term demographic trends. The populations of Tajikistan, Uzbekistan and Kyrgyzstan are particularly young (half their total population is under 20 years of

age) and the employment prospects in their countries of origin are slim, or the jobs are very poorly paid (GDP per capita is about 2,200 dollars). Labor migration has thus quickly become a “safety valve” for Central Asian economies. Tajiks were the first to migrate, in the 1990s, pushed by the civil war; they were followed in the 2000s by Uzbeks and Kyrgyz. Predominantly settled in Russia, Central Asian migrants are trying to move to the major cities of the country, to the Moscow region, but the best places are already taken, pushing the new migrants toward less attractive regions. Since the second half of the 2000s, they have formed the majority of the migratory flows to South Siberia (Buryatia and other regions) and to the Far East (Vladivostok and Khabarovsk), far ahead of the Chinese. They also have also taken advantage of the industrial boom in some Arctic and sub-Arctic cities, from Khanty-Mansiisk to Novyi Urengoi and Noril’sk.

If the major industrial cities of the Russian Arctic were still attracting people in the 1990s, as they were the only ones to offer salaries during the worst periods of crisis, the situation has changed today: high wages and Western living conditions are to be found mainly in the European regions of the country. The ethnically Russian skilled workers continue to converge there since the major oil and gas companies recruit them at competitive rates. However, an entire section of the urban economy only attracts labor migrants, not Russian citizens.<sup>3</sup> This is the case with jobs in the construction sector (building industrial infrastructure as much as housing); public roads (street cleaning and public transport); and the small services economy (cafés, restaurants, markets, and domestic services). The Central Asian labor migrants are to be found in precisely these sectors, and sometimes enter into competition with indigenous populations pressed into rural exodus. As elsewhere, the private sector plays an ambiguous role in migrants’ socio-economic situation: Russian firms are scarcely interested in legalizing their workforce, even if the specificity of Arctic towns – which monitor work and residency permits far more strictly than towns in the rest of Russia – means a smaller proportion of migrants are undocumented. The corruption of the security services, however, remains universal, impelling the migrants to remain illegal.

The sustainability of this need for workforce is problematic. The major industrial construction sites of Russia’s High North, for instance Gazprom’s Yamal Megaproject, require a great deal of cheap labor, with little regard paid to working conditions. However, once the infrastructure is completed, this need will drop rapidly. This situation risks presenting as-yet unknown challenges to the Arctic towns: historical trends in other countries that have faced similar situations show that a large portion of migrants tend to settle down permanently, and in families, even if the initial employment conditions are not fulfilled. As for the public works and service sectors, they are unlikely to collapse unless the urban fabric

itself contracts in a lasting way. A large proportion of these migrants can therefore be expected to build their lives in Arctic towns.

### **Social Cohesion as a New Challenge for Arctic Cities**

The settlement, in the medium or long term, of migrants from Central Asia or the Caucasus in Arctic towns has led to several changes in the urban landscape: a growing number of mosques and requests for new places of worship even in small localities previously devoid of Muslims; the emergence of ethnic neighborhoods, with their specialized boutiques, restaurants, cafés and bazaars; new sociabilities of migrant communities (*obshchiny*), which seek to recreate the kind of social gatherings they enjoyed at home; and specific strategies of mutual aid. Central Asian migrants, for example, tend to group together by nationality or by region, while the Dagestani have recreated their *jamaat* (religiously based communities, often Sufi), and mixed marriages with Russians or indigenous people are multiplying. Today, the main Muslim Spiritual Directorate of Russia is being forced to take stock of this situation and has therefore quickly named new Imams, who hail principally from Central Asia (Goble 2013), for Arctic cities.

Patterns of mobility are changing as well – rare are the Central Asian or Caucasian migrants that arrive in the High North directly from their region of origin. They have often worked for several months or years in another Russian town, particularly in west or south Siberia, where they have left women and children. Mobility is thus triangular, unfolding between the place of work, the place of the family’s habitation, and the country of origin.

These new actors in Arctic cities also influence collective and individual identities. For several decades, the inhabitants of Arctic cities have developed strong feelings of belonging, expressed through several narratives: the remoteness from the continent (*materik*), the harsh climatic environment, human domination over nature, contact with indigenous cultures, and so on.

Today, new discursive drivers have been added to the puzzle of High North identities: the destruction of the social fabric by massive emigration, the will to stay and be proud of one’s “small motherland” (*malaia rodina*) despite the difficulties, and the stakes of social cohesion linked to the appearance of new urban populations. The subtle hierarchies of classification of populations into autochthonous (*korennye*, but not necessarily indigenous) and newcomers, and the different underlying legitimacies, contribute to transforming local social sustainability. The presence of skin-head groups in some towns, such as Vorkuta and Novyi Urengoi, has given rise, as it has elsewhere in Russia, to affrays between far right youths and

migrant groups, and the “interethnic tensions” there are often experienced by the inhabitants themselves.

The Russian authorities are not neutral actors in these processes of identity transformation. Anti-migrant xenophobia is broadly instrumentalized by the Kremlin to strengthen the Putin regime, to forge a consensus between the population and its elites, and to avoid tackling fundamental problems, such as bad governance and difficulties in implementing strategies. The presence of migrants is thus routinely associated with criminality and drug-trafficking, as well as the poor quality of products for sale (food and textiles). Recently, anti-migrant legislation has been spreading like wildfire in Arctic Russia. In December 2012, the governor of Yamalo-Nenets Autonomous District decided to no longer to authorize people to enter the region, except those with an invitation from a resident or a work permit issued more than thirty days beforehand; check points have been placed at the airport, on the main highway and at the railway station (*Natsional'nyi aktsent* 2013). The authorities of Novyi Urengoi have reinforced this decision by affirming that they have restricted the access of Russian citizens and foreigners to the town because it is on the Russian border. In both cases, these decisions, supported by Vladimir Putin personally (*Arctic-info.com* 2012), are grounded in anti-migrant narratives: Arctic regions have allegedly seen a surge in criminality due to the presence of Central Asian and Caucasian migrants, and must also tackle head-on the alleged risk of Islamic radicalism (Bigg 2012).

## Conclusion

Far from the folkloric *clichés* which make Arctic regions out to be simple virgin spaces strewn with rare indigenous inhabitants leading so-called traditional ways of life, Russia's Arctic cities are undergoing evolutions similar to those of numerous other urban spaces both in the country and beyond. Arctic cities are becoming more international, with populations of ethnic origin but also with more diversified professional backgrounds. Their inhabitants must learn to build new forms of sociability that will have a huge political, social and cultural impact on the long-term sustainability of these Arctic cities.

<sup>1</sup> Three main research institutions work on social sustainability issues: the Oxford Institute for Sustainable Development; the Sustainable Europe Research Institute; and the Institute for Sustainable Futures at the University of Technology Sydney.

<sup>2</sup> See, for instance, the Forum of the Azerbaijani community of Surgut, <http://forum.isurgut.ru/viewtopic.php?f=5&p=4885191>.

<sup>3</sup> Use of the term “Russian citizen” is ambiguous since the migration patterns of North Caucasians, although Russian citizens, is similar to that of foreign migrants, and their social integration is just as difficult.

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# MURMANSK ON THE MOVE: TRAJECTORIES AND REPRESENTATIONS OF MIGRANTS FROM THE SOUTH CAUCASUS IN A POLAR CITY

SOPHIE HOHMANN  
CERCEC, PARIS

ALEKSANDRA BURTSEVA  
MURMANSK STATE ARCTIC UNIVERSITY  
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For me, the north is the cold (*holod*). The polar night is pure hell (*iad*). At first, one expects to see the sun and one understands that it will not come ... In contrast, the polar day is paradise (*raj*)! I just love it! And I like skiing, I love snow, I know everyone does not like it, but I do! One thing is certain, the North requires being prepared, and it's not easy. (Eduard, 34, from Massali in Azerbaijan)<sup>1</sup>

I do not have Russian citizenship yet, and I would like to go to the sea ... I used to go fishing there (in Azerbaijan), I lived close to the Caspian, I love the sea ... I would like to become a fisherman but not on big boats rather on small trawlers for crabs, all kinds of fish, but not more than a week at sea. But to go out to the sea, you need citizenship ... for me the North it is the sea, it is fishing, and when I arrived here I had not thought of all that, I was not sure where I would find myself... and then there are the people, and the Azeris will tell you they have the wrong course because of the cold and everything, but in fact they get quickly attached to the North, and to the people from the North, here it is very unusual. (Vugar, 32, from Massali in Azerbaijan)<sup>2</sup>

**T**he Soviet Union collapsed some 25 years ago, and with it a unique economic and social system. This collapse fomented transformation in all spheres of former Soviet societies. The reconfiguration of mobility (economic migration, environmental migration, forced displacement, exile, etc.) involved a set of new multiscale situations and migration strategies. In particular, labor migration appeared as an alternative to the

disintegration of the social system and the loss of Soviet social benefits. The increasing flow of migrant workers from the southern republics of the former USSR (South Caucasus and Central Asia), who left to try their luck mainly in the Russian Federation, reflects socioeconomic and political changes unprecedented in this geographical area. New labor migration patterns, temporary or circular (Mühlfried 2014; Ivanyuk and Iontsev 2012) have emerged, especially since the late 1990s, as a new paradigm for Russia. Mobility during Soviet times occurred in a different historical and administrative framework due to the absence of political borders between Soviet republics. A completely new situation emerged after 1991; proposals of a legal framework for collaboration between States occurred in the context of major crises. Migrants' countries of origin also suffered from unprecedented transformations inherent in the construction of a new social order. Furthermore, migration from the southern republics and the regional geopolitical situation need to be studied in the context of the crises that marked the 1990s, as well as of the current economic crisis in Russia, which has had many implications.

This work aims to highlight the process of polar migration from the Republic of Azerbaijan, a state that is rich in oil and hydrocarbons production and yet not fulfilling its role as a provider of social services nor satisfying the demand of the internal job market (CESD 2012; Laruelle 2012; Guliyev 2016). The issue of migrants' organizational strategies after 1991 will be analyzed by taking a broad historical perspective, in order to better understand the continuities as well as ruptures caused by the collapse of the USSR and to study the networks that continue to support the migrants. The regionalization of labor migration cannot ignore analysis of migrants' geographic trajectory, nor the trajectory of their professional careers, considered here from a sociological standpoint. In this respect, the study of generations of migrants will allow us to understand the geographical and temporal dimension of their trajectories, while being attentive to historical scissions that accompany them. The strategies elaborated by migrants do intersect and coincide: they are complex and require analysis based on their migration routes, while framing available contextual data (historical, demographic and anthropological). This analysis of polar migration in Murmansk, for instance, gives new insight into the geography and sociology of life on the Russian margins. It shows how work migration after the collapse of the USSR follows different logics than those that prevailed during the Soviet era.

## **Migration from Southern Caucasus to Russian Arctic Cities: Why and How?**

The Murmansk region is one of the most militarized regions of Russia, and it hosts several military bases in closed cities, or ZATO (Aleksandrovsk, Severomorsk, Olenegorsk, Zaozersk, Ostrovnoi, and Vidiaevo), where the Northern fleet is concentrated. The need for servicemen on the bases, as well as in the Northern fleet, represents a significant niche for migrants. Among interviewees of Azeri origin<sup>3</sup>, many were born in the 1950s, 1960s, and 1970s, and were sent to the Murmansk region to do their military service. This was also the case for many Armenians, particularly those who studied at the Baku naval military school before the end of the 1980s. There was also a high prestige associated with work in the Northern Fleet for those who were admitted. After their service, some stayed on as contract workers; others found work in another sphere and remained in Murmansk, like Reza<sup>4</sup>, who was born in 1950 in the region of Astara. Reza was a Talysh, though he says he declared himself Azerbaijani in the 2010 Russian census:

... All that did not exist before the collapse of the USSR; at the time there was no Talysh or Azeri, it was the Union of Soviet Socialist Republics ... I feel above all a Soviet citizen even if all this is over ... I came here to Murmansk to do my military service in 1972, I was sent to Severomorsk (a closed city), I served in the Fleet of submariners and then I joined in the Fleet as a contract worker (*po kontraktu*) before entering the security forces of the MVD, the Ministry of Interior, in Murmansk in 1990 ... I cannot stand the cold, I've never been able to bear it, but I prefer to stay in the North even though I love my country of origin... it's too hard there, and here we are family, three of my four children are here in the area and they have a job, my youngest daughter is in 5th grade and works well in school, that's what counts ... (Interview in Murmansk, March 21, 2016).

The army allows one to acquire social status (Jones 1990) and build social networks, and for those who decided to do their military service in Murmansk after 1991, it was a way to get Russian citizenship. Azeris did not necessarily intend to stay after their military service, but the socio-political context in the USSR and Azerbaijan SSR during the late 1980s and early 1990s encouraged those who had completed their military service (the generation born in the 1960s and 1970s) to remain in the North. The intentionality can therefore be questioned through various exogenous parameters, and not only through endogenous ones. The same phenomenon was observed in Noril'sk: there is no chance for professional mobility, and military service could be a starting-point for a career in Northern city or monocity (Didyk and Ryabova 2014). Having studied at an institute



specializing in metallurgy or mining also had a significant impact on migrants' decisions to remain, as we shall see below.

The South Caucasus nationalities (Armenians and Azerbaijanis especially) have a long tradition of mobility in Russia, including in the North (as *neftniki*, engineers,<sup>5</sup> students,<sup>6</sup> traders, fish plants, ports). Azerbaijanis<sup>7</sup> are the largest nationality of the post-Soviet South in Murmansk region, as in the other polar regions, and remain very active. Many migrants came temporarily, as part of seasonal migration to sell their products; on major construction projects in the 1980s, such as the famous *stroiostrady*; or played and continue to play a cardinal role in the organization and consolidation of post-Soviet migration strategies (Rahmonova-Schwarz 2010; Sahadeo 2012).

The end of the USSR transformed economic relationships, and mobility patterns were reconfigured. Nevertheless, the economic niches, even if they changed after 1991, were marked by a long history and an “ethnicization” of economic sectors. Azerbaijanis who once sold fruit and vegetables on the market or in small shops became managers or directors of entire supermarket chains (like the Evroros chain in the Kola Peninsula) or took control of wholesale markets and became major entrepreneurs (observations in the summer of 2015 and the winter of 2016 in Murmansk, and the summer of 2015 in Noril'sk and Dudinka). A new “aristocracy” was born, which covers the generations of Azerbaijanis that arrived before the end of the USSR and those aggregated to the niches developed during the Soviet era. Moreover, niches became more pluri-ethnic, establishing new relationships of trust with other “nationalities”, such as Uzbeks and Tajiks because “they do not drink and they work well” (interviews with Azerbaijanis in Murmansk). As of the last Russian census, in 2010, Azerbaijani nationals constituted 42% of all Southern nationalities of the former Soviet Union in the Murmansk region, Armenians 18%, and Uzbeks 12%.

### **Reticular approach of migration issues**

Prioritization of ethnic niches, in addition to their regionalization, is a reality that reflects the economic but also social and cultural issues. In Murmansk, Azerbaijanis who work in the fruit and vegetables wholesale markets are mainly from the southern regions of Azerbaijan (Massali, Astara and Lenkaran<sup>8</sup>). Even in Soviet times, Azeri traders in Russia were from these regions, but they also hailed from the northeast of Azerbaijan (Gusar and Khachmaz, mainly populated by Lezgins and Tabassarans) due to ancestral know-how in this business, for instance. The collapse of the agricultural economy and the disappearance of collective and state farms hit rural market gardens very hard, including those run by many individuals

who now live in Murmansk. It was in the 1990s, among the ruins of the USSR, that commercial migrations back and forth, called “shuttle” (chelnok), sprang up as a survival strategy. These migrations, typical of the early post-Soviet period, helped build networks that would establish today’s business niches.

Moreover, the Nagorno-Karabakh conflict resulted in flows of Azeri migrants to Russia in general and to the North in particular during the late 1980s and early 1990s. The lack of living space for internally displaced Azerbaijanis (who still account, in 2016, for 6% of the total population of Azerbaijan) led them to seek better living conditions beyond the borders of their country. Many Azerbaijani people who lived in the border provinces of Karabakh – for example, in the Agdam region, which was completely devastated – left their homes. Nowadays, Azerbaijanis from the Agdam region are found in Murmansk, working in clothing markets. Markets became more segmented after the disappearance of the Soviet Union, but Azerbaijanis’ ancient and solid reputation in these sectors allowed them to maintain the economic niches they had carved out during the Soviet period.

### **Being secure in the Great North: representations of the Kola Peninsula, between stability and security**

Despite the remoteness of the region, the Kola Peninsula is traditionally characterized as a magnet for migrant workers from other republics of the former USSR or from Moscow and St. Petersburg. Interesting results from fieldwork conducted in Murmansk and based on in-depth interviews (biographical methodology) and language tests<sup>9</sup> for migrants, organized by the University of Murmansk between 2013 and 2015, showed that migrants have developed strategies of consolidation in the Russian North. Over one-third of migrants opted for the temporary entry visa or for the residence visa, although the tests for these visas are more difficult than those for acquiring a business license. The local office of the FMS in Murmansk confirms that, every year, between 5000 and 7000 foreigners obtain a residence permit (*vid na zhitel'stvo*) for five years with a residence permit or a temporary visa (*razreshenie na vremennoe prozhivanie*) for three years, bringing them into the category of permanent residents of the Russian Federation. Between 2011 and 2014, the number of foreign members of the CIS who obtained a temporary residence permit grew steadily (FMS data reports 2011, 2012 and 2013).<sup>10</sup> The motivation for such a choice is explained by the fact that the certificate to obtain a higher status (registration and residence permit) allows holders to obtain a patent and live on Russian territory for three years (*razreshenie na vremennoe prozhivanie*), whereas the certificate for obtaining a business license (valid for one year) gives them only the right to work.

In-depth interviews (life histories) conducted in March 2016 showed that the economic factor ranks first in the responses: ability to find work, opportunities in the labor market, earning more money, and work to finance a wedding, house, or land plot. However, this does not imply that their choices are limited to the Kola Peninsula, as across Russia the main motivations for migration are economic. So is there something else that drives migrants to choose this polar region of Russia (as is the case with other places, such as the Yamal peninsula in Tyumen region)? Why do migrants come to work in Murmansk? What are their motivations?

This question was posed to each migrant who participated in the survey. The main motivation was clearly the presence of relatives, friends, or fellows: “I have a brother who works here”, “my mother lives here – I came to see her”, “my father lived here for 10 years,” and “a friend told me that I could work here” are fragments of recurrent answers during these interviews. The importance of belonging to a clan or a sub-clan is also highlighted as an important variable. Several levels intervene in the labor market and employment: Azerbaijani employers, as well as Uzbeks, claim that they choose employees primarily from among their countrymen. A “socio-ethnic” stratification is therefore visible in the organization of recruitment and horizontal strategies between Caucasian and Central Asian ethnic groups such as Tajiks and Uzbeks. They are all well informed through the media and other means of communication: mobile phones, the internet/Skype, trailers on TV, etc. Moreover, an important element when explaining migrants’ choice of this region is the perception of the Kola Peninsula as a “space or zone without ethnic conflict” (Razumova 2004; Zmeeva 2011). The Murmansk region is characterized by a high level of ethnic tolerance, and this is one of the major reasons why migrants choose to go there – especially migrants who have suffered during previous ethnic conflicts, such as Nagorno-Karabakh, the two Chechen wars, the massacres in Osh in Kyrgyzstan, and more recently the war in Ukraine. Murmansk’s stability can be explained by the history of its settlement, its military history, and the industrial history of the city and of the region, as well as by the importance of cultural interactions in this region, which was briefly described above. Indeed, the socio-cultural adaptation of populations in the Russian North was a necessary condition for successful integration into the regional ethnic community, entailing an intense process of acculturation.

Another important parameter also explains the attraction of the Murmansk region for migrants: good relations with the local population, with employers, and with the owners of apartments rented by migrants. Many migrants speak of their employer with respect and vice versa. The willingness of companies to maintain stable employment and thus protect their productivity – in a region where security prevails and administrative

rules are followed – can result in employers themselves taking good care of migrants (language tests, support for getting administrative documents, insurance policies, etc.) Of course, like anywhere else, the situation behind the scenes is different, as FMS employees testify (interviews in Murmansk, July 12, 2015). Nevertheless, despite these situations – which are, unfortunately, far more common elsewhere in Russia – migrants argue for choosing this region thanks to the emotional comfort in work and everyday life; the quality of human relationships in business; the public health system; the stores; and the presence of the police.

### **Conclusion: Avoidance and risk management in labor migration**

Generations of people born in the Soviet Union between 1950 and 1970 hold an important place in the formation of current migration processes in Russia, but also impact the meaning of migration and its possibilities. They are characterized as intermediate generations and have a major reticular dimension through which to view the new generations of migrants. Through this analysis, mechanisms unfold that can mend a system of social arrangements in order to prevent insecurity (Castel 2003). Diaspora associations help, as we glimpsed above, guaranteeing a form of “global” security. Here the concept of “embeddedness” developed by Granovetter (Granovetter 1973, 1985) allows one to consider economic exchanges without isolating these exchanges from social relations. However, it is clear that the filigree of parents and networks of compatriots, especially among Azerbaijanis present in the Murmansk region since Soviet times, is crucial in supporting migrants’ access to the labor market, controlling newcomers, and establishing trans-generational networks. In Murmansk, this testifies to the notion of reticular installation, which highlights the importance of historical factors along with the social capital necessary for the construction of migrants’ networks and careers.

Capital integration into networks and the development of interpersonal relationships provide opportunities for migrants to broaden their fields of contractual opportunities and reduce the initial stress. The dynamic conditions of “social embeddedness” of these practices strongly affect the contractual path of migrants by allowing them to access the arrangements they deem most interesting. Networks are mostly based on the principle of reciprocity, which implies the existence of symmetrical entities (Polanyi<sup>11</sup> 1983), reciprocity being defined as a double but not instantaneous transfer. The counterparty, or the reciprocal transfer (such as an airfare or transportation fee funded by the migrant’s family against a later transfer of money, or setting up a small business to run a family and community waterwheel, etc.) will depend on the existing tension in the group, on social pressure, and on the social obligation to give back,

which can lead to exclusion from the group in case of non-fulfillment of the obligation, or a counter-obligation. The results of this study about the complex individual and collective strategies that integrate migration, first as a resource but also as a risk, and the choice of the Murmansk region, demonstrate overall risk-avoidance strategies.

<sup>1</sup> Eduard arrived in Murmansk in 1996. Interview in Murmansk, March 2016.

<sup>2</sup> Vugar arrived in Murmansk at the end of the 2000s. His family had been in Murmansk since the 1990s.

<sup>3</sup> Interviews on the markets (*ovoshnye bazy*) in Murmansk in July 2015 and March 2016 with the Azerbaijani diaspora in restaurants and during the festival of Nowruz (Iranian New Year on March 21st) in Murmansk.

<sup>4</sup> To ensure anonymity, identities were changed.

<sup>5</sup> Azerbaijan developed an expertise in the specialized sector of oil extraction from the late 19th century, Kazakhstan did so later; students and engineers followed the same trajectory during these years of construction, commissioning resource development, etc.

<sup>6</sup> It is also noteworthy that in Soviet times, the compulsory allocation process (*raspredelenie*) of the labor force meant that one had to serve the state for five years after completing one's studies, which were paid for by the state.

<sup>7</sup> In the late 2010s, there are an estimated one million workers from Azerbaijan in the Russian Federation (source: IOM), and 60% of remittances are for families living in rural Azerbaijan (FAO).

<sup>8</sup> Note here that the Massali region, mainly populated by Talysh, is a poor area, despised by those with political power and the Aliev clan. On Azeri migration, see Yunusov 2003.

<sup>9</sup> At the University of Murmansk, these tests cost between 2,000 and 4,000 rubles depending on the nature of the test (license, residence permit, citizenship). Private institutions in Murmansk (which are sometimes dubious) require ten times that price. Moreover, in order to obtain the license one must undergo a medical test that costs 7,000 rubles. (Interviews and personal observations in Murmansk, including during testing in Murmansk in March 2016).

<sup>10</sup> *Federal'naiia sluzba migratsii Murmanskoi oblasti*, information collected by Alexandra Burtseva.

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**INDIGENOUS PEOPLES  
AND THE URBANIZATION  
ISSUE**





# INDIGENOUS PEOPLES: URBAN RESOURCES FOR SUSTAINABLE DEVELOPMENT?

VERA KUKLINA

V.B. SOCHAVA INSTITUTE OF GEOGRAPHY

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**M**ore than half of indigenous peoples in the world today live in cities, where their voice is becoming increasingly distinct in debates about preserving the environment and climate change. In Russia, in contrast with other countries, the inclusion of indigenous peoples in expert activities is limited to a few exceptional cases. In the search for resources promoting sustainable development, the adoption of traditional ecological approaches is hindered by a blurry understanding of “indigenous peoples,” “traditional land use,” its relationship to industry, and the dividing line between city and village in the North. In this article, I will examine these problems in detail, focusing on a case study of the Katanga Raion (Irkutsk Oblast).

## **Indigenous Peoples**

In Russia, only the indigenous peoples of the North, Siberia, and the Far East officially have specific rights and are recognized in state documents. Representatives of these indigenous peoples easily disappear into the urban milieu if they are not directly involved in organizations focused on defending rights, researching problems, or supporting elites associated with indigenous peoples. With just a few exceptions, the offices of such organizations are located in cities. Moscow hosts the headquarters of indigenous advocacy groups like the Russian Association of Indigenous Peoples of the North, Siberia, and the Far East, the Batani Foundation, and the Lyoravet’an Information Center. The Institute for Humanitarian Research and Problems of the Indigenous Peoples of the North was founded in Yakutsk in 2008. The main education centers for indigenous peoples are in St. Petersburg, including the Institute for Peoples of the North, the Herzen Pedagogical Institute, the Institute of Art and Crafts of the St. Petersburg State University of Technology and Design, and the State

Polar Academy. Several departments for teaching indigenous languages exist in universities located in the capital cities of the territories where the indigenous groups live.

Erbogachen (Katanga Raion, Irkutsk Oblast) hosts the Evenk National Cultural Center, whose employees are mostly graduates of the Institute of Peoples of the North. In 2008, the institute and representatives of the Tofalar people established the Irkutsk Regional Social Organization Union to Support the Indigenous Peoples of Irkutsk Oblast. Effectively, it became a base for preserving and developing not only ethnic identity but civil activity, since it is the only non-governmental organizations in Katanga Raion. It has taken the initiative to implement projects directed at supporting and developing remote and hard-to-access villages in the raion (Tysiachniouk 2012). The official web site of Katanga Raion mainly includes information about Evenk society, mostly because of its more developed local identity (Katanga Online). In the city of Irkutsk, they created a state budget cultural institution – the Center for the Culture of Indigenous Peoples of the Baikal Region – under the aegis of Ministry of Culture.

There is a growing share of indigenous peoples in the Baikal region. The reasons for this change include the exodus of ethnic Russians, high birthrates among traditional families, and institutional changes, such as quotas and benefits for members of indigenous groups.

Belonging to such an ethnic group does not alone explain differences in migration strategies and relations to one's environment in the various settlements. Therefore, in addition to the officially designated indigenous peoples, we think it is important to take into account the strategies of those residents who consider themselves rooted in the local environment.

Since the 17th century, the northern raions of Irkutsk Oblast have been settled by Cossacks and peasants from the European part of the country. The remoteness from the central provinces led to limited contacts with the heart of the country and the formation of a "Sibiryak" identity. Additionally, among the young cities of the Soviet period, it was common to find a significant share of individuals from the creative professions who used their talents to develop the local cultural life, particularly in cities like Ust-Ilimsk and Baikalsk.

Following the logic of M. Rozhansky and M. Turov, and using the terminology of D. Urri, we consider indigenous and rooted those peoples who recognize the value of the natural environment and conduct their own lives taking into account the need to preserve it for future generations. Using statistical data, it is not possible to determine whether those who remain in the north are "rooted" or not. However, from the interviews that I have conducted about rootedness, expressing a desire not to move away is common in settlements with a richer cultural history.

## **Traditional Land Use**

The traditional culture of the Evenks assumed a nomadic method of developing the natural environment, including nomadic architecture, traditions, bans on exploiting land, and religious beliefs. Survival skills for the Evenks primarily included hunting for animals with hooves, collecting berries, and fishing. Peasants involved in agricultural activities partially transferred farming skills to the Evenks and partially assimilated the skills that the Evenks had developed, particularly by hunting, fishing, and gathering naturally-occurring foodstuffs.

From the western part of the country, the peasants brought new technology for hunting, such as traps, various types of weapons, new forms of transportation (all-terrain vehicles and snowmobiles), new products to collect (medicinal plants and herbs), and new species for hunting (muskrats). During the Soviet period, attempts were made to convert the Evenks to a settled life: the Soviet authorities built model wooden houses, provided centralized transportation to the hunting grounds, and shot the reindeer that had been used to provide transportation. With the loss of the reindeer, the Evenk hunters lost their traditional means of getting around and became more dependent on motorized transportation and organized hunts. With the collapse of collectivized industry and the transition to a market economy, hunters ceased to be transported on all-terrain vehicles. Although many hunters have their own snowmobiles and motorboats, acquiring sufficient fuel to operate them has become the main obstacle to gaining access to the remote hunting areas.

Hunting for fur has become less profitable after the drop in world fur prices, yet it remains many hunters' main activity. As in Alaska, such hunters are officially listed as unemployed. In addition to their problems with mobility, a different concept of time among the Evenks is often a reason for conflicts and their dismissal from jobs.

Evenks frequently catch fish and collect berries, mushrooms, and medicinal herbs for sale on the local market or exchange with other traders. Attempts by local entrepreneurs to build factories for processing berries and fish fail due to a lack of management skills, long distances from potential consumers, and numerous administrative barriers.

Only a few individual enthusiasts are involved in producing traditional crafts, whether making shoes from reindeer skins or fur hats and coats. There are frequent offers to open enterprises with traditional crafts, since such ideas are written into programs to support indigenous peoples, but these disappear as quickly as they appear.

## Industrial Land Use

Among the valuable resources in the raion are oil, natural gas, Icelandic spar, amethyst, black coal, and large reserves of potash (Savel'eva 2005). Although remoteness is considered the main obstacle to the exploitation of all the resources, geological expeditions actively worked in the raion from the 1970s to 1994, including the Nepa Geophysical Oil and Gas Exploration unit and the Preobrazhenskaia Oil and Gas Exploration unit. Their work was the main source of employment for several villages and led to a new flow of migrants (in 1994, the population of the raion reached its maximum, at 9,365 individuals). Remembering this experience, the residents expect the same from contemporary energy companies.

With the construction of the East Siberia-Pacific Ocean Pipeline in 2008, companies began developing four deposits in the raion and sent their output through the pipeline. Even though the deposits are located within the raion, their transportation links are more closely connected to other raions and regions. The raion's average salary and the tempo of its growth is the highest in all of Irkutsk Oblast (*Irkutskstata*). 1,614 people are now working at the deposit, a number that is equivalent to almost half the population of the raion (3,800 people) (*Irkuskstatb*). However, most of the employees are not actually locals. Shift workers typically fly to the sites on chartered helicopters from other raions and regions. According to several estimates, the number of locals working on the site is no more than 100. In addition to the difficulties of transporting Katanga residents to the site, employers usually point out that locals lack the necessary skills and specialties to work at the deposit.

In local residents' opinion, the shift worker settlement which sprung up on the territory of the Verkhnechonsky deposit boasts much better living standards than other settlements in the raion. The authorities installed cell phone service, provided centralized electricity, water and heat, and built a comfortable hotel long before the other settlements in the region received such conveniences.

The distance from the deposit to the raion settlements made it nearly impossible to establish working links between the two places. Providing the shift workers with local produce was discussed, but no progress was made on this. For the companies, it was more cost-effective to bring in products from other raions with which there were better transportation links. There were also discussions about setting up a service center in Erbogachen, but it was easier to meet demand for services at the site of the deposit. If the history of creating such sites in Western Siberia repeats itself, then the shift worker settlement at the deposit could become just one of many such settlements in the region.

## City

In Russia, the process of urbanization began later than in other countries (the 1897 census found that only 15% of the population lived in cities) (Lappo 2001). Cities built during the Soviet age of rapid construction were established as part of a centralized system and attracted migrants with their comfort, subsidies, and benefits. From the beginning of the 1990s, such cities suffered from the greatest migrational losses: using their existing social networks, people returned to the western part of the country. As a result of this population decline, approximately one-third of the cities in Siberia changed their official status to rural during the 1990s and 2000s in order to secure rural benefits for their residents and provide plots of land (Bezrukov 2011). This was particularly true in the northern raions, where electricity was provided by diesel generators. However, it does not really make sense to call these northern raion settlements rural because there were few rural activities performed in them.

In contrast, in the capital cities of some of Russia's national republics, such as Yakutsk, Kyzyl, and Ulan-Ude, more people moved in than left despite the absence of the oil and gas industry. Comparative data from the 2002 and 2010 censuses note the growth of the population of indigenous peoples against the backdrop of a shrinking national population and the increasing tempo of growth of the urban population.

Officially, the Katanga Raion does not have an urban population, but the raion center of Erbogachen provides urban services. More than half the residents of the raion live here and its population is stable (GKS). The concentration of the population in Erbogachen is a result of the growing isolation of the other settlements in the raion and the presence of such elementary infrastructure services as a pharmacy, a hospital with central heating, repair shops, a Sberbank office, stores, electricity, and an airport with regular delivery of fresh fruit and other perishable foodstuffs. Most residents heat their homes by burning wood that they gather themselves. Cars usually bring in water supplies.

In the neighboring Mamsko-Chuisk Raion, also difficult to access, almost all residents have running water, sewer hook-ups, central heating, and hot water. However, much of the infrastructure is dilapidated and prices for municipal services are extremely high, making them a major part of residents' expenditures. The outflow of migrants is greater than in Katanga Raion and some of the most remote settlements have been liquidated. The only settlement with a developed social and physical infrastructure was Nadezhdinsk, which had been founded by the Preobrazhenskaia Oil and Gas Exploration unit. The oilmen left in 1994 and, following a mass exodus, the settlement closed in 1998. Its infrastructure base was a link to the outside world, without which the settlement was not able to survive

independently.

## Conclusions

From the example of the indigenous residents, we can see the two poles that define the various forms of life in northern settlements. One pole is the traditional life style of the Evenk, which is maximally adapted to the existing natural conditions and less dependent on the social-economic situation, products brought in from the outside, fuel, and electricity, but nevertheless exposed to the risks of natural catastrophes – fires, flooded rivers, and the shrinking availability of wildlife. The other pole is the urban way of life and the use of traditional culture for contemporary market purposes. Though such residents are less directly dependent on natural resources, their well-being often rests on exploiting natural resources, which can be used up or lose their value.

This research outlines the general characteristics of the local population of Katanga Raion, which is distinguished from other northern settlements, which were formed later. As a result of the traditional inhabitation of the territory by the Evenks and the establishment of the former Cossacks, the overall rootedness of the population made it possible to preserve the local settlements. However, the sustainability of these settlements depends on their ability to adapt to the local environment, which is weakly associated with the urban way of life.

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# **PARTNERSHIP FROM CONFLICT: THE SEARCH FOR A BALANCE OF INTERESTS BETWEEN AN OIL COMPANY, REGIONAL AUTHORITIES AND THE INDIGENOUS POPULATION (THE CASE OF ‘NUMTO’ NATURE PRESERVE)**

**IRINA OLIMPIEVA AND MARIA TYSIACHNIOUK**  
CENTRE FOR INDEPENDENT SOCIAL RESEARCH, ST. PETERSBURG  
(2015)

The paper explores the relationships between the company Surgutneftegaz, the indigenous population and local authorities in the Numto nature preserve in Khanty-Mansi Autonomous Okrug – Yugra (KMAO). The data for the paper is derived from two research expeditions, in which semi-structured interviews with representatives of different parties to the conflict were conducted (August 2014, #49, and December 2014, # 51). The interviews were used for conflict analysis of the rezoning of land management in the Numto nature preserve in 2014-2015. We also used the documents provided by Wetlands International and OAO Surgutneftegaz regarding the legal status of the Park, environmental expertise reports on the Park territories and licensed areas, GIS mapping of the territories of the Park, letters and appeals to different organizations and institutions. Additionally, we analyzed publications in the press and Internet, materials on the historical background of the Park creation, and economic and social statistical data.

## **The study: conflict-analysis of rezoning of the ‘Numto’ nature preserve**

The “Numto” nature park (Park) was created on January 28, 1997 in accordance with the decree of the Governor of Khanty-Mansiy Autonomous Okrug – Yugra (KMAO). The establishment of the Park created the potential for conflict between the oil company Surgutneftegas, the local population, and regional authorities, due to the oil deposits located on its territory. There have been concerns that the upcoming change of zoning boundaries and ‘regimes’ of use of particular areas of the Park could aggravate the conflict. The study aimed to define the parties to the potential conflict, as well as analyze their motives, reasons, and the likelihood that they would enter into open opposition.

The analysis of the contextual profile of the conflict was conducted on two levels: the regional level, including the socio-economic situation in KHMAO and decisions by the regional authorities, and the more specific context of Numto nomadic reindeer-herding settlements, the traditional life of which would be directly affected by the rezoning of the Park.

## **Surgutneftegaz – characteristics of the company and its role in the economy of KHMAO**

*Surgutneftegaz is one of the major oil companies operating in KHMAO*

KHMAO is a leading oil-producing region of Russia, producing more than 50% of all oil extracted in Russia. As in most other oil-producing regions, the economy of KHMAO has a mono-profile character: the regional budget is directly dependent on oil production. Although the region is the largest donor to the federal budget, the regional budget provides insufficient funds for social and economic development. This is a common problem in oil-producing regions, and in the case of KHMAO, the issue is exacerbated by a high social burden on the regional budget (compared to, for example, the neighboring Yamal-Nenets region). A decrease in oil production over the last 5 years has negatively affected KHMAO budget revenues. According to regional statistics, 266 million tons of oil were extracted in 2010; in 2011, the figure decreased to 262 million tons; and in 2012, it fell to 260 million tons. The prognosis for 2014 is 252 million tons (see <http://www.znak.com/hmao/news/2014-03-18/1019737.html>).

*“Surgutneftegaz” plays a determining role in the formation of the regional budget*

Unlike most of the developers of the local oil deposits (Rosneft and others), Surgutneftegaz is registered in the region and “generates 40% of the income of the district budget,” according to a representative of the company Surgutneftegaz OAO.

The company’s contribution to the regional economy is not limited to tax deductions. It includes significant amounts of financial and material assistance based on agreements with the regional and district administrations. The company also provides compensation to indigenous peoples in the form of direct material support, based on social contracts with the reindeer herders.

### **Numto nature preserve (Natural Park)**

The history of Park creation is complicated. Two basic purposes of the Park creation were mentioned in the interviews:

1. to preserve unique nature (wetlands), protect watershed area; and
2. to preserve the traditional culture of indigenous people – the Forest Nenets and Khanti.

The Park was initially created in violation of Federal legislation; the legal status of the Park today is problematic. In 1999, zoning and regimes were developed, followed by rezoning in 2012.

Surgutneftegaz received a license to drill in the national park, in violation of federal legislation, in 2002.

The park’s high ecological value is generally recognized by experts. However, there is no unanimous opinion on the level of ecological value of the debatable territories.

The Park has a large number of cultural heritage sites, such as archaeological sites (the old settlements), historical monuments, ethnic and cultural objects, and cult objects including sacred places and cemeteries.

### **Numto reindeer herding settlements**

Numto village is located on the territory of the Numto nature preserve. Transport accessibility is poor. In winter, snowmobiles are used to get to the Surgutneftegaz workers’ bus routes; in summer, the main means of transportation is helicopter. In the village, there is no permanent electricity or running water. The nearest hospital is located in the town of Kazim (district administrative center); in the village, there is only a medical center. Childcare and educational institutions (kindergarten and school) are

also located in Kazim. Food supplies and household goods are available from the village shop.

The overall population of the Numto Park is 212 people. The majority of Numto inhabitants live outside the village in sheds adjacent to the pastures within a radius of 80 kilometers from the village (only about 20 people constantly reside in the village). Among the Numto residents, only about 70 people are of working age. In fact, the overwhelming majority of village inhabitants live and work outside the village; they are spread around the territory of the Park and can be attributed to the village only in official documents.

The economy of the Numto settlement is traditional, informal and enclave-type. Among the basic traditional economic activities are reindeer herding, hunting, fishing, and collecting mushrooms and berries. Reindeer herding is used not for business but as a way of economic survival and traditional way of life. A very small proportion of the population is employed: 6 people work as inspectors in Numto Park and 7 people work as linemen for Surgutneftegaz. In order to be employed, village inhabitants have to move to the town. The only way to combine the traditional way of life with official employment is to work as an inspector in the Park or as a lineman for the company, but the number of such jobs is very limited.

The informal economy dominates the economic context of the village. Most of the reindeer grazing areas are not allocated legally and are used on the basis of verbal agreements and traditions. Currently, only six tribal lands have legal status. This distinguishes the village of Numto from other areas, where tribal lands have legal registration as traditional nature use territories.

The Numto settlements are home to both Nenets and Khanty people. They have the largest concentration of Forest Nenets in the KHMAO. In addition, according to the unanimous opinion of experts and local residents, the village remains perhaps the last stronghold of authentic (not 'for tourists') Khanty indigenous culture.

The Numto community is characterized by good self-organization and strong informal leaders (spouses Pavel and Natalia Vylla) who are experienced in representing the interests of indigenous people in negotiations with the company and regional authorities.

### **Social partnership as CSR model (Surgutneftegaz)**

The company representatives and local authorities label relationships between Surgutneftegaz and local population as 'social partnership'. In practice, social partnership implies the exchange of material and financial support for the loyalty of the authorities and population to the company's activity in the area. As in other CSR models, there are three main forms of

support provided by the company to the local population: compensation for using tribal territories (in areas designated as territories of traditional nature use); support for the development of the economic and social spheres; and direct charity donations to the community and individuals. The existing model of social partnership is based on the 'neo-paternalistic' pattern of interactions (typical of the post-Soviet period) between the local population, the authorities, and oil companies (see Tysiachniouk et al. 2014).

A very low level of support comes to Numto Park residents who do not live on designated traditional use territories because the Beloyarski administration uses Surgutneftegaz money for other villages in the region.

In general, the company positions itself as a socially responsible business. Social partnership for supporting Numto settlements is held between Surgutneftegaz and the District administration in Beloyarski; the administration decides how to support Numto Park residents.

Therefore, the district administration in Beloyarski plays the role of intermediary between the villagers and the company. This suits the company, as it does not have to deal with Numto residents individually, and the local administration, as it receives access to desperately needed resources. At the same time, it creates discontent among the village inhabitants and especially community leaders, who express concerns that redistribution of funds is unfair and does not meet the real needs of village inhabitants.

In 2003-2004, the company and local authorities concluded the first agreements on socio-economic cooperation and compensation for the indigenous population; since then, regional attitudes toward the company have improved. Every year, the company provides about 20 million rubles to the administration of the Beloyarski district (to which Numto Park belongs). Two-thirds of this money goes to Numto residents. The company provides 7 jobs per year to local citizens. The agreement with the local administration implies support for the indigenous population with fuel (2 barrels of gasoline per family). Additionally, the company provides snowmobiles for some individuals; helps with communication, transportation, and the construction of houses (4 houses had been constructed); provides financial support for the education of children from indigenous families (via state programs); and supports cultural events, such as reindeer festivals. Besides the main agreement, the company provides transportation support for the population in extreme situations and subsidies to support the traditional economy of the village (helping with the sale of reindeer venison, buying berries and mushrooms, etc.).

The company developed a memo to its employees that contained the rules of conduct on the territory of Numto Park. The memo was developed with the participation of representatives from the indigenous community;

attempts have also been made to draw a map of sacred places on the territory of the Park.

There are a number of civil society institutions intended to represent the interests of indigenous people in the region. In our study, these were represented by the Assembly of Indigenous People in the regional Duma (“a sort of council of national intelligentsia,” members of the Assembly told us), the public organization “Save Yugra” (district subdivision), and the “Youth Organization of Ob-Ugric Peoples.” As the interviews make clear, civil society activity to defend the rights of indigenous people has been formalizing and declining in recent years. The number of Assembly members has been reduced from 7 to 3, and the Assembly is often used in election technologies to promote deputies to the regional Duma; the “Save Yugra” organization is now focused on cultural preservation rather than on the defense of indigenous peoples’ rights and institutional representation of their interests in legislative bodies.

### **Conflict: participants and interests**

The situation around Numto nature preserve has always contained covert conflict. With the rezoning of the Park, this conflict may become open. At the time of this study, open conflict had emerged between the company and the Department of Protected Natural Territories in the regional (okrug) administration to which the Numto Park is subordinated.

Different parties possess both overt and covert interests in entering into open conflict:

	<b>Overt interests</b>	<b>Covert interests</b>
Company	To bring the legal status of the Park (including the territory of the licensed area of the Company) into accord with current legislation	To increase oil production through the development of new deposits; to put oil production in the Park on a legal basis; to preserve the positive image of the company as a law-abiding business
Administration (Department of Protected Natural Territories)	To protect the unique and ecologically important area of the Park from invasion by the oil company; to save the disputed land for traditional nature use by the indigenous population	To preserve the right of control over the park territories; to remind the Company “who’s boss” on these territories
Numto inhabitants	Save territory untouched for indigenous people to preserve the environment	Demonstration of protest potential to strengthen the position of indigenous people as the masters of the area.

The ideology of social partnership implies relationships between different parties; this is opposite to conflict and based on the reconciliation of interests through negotiations (or bargaining). The partnership can be effective only when the parties possess relatively equal bargaining powers provided by different sources. The existing context does not provide proper conditions for social partnership:

1. The neo-paternalistic mode of the company’s CSR, which treats indigenous people as victims rather than equal partners able to influence the decision-making process;
2. The regional administration’s growing dependence on Surgutneftegaz leads to a situation where, in resolving conflicts between the company and local people, “the administration is always on the side of the company” (according to an interview with a representative of the local NGO);
3. At the district level, local administration is interested in donations from the company to fill the gaps in the budget and realize economic and social programs;



4. Weak institutional representation of interests of indigenous peoples by civil society organizations.

# THE CURSE OF SOCIAL ENGINEERING: SETTLEMENT STRUCTURES, URBANIZATION AND NATIVE ECONOMIES IN CHUKOTKA

TOBIAS HOLZLEHNER

MARTIN LUTHER UNIVERSITY HALLE-WITTENBERG

(2015)

For Russia, the 20th century was a time of deep-seated changes, revolutions, and systemic collapse. Especially in the Russian North, centuries-old traditions and subsistence practices were replaced by new cultural and economic patterns, which accompanied and implemented the Soviet Union's master plan of a new society for all of its citizens. The industrialization of the Soviet Union was a total social fact, to paraphrase Marcel Mauss, which affected native and non-native communities in a lasting way. In Chukotka, Russia's easternmost region, the inhabitants of predominantly native coastal villages in the Bering Strait area were subjected to relocation policies implemented by the Soviet state that left dozens of settlements and hunting bases deserted. The state-enforced resettlement of native communities, which peaked during the 1950s and 1960s, led to a creeping depopulation of a coastline whose intricate settlement history traces back for thousands of years. On the Chukchi Peninsula alone, more than 80 settlements were abandoned or closed over the course of the 20th century. Traumatic loss of homeland and the vanishing of traditional socio-economic structures, which had replaced traditional ways of living, sent devastating ripples through the fabric of native communities, often with disastrous results for societal health. State-enforced resettlement policies intertwine political macro-processes, local communities, and cultural and ecological change in the uprooted landscape of relocation. Industrial impacts and forced relocation altered the ecology of – and access to – subsistence areas in a permanent way.

The native coastal population of Chukotka was subjected to a three-fold loss in the 20th century: the large-scale, state-induced and enforced closures of many native villages; the subsequent resettlement of the

population to centralized villages; and the ultimate collapse of the Soviet economy and infrastructure. Collectivization of local economies and the industrialization of sea-mammal hunting fundamentally changed and replaced traditional subsistence practices. The traditional mixed economies of the indigenous population, which used the different resources in seasonal cycles over much larger territories, were rigidly centralized and their pastures or hunting grounds allotted to the state collective farms. Shift work in processing plants and predetermined catch quotas replaced traditional subsistence activities. The native reindeer herders and sea-mammal hunters were incorporated into collective farms, where social ties based on kinship were replaced by economic relationships. Industrial space encroached on indigenous space and the village relocations were an intrinsic part of this shift. For instance, the introduction of coal-fired heating plants in coastal villages severely disrupted walrus rookeries in the vicinity of historic settlements, while village closures removed many villagers from their traditional hunting and fishing grounds and relocated them to locations where direct subsistence resource access was often limited or scarce.

The resulting spatial anomie is particularly visible as an effect of the relocation of native villages in the Russian North, where differing logics of space usage collided during the 20<sup>th</sup>-century Sovietization and industrialization. Native coastal settlements were located close to preferred subsistence sites. Maximum access to subsistence resources, like drinking water, sea-mammal migration routes, salmon runs, or plant gathering sites, were traditionally key in choosing the optimal place for a settlement site. The Soviet era brought a diametrically opposed spatial logic to the region. For the Soviet economic planners and engineers, maximum maritime infrastructural access to villages and state enterprises was one of the prime motivators for the concentration of the native population in centralized villages. The proximity of deepwater ports or servicing facilities for barges and trawlers and suitable terrain for house constructions were dominant factors in the choice of new settlements. Indigenous economic space was thus replaced by an economy that was based on a fundamentally different utilization of space.

The village relocations were part of a larger struggle over environment and space that exposed the contrasting spatial strategies and logics of the Soviet state and native communities. To trace the interaction between communities, local ecosystems, Soviet state building and collapse, I suggest here a political ecology approach to state-enforced community relocations, focusing on the unequal distribution and costs of changes in environmental conditions. Central to the argument is the observation that political forces play an important part in environmental access, management, and transformation.

After the collapse of the Soviet Union, access to resources in the

coastal villages of Chukotka changed significantly. During the Soviet period, Soviet settlers and administrators were key brokers of resource access (food, fuel, etc.), while the native population was at the very receiving end of a long supply chain. As brokers between the state and the indigenous population, Russian settlers were central to the economy. Yet economic collapse and the retreat of the state in rural and remote Chukotka, exacerbated by the outmigration of many Russians, led to a socio-economic inversion of this hierarchy. With the collapse of industrial sea-mammal hunting and commercial reindeer herding, and in the absence of basic provisions, Chukotka's coastal communities witnessed a revitalization of subsistence practices. Sea-mammal hunting and fishing were crucial for the survival of many communities during the arduous 1990s. Individual native hunters and cooperatives thus became central players in a post-Soviet informal economy, while Russian settlers were suddenly dependent on local resources and facilitators.

The breakdown of the Soviet Union and its infrastructure in remote peripheries created new local opportunities as well. Formerly relocated and abandoned coastal villages became a focus of local hunters. After the failed experiment with large-scale social and cultural engineering, the depopulated coastal landscape with its abandoned settlements represents a new point of anchorage for a partial resettlement and for revitalization movements. The logic of subsistence practices and a longing for lost places draw groups of people to the old sites, with the result that those former settlements are now almost continuously (re-)inhabited by rotating groups of hunters during the summer and winter. Embedded in the landscape and local ecology, they allow some people to escape the shattered utopia of Soviet modernization.

In 2000, Roman Abramovich took over the position of Chukotka's governor from Alexander Nazarov, whose mismanagement of the region's resources and ostensible corruption was blamed by many local residents for Chukotka's misery during the 1990s. During Abramovich's term (2000-2008), Chukotka experienced an immense influx of money and infrastructural support. The main beneficiary was the region's capital, Anadyr. In the course of a few years, the city, which had lost more than a third of its population since the beginning of the 1990s, was completely overhauled. Moscow designers, working with Russian alpinists, refurbished the exteriors of the ubiquitous Soviet apartment blocks, giving them colorful facades. The local airport was lifted from post-Soviet ruin to match international standards. New kindergartens, convenience stores, and galleries mushroomed in a city that was known for its bleak character. Chukotka's capital is now rebranding itself: numerous placards suspended across streets and buildings describe it as a "City of Childhood" or "City of Dreams". Today, it houses one of Russia's most modern hospital

complexes, including a state-of-the-art maternity clinic. These infrastructural development efforts partially trickled down to the village level. Hunting cooperatives were supplied with boats and outboard engines and a major reconstruction program erected prefabricated houses and clinics in the coastal settlements, greatly improving the weathered and crumbling village infrastructure. The construction boom of the recent years attracted many foreign workers from the former Soviet republics, Serbia and Turkey. Yet after Abramovich's resignation in 2008, the influx of money into Chukotka dwindled. Time will tell how sustainable recent infrastructural developments actually were.

Politics interact with a landscape and the bodies that inhabit it. The resettlement policies enacted by the Soviet Union initiated a struggle over environmental access and settlement space. Fundamentally different relations to space and environment were set against each other in the course of the village resettlements. Local voices, which expressed skepticism in light of changing subsistence regimes, were silenced by a state discourse of progress and development that related to Chukotka's coastal space and maritime environment mostly in terms of infrastructural access and control. Chukotka's resettlement history is set in a contested landscape, where "local theories of dwelling" have collided with governmental ideas of proper housing and settlement structure. With its coastal village resettlements and economic consolidation, the Soviet development strategy inscribed a building and settlement plan into Chukotka's society with little consideration of local sentiment and subsistence strategies. Economic and infrastructural changes were planned and implemented from outside, and local communities had to comply with the newly-made world. The opposite is true for the settlement and building structure of traditional villages, which evolved in close interaction with the environment, its peculiar coastal topography, and subsistence opportunities.

Following a microecological approach, the web of interaction between native villagers, landscape, productive opportunities and the state becomes apparent. The peculiar littoral culture of coastal villages, where proximity to the sea and its resources were paramount in the location of a particular settlement, was superseded by a coastal culture of maximum infrastructural access and economic output implemented by the Soviet state. In this paper, I argue that to adequately address the recent effects of urban planning initiatives and village renewal strategies initiated by Abramovich, one has to look beyond the mere architectural and industrial makeup. Similar to the Soviet urbanization and industrialization of the High North, recent urban planning initiatives have to be addressed as total social facts, with their very own intertwined architectural, spatial, social, and economic dimensions.

# КОРЕННОЕ НАСЕЛЕНИЕ АРКТИКИ В КОНТЕКСТЕ ЭТНИЧЕСКОГО БРЕНДИРОВАНИЯ (НА ПРИМЕРЕ МУРМАНСКОЙ ОБЛАСТИ)

ОЛЬГА АЛЕКСАНДРОВНА БОДРОВА

ЦЕНТР ГУМАНИТАРНЫХ ПРОБЛЕМ БАРЕНЦ РЕГИОНА КОЛЬСКОГО НАУЧ-  
НОГО ЦЕНТРА РАН, Г. АПАТИТЫ  
(2016)

**О**браз какого-либо региона, как правило, формируется в коллективном сознании стихийно, однако его можно выявить и культивировать вполне осознанно, например, в целях создания привлекательного туристского или политического бренда.

Самую значительную роль в процессе брендинга Мурманской области играют СМИ и Интернет, которые конструируют пространство Кольского арктического Севера как территории с определенными природными, культурными и этнокультурными особенностями. При этом наибольшее значение в данном аспекте, как показывает анализ печатных и электронных публикаций, представляют центральные журнальные периодические издания научно-просветительского характера и информационно-справочные сайты («визуальные» виды СМИ и типы сайтов, ориентированные на изображение, в анализ не включаются). К журнальным и интернет-публикациям может быть применена методология дискурс-анализа, включающего следующие аспекты: область распространения; характеристика отправителя и получателя информации; тематика и содержание публикаций; цель интеракции; основные сценарии и контексты; анализ языковых средств, особенно на лексическом и синтаксическом уровнях (в первую очередь, анализ метафор, являющихся одним из самых эффективных механизмов идеологического программирования). Кроме того, могут учитываться количественные методы, например, тираж печатных изданий и посещаемость сайтов.

Важной составляющей образа региона Мурманской области, наряду с историей и природно-географическими особенностями, является этнокультурный компонент. Не случайно Кольский Север называют перекрестком культур. На протяжении истории освоения Кольского полуострова этнический состав его жителей постоянно изменялся и усложнялся. При этом наибольшими возможностями в процессе регионального брендинга обладают этнические культуры постоянного населения, к которому относятся коренные жители саамы и старожилы поморы. Следует учитывать, что речь идет не столько о реальных, сколько о воображаемых сообществах, так же как и регион Мурманской области в процессе брендинга предстает воображаемым, а не реальным пространством. Центральное место в этническом брендинге региона Мурманской области занимают кольские саамы, которые в настоящее время являются своего рода этнокультурным маркером Кольского Севера, главным образом, в туристической сфере.

В процессе этнического брендинга упор делается на нескольких моментах. Во-первых, этнический брендинг является политическим брендингом, особенно в отношении внутренней политики. Анализируя контент официального портала «Правительство Мурманской области» в презентации этнокультурной информации, отчетливо видно, что в этом ресурсе упор делается на «коренные малочисленные народы Севера» (раздел «Регион»), под которыми, очевидно, понимается только саамское население области, судя по отсутствию данных о других проживающих на Кольском полуострове «северных» этносах, например, о коми. Последние упоминаются исключительно в связи с фольклорными ансамблями Мурманской области. В разделе «Коренные малочисленные народы Севера» (саами) приводятся новости их культурной жизни, общая информация (история, демографическая ситуация, образование, культура, а также календарь спортивных и культурных мероприятий). В СМИ также широко транслируется информация о культурно-массовых мероприятиях саамов (национальных праздниках, фестивалях, выставках, семинарах, конференциях, творческих встречах и вечерах), проведение которых позиционируется как способ достижения цели «сохранения традиций и обычаев, популяризации самобытной национальной культуры коренных малочисленных народов Севера саамов в Мурманской области» (Правительство Мурманской области), что, вероятно, лишний раз свидетельствует о потребности в действенном региональном брендинге и ставке региона на спортивную и этнокультурную и туристическую составляющие бренда.

Несмотря на частое освещение в СМИ, в массовой литературе и сети Интернет событий празднично-спортивного характера в жизни

саамского сообщества, крайне мало внимания уделяется вопросам материальной культуры, хозяйственных и социокультурных особенностей. Культура саамов презентуется в фестивально-праздничной форме, а количество информации о «непраздничных» событиях, в действительности, незначительно. Как отмечается на новостном сайте «СеверПост», «в нашем регионе вспоминают коренной малочисленный народ только по праздникам» (СеверПост *b*). Напротив, с избытком описываются экзотические, особенно мистические явления, связанные с саамской культурой: культ сейдов и шаманизм, которые, очевидно, могут вызвать наибольший интерес у получателя этнокультурной информации. Отсюда вытекает вторая особенность этнического брендинга в регионе Мурманской области – мифологизация саамской культуры. Главным источником, транслирующим в массовое сознание околонуточные и псевдонаучные тексты, в которых наиболее популярными темами являются саамский шаманизм и сейды, являются туристические сайты и тематические рубрики СМИ. Этнокультурная информация в подобных источниках часто преподносится через призму «загадочного» и «таинственного», через которую Кольский полуостров выглядит как «земля тайн, загадок, легенд и несметных сокровищ» (Кольский полуостров). Типичны публикации, посвященные псевдосвидетельствам существования древней арктической протокультуры, от которой саамы якобы унаследовали свои магические знания: «Не исключено, что “избранные” смогли получить какие-то знания от уцелевших представителей когда-то процветающей арктической цивилизации. А откуда бы еще появились легендарные северные шаманы, чей авторитет был непререкаем во всем мире?» (Официальный туристический портал).

Еще одним компонентом этнического брендинга в Мурманской области является ставка на самобытность культуры постоянного населения Кольского полуострова. На сайте «Словари и энциклопедии на Академике» за исключением таблицы, содержащей информацию о национальном составе населения области, история Кольского Севера сводится к двум сценариям. Первый затрагивает группу саамов, которые представлены как народ, сохраняющий свою традиционную культуру, несмотря на проникновение отдельных элементов «цивилизации» в их быт: «Старинный саамский погост Ловозеро – районный центр, село с многоэтажными домами, магазинами, домом культуры, школой-интернатом, стадионом. Здесь сохраняются и поддерживаются национальные традиции» (Академик). Этнический колорит в представленном на сайте образе усиливается определением Ловозера как погоста, несмотря на его многолетний статус села; перечислением экспонатов местного краеведческого музея (тупы (пырта), вежи, куваксы); упоминанием сейдов – «священных камней саамов»,



которые характеризуются как достопримечательность, интересная для туристов. Неоднократно подчеркивается, что саами проживают «в тундре», то есть в специфических природно-географических, негородских условиях. Второй сценарий касается истории заселения полуострова поморами, которым также, конечно, уделяется большое внимание в СМИ и интернет-публикациях. Тиражируются представления, в которых поморы устойчиво ассоциируются либо с общерусской, либо с мифической общесеверной культурой, отражающейся в стереотипах восприятия Севера как метапространства со специфическими природными и культурными особенностями (в частности, с повышенной «духовностью» северян). В отношении группы кольских поморов брендинг Мурманской области направлен на традиционные места туристического паломничества – сакральные объекты (церкви, часовни) на территории поморских поселений. Большим спросом в сфере внутреннего туризма пользуются поморские праздники, которые проводятся на Терском берегу Белого моря. Символически и территориально с ними связаны различные молодежные и музыкальные фестивали. Одну из центральных позиций во время проведения мероприятий занимает направление так называемой «этнической музыки», адаптированной под массового слушателя. Она представляет собой стилизацию фольклорных жанров, сплав этнических и современных элементов. Большинство музыкальных коллективов Мурманской области, позиционирующих себя как «этнические», в своем творчестве прибегают к «северному» колориту, что часто отражается уже в самом названии: клуб «Северный варган», коллективы «Аку-аку», «Мхи». Представители «этнической музыки», как правило, не претендуют на аутентичность исполнения или сходство с фольклорными коллективами саамов или других народов Кольского полуострова. Скорее, в их творчестве приходится сталкиваться с мифом об «общесеверной» культуре, развивающейся в единении с природой и объединяющей фольклорные традиции различных народов. Так, организаторы музыкального фестиваля «Белый Шум», который проводится на берегу Белого моря, считают своей приоритетной задачей «развитие и поддержку северной самобытной культуры – знакомство с её природой, обращение к ее истокам, а также ее продолжение в современных интерпретациях» (СеверПост *a*).

Как уже было сказано, один из основных компонентов регионального бренда – это презентация природно-географических особенностей края. В процессе этнического брендинга Мурманской области большую роль играет топонимия, которая обладает огромным туристским потенциалом. В ее основе – фольклорные сюжеты, имеющие привязку к природно-географическим объектам Кольского

полуострова: горам, водоемам, островам и пр. В сети Интернет и СМИ топонимия Мурманской области представлена весьма односторонне. Как правило, упоминаются лишь топонимы саамского происхождения. При этом часто тиражируются не совсем корректные сведения: например, стереотип о древности саамской топонимии Хибин, противопоставленной «новейшим» топонимам, родившимся в эпоху геологического освоения Кольского полуострова, тогда как в действительности значительная часть «саамских» и «геологических» топонимов в Хибинах возникла в одно и то же время.

Несмотря на то, что миф об общесеверной культуре, так же как и о Русском Севере, занимает важное место в процессе регионального брендинга, все же он представляется весьма неоднозначным. Вопреки слову «русский» в его названии, Европейский Север России (Северо-Западный федеральный округ РФ) никогда не являлся сугубо русской территорией, а был и остается полиэтничным регионом, хотя и с численным превосходством этнической группы русских (80,75 % согласно Всероссийской переписи населения 2010 года). При этом надо отметить, что доля нерусских этнических групп в составе населения Русского Севера постоянно возрастает. Это обусловлено постоянным уменьшением доли русских в общей численности жителей Мурманской области (в том числе за счет уезжающих с Севера), с одной стороны, а также притоками «новых мигрантов» из бывших союзных республик, - с другой. Таким образом, миф о «Русском Севере», несмотря на его тиражирование, становится все менее «русским». И это как раз пример того случая, когда реальное и воображаемое пространство (реальность и бренд) сильно отличаются друг от друга.

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# INDIGENOUS COSMOPOLITANS, ECOLOGICAL DEFENSE, AND ACTIVISM IN RUSSIA'S ARCTIC

MARJORIE MANDELSTAM BALZER  
GEORGETOWN UNIVERSITY  
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Rodion Sulanzandiga, then-Vice President of RAIPON, the Russian Association of Indigenous Peoples of the North, Siberia and The Far East, reminded me in summer 2012: “Russia has the biggest Arctic and the most serious stake in the Arctic. This is bound to influence indigenous peoples and our politics.” This presentation, based on long-term anthropological fieldwork, expands on his thesis by examining diverse levels of indigenous politics, ranging from cases of community devastation and assimilation to impressive cultural and social revitalization. While the focus is on “indigenous cosmopolitans,” I argue that the most effective urban indigenous leaders are those whose lives are deeply intertwined with their original forest, tundra and riverbank homelands. My conclusions also stress the socio-political conditions that make some groups more successful than others in defending their social, ecological and cultural interests.

In Spring 2013, the first fracking operation, run by Gazpromneft Razvitie on Yamal, was successfully completed. In Summer 2012, transport ships without icebreakers were able to pass through the Northern Sea Route earlier than ever before. And in November 2012, Russia’s federal government suspended RAIPON, the main umbrella organization that defends the rights of indigenous peoples. While it was reinstated in March 2013, this was done with blatant government pressure to change their leadership and direction. These events are all related. In the past decade, the pace of Northern land claims and grabs related to the energy and mining industries has accelerated, causing indigenous people increased strife, including illegal expulsions from lands they have considered their family and clan territories (with the associated right of use) for centuries. This, in turn, has led to an unprecedented pace of indigenous urbanization

in Siberia and the Far East, so that by some estimates as many as 45% of self-identifying indigenous individuals are today urban so-called “asphalt Natives,” living in cities or medium sized population centers.<sup>1</sup> Indigenous leaders well understand the connection between increased development, increased pressure against their activism, and increased urbanization.

Many levels of indigenous self-identity and contestation are reflected by the growing numbers of groups (from 26 to over 41) qualifying for membership in RAIPON since the Soviet Union collapsed. RAIPON has over 41 member group associations, representing a total of about 300,000 Natives. By legal definition, its member ethnonational groups must be under 50,000 in population; other indigenous peoples of Siberia and the Far East who are more numerous have their own “republics,” and are thus not qualified to be part of RAIPON. While RAIPON has had its troubles with the authorities, continuing beyond November to March 2013, when it was suspended, it remains the most viable and organized umbrella group for the protection of indigenous peoples’ rights. Two other (somewhat competing) organizations also represent indigenous peoples as recognized by Moscow: the Association of Indigenous Communities (*Obshiny*) and the Reindeer Breeders’ Association.

One of RAIPON’s urban Moscovite lawyers, Shor leader Mikhail Todishev, explained to me in the 1990s that indigenous people dislike, even despise, being called ‘minorities’:

We much prefer to be called by our own specific ethnonyms or, if we are to be categorized, we prefer being called ‘korennye’ (indigenous) or ‘aboriginal,’ like the Australian Native peoples.

This correlates with the importance and prominence of the Canadian term First Nations for its indigenous peoples. It is logical because “minority,” as a general category, can easily be geographically relative and historically shifting, for example when indigenous groups have been a “majority” in their self-defined homelands. Thus, it is important to stress the shifting and situational nature of ethnodemographics and politics over time, and how this has affected changing definitions and perceptions of “indigeneity.”<sup>2</sup>

Recent legal constraints on the definition of indigeneity in the Russian Federation are reviewed here, before discussion of some specific cases. I begin with several chilling cases in diverse regions that show a pattern of how and why indigenous people have been driven to urban environments, for “push” (forced migration) as well as “pull” (urban attraction) reasons. I then turn to the Sakha Republic (Yakutia) in the Far East, a relatively positive case that nevertheless highlights serious problems and where I have done the majority of my periodic fieldwork since 1986. Analysis focuses on strains of ethnic interaction created by development,

rather than on “urbanization” per se. Implications for civil society in the “Federation of Rossiia” are also discussed.

### **Definitional Battles and Why They Matter**

In the current Duma of the Russian Federation, efforts have been underway since at least the second Putin presidency to revise the laws that govern indigenous peoples, in order to make the definitions as narrow as possible so that as few people as possible are eligible for “lgoty” (legal dispensations) that govern Native access to hunting, fishing, forests, and land. This especially restricts those who have moved to towns and cities in their regions, and who may want to return periodically to their families in their shrinking homelands. It limits their options (literally and psychologically) for returning to indigenous territories, and becomes an assurance that there will be a limited number of competitors in land ownership claims. In addition, probably because of shrinking budgets, Soviet-style laws on affirmative action for education have all but disappeared. In the Soviet period, the 26 officially recognized ‘small-numbered’ peoples had a range of privileges that were meant to entice them into “civilization” and showcase them as self-identifying illustrations of Soviet Progress (cf. Balzer 1999; Slezkine 1994).

A 1996 Yeltsin administration law focused on special rights for those who lived in “territories of traditional land use.” The main logic behind this law (drafted by RAIPON lawyers and sociologist Olga Murashko) was that it did not single out any particular ethnonational groups. If Russians lived in “territories of traditional land use,” and practiced hunting and fishing, they could theoretically benefit. However, stress was on Native groups with a population under 50,000, especially those “recognizing themselves as independent ethnic communities.” A newer 2011 draft law has considerably more restricted language, so that an indigenous person must:

1. Follow traditional ways of life – hunting /fishing /reindeer breeding;
2. Live in the place of one’s documented ancestors; and
3. Know one’s native language.

As will become clear, each of these points is controversial, and the law was still being debated in the spring of 2013. According to some RAIPON insiders, it may be one of several factors explaining why increased political pressure has been put on RAIPON. Many indigenous people practice more than a stereotyped “traditional way of life,” and some are involved in trading, mining, energy industry and other activities that require continual

contact and travel between traditional villages and camps and urban centers. Like many others across the North, they may operate at various levels of a globalizing economy and still consider themselves Native. They are also coping with notorious “primitive people” image problems, local authorities’ efforts to render them local “brands” in order to attract a tourist industry, higher rates of alcoholism, and lower life expectancy (c.f. Axelsson et al. 2011).

The language restriction is particularly sensitive, since the 45% of Native Siberians who are now “urban” have far fewer opportunities to know their native languages or to study them. Many lost their Native languages in the Soviet period, although some Khanty pray in Russian that their “clan lands” not be overrun by energy companies. Some indigenous language recovery programs have been more effective than others. In a few places, where there are qualified indigenous teachers who have “returned to the forest” after schooling in cities and urban centers, nomadic schools have been revived (cf. Mestnikova 2010; Ulturgasheva 2012).

In sum, newer legal definitions provide little room for self-identity, at a time when an influx of outsiders has already destabilized indigeneity. The laws are supposed to correct abuse of the system, for example, too many Russians or people of mixed marriage backgrounds gaining free access to hunting and fishing resources that the state would like to control. Indeed, some Native lawyers are worried about Russians who claim Native identities or buy documents for “Igoty.” In any case, a new 2012 Law on Hunting is unprecedented in its restrictions on Native access and licensing. But much worse has been happening in the North, mostly away from civil society critique or the ability to correct abuses. The following cases go far beyond critical issues of language loss, Native alcohol and health problems, and concerns about exploitation (“When will the Natives dance?”) in the growing tourist industry.

### **Cases and Voices: Driving People off their Lands, Snowmobiles and Mines**

“Native homes have been burned in suspicious fires, even arson in whole villages,” confided one urban indigenous activist in 2012. When I requested clarification and specifics, s/he explained that in Narym, where Sel’kup and Khanty live,

a special division (*otriad*) of arsonists came and burned a village in one night in order to drive indigenous people off their land, so that energy exploration could be continued in the area without indigenous interference...

This kind of crime must involve collusion with local authorities, and indigenous families have therefore had little safe legal recourse and little chance for muckraking publicity. Instead, they have been forced into housing in the regional center, where authorities hope they will become assimilated and acculturated without turning themselves into a “cause célèbre.”

A more high-profile case, because it involves murder accusations, has been in the press in the past year and may reach the International Court of Human Rights in Strasbourg. This is the “Dylacha” jade mine case, which pits a wealthy Evenki mine collective in Buryatia against officials, including intelligence officers. Local Evenki explain that they have long mined jade in the region, and that reindeer breeding was not their sole occupation before Sovietization. The Evenki community claim that an *obshina* managed to get jade-mining rights in the 1990s, although access to subsurface resources by Native people is rare. Their mine director suspiciously went missing in the fall of 2012, and the business ombudsman for Russia, Boris Titov, was brought in to try to mediate the case. Local competitors accused the Evenki of tapping an illegal jade vein and of failing to pay taxes. The mining collective was subjected to a hostile takeover by the well-connected head of the local FSB, who was able to enlist highly placed allies in Moscow against the Evenki. The whole case destroys stereotypes that all Evenki are reindeer breeders, and tests the way Native ownership can potentially be defined, or, ideally, negotiated, to include more than “traditional land use.”

Yulia Yakel, a mixed ethnic lawyer who travels often from Khabarovsk to Moscow, has an Amur River community leader Nanai husband. In 2011, she described to me their shock as a legal case was brought against their community that revoked their lucrative fishing rights on clan lands they had long considered indisputably indigenous. Their local fishermen got into trouble for using snowmobiles from a base “village of the town type” to get to their special, legally designated “place of traditional land use.” A local (female) judge told the community that they needed to travel there “on reindeer or by canoe” to maintain their legal status. These particular Nanai (a Tungusic-speaking group related to the widespread Evenki) had never owned or herded reindeer, and they were horrified not only by the implicit corruption of the judge, but also by her ignorance. They appealed, but lost the case in a higher court in Moscow, and have no money to take the case further. Members of the community still use their snowmobiles, used by Native people throughout the North, but are nervous that they will be caught and fined on their own clan territories. The lands themselves may well be auctioned to the highest bidders, unlikely to be Nanai. This kind of pressure adds to the stress on any young person in the community weighing whether to stay in the homeland or move to an urban center.



While the Amur River is not the “Arctic” according to any of the various definitions of the term within Russia, this case has become known among indigenous leaders throughout the North, and has created ripple effects of fear concerning the instability of “territories of traditional land use.”

On the Yamal peninsula, indisputably Arctic territory, two groups, Native and non-Native, faced off across a river in 2011. Someone in the local Nenets group shot in the air, telling people perceived to be strangers to get off their land. They were answered with jeers: “It is not your river any longer...” Then the non-Natives, Russians and others associated with local energy development, called for their friends, who were policemen. The police later testified that several in the Native group had aimed and shot directly at the new rightful “owner” of the land in question. The land was in dispute after an “auction” that was held without local consultation. Such interethnic tensions have resulted in court cases that create misery on all sides and resentment well beyond “normal” strains of consensual, selective modernization. Those same Nentsy families may well have a TV in their *chum*, and relatives who work in the energy industry. But they resent that their children are forced to leave their lands and reindeer breeding traditions before they are ready, and that they have had little choice in how, when and where development is planned (for example, the Bovanenkova-Utkha gas trunkline megaproject in Yamal-Nenets). During some of the GAZPROM planning, negotiations with local communities did include plans for “reindeer corridors,” theoretically enabling reindeer to bypass the pipelines relatively easily, but according to several consultants, they have turned out to “break up the reindeer routes in very disruptive ways.”<sup>3</sup>

In 2010, sociologist Olga Murashko conducted a comprehensive 3-4 hour survey on what Nenets reindeer breeders in Yamal are concerned about in areas where energy projects – oil and gas – are well underway and affecting reindeer breeding. (Nentsy numbered 44,640 in the 2010 census, an increase over 2002.) The survey results rated Nentsy complaints:

1. increased alcoholism;
2. dogs biting energy workers and sparking interethnic fights;
3. education, including skilled technical training, has been difficult to obtain despite promises of better access;
4. traditional lands access and familiar reindeer paths have been disrupted because of the new urban centers, roads, and pipelines;
5. non- local energy workers have been maliciously trespassing on or trashing graveyards and other sacred sites; and
6. feelings of isolation, with a sense that venues for expression and grievance recourse have been shrinking.

In many of the respondents’ views, their local indigenous association “Yamal Potemkam” (Yamal for Our Descendants) and the national level

RAIPON have not been doing enough and have been rendered impotent by local and federal-level development politics. In addition, they consider that their local government (administrative and parliamentary) has not been doing enough, although the head of the local parliament is Sergei Kharyuchi, a prominent Nenets, who was until recently the head of RAIPON.<sup>4</sup> These feelings of powerlessness, presumably meant to be calmed at the recent RAIPON Congress in March 2013, which was significantly and symbolically held in Salekhard, the capital of Yamal-Nenets, were instead exacerbated.

### **Searching for positive cases: The Sakha Republic?**

Has the vast Sakha Republic (the size of India) provided better conditions than other constituent parts of the Russian Federation for its indigenous peoples, as its propaganda claims? The answer may be affirmative, but they still have a long way to go. Officially recognized indigenous groups are Chukchi, Yukaghir, Even and Evenki, as well as “old-liver Russians,” and the Dolgan, a mixed Sakha-Evenki-Russian group on the Taimyr border. The slim majority “titular” Sakha (Yakut) numbered 466,492 out of a total of 958,528 in the republic in the 2010 census. Since Evenki have the largest number of indigenous “minority” representatives (18,232, or about 2% of the population, in 2002; and 21,008 in 2010), their community “*zemliachestvo*” representation in the capital is also relatively substantial. Among the reasons for cautious optimism have been renewed efforts at the republic level to teach indigenous languages in the schools and in after-school programs, as well as enabling certain groups to have their own, legally designated regions at various levels (*raion*, *ulus*, *nasleg*), with Native-administered regional centers. Official bureaucracies, such as the Department of the Peoples of Sakha Republic (Yakutia) and Federal Relations (downgraded from being a full Ministry during the first Putin administration), are also significant. In Sakha Republic, an experienced, sympathetic Sakha, Afanasy Migalkin, heads the Department, with representatives of other ethnonational groups of the republic below him.<sup>5</sup> This is somewhat comparable to the US Bureau of Indian Affairs and Canada’s Ministry of Indian and Aboriginal Affairs, where the overwhelming majority of officials are Native.

Enabling environments for multicultural growth in the cities and towns of the republic have been crucial for the existence of diverse semi-organized *zemliachestva* and associations. They are usually poorly financed, however, surviving on volunteer enthusiasm and funding. Using informal networks, they tend to stimulate constant attention to various mini-homelands – “news from home.” Far from condemning what some disparagingly call “*ulus mentalitet*,” I see it as encouraging cultural

richness and harmless non- chauvinist patriotism. Another trend, for those who can afford it, is an informal shuttle diplomacy, with many return trips back to the homeland from the capital (cf. Beier 2009). Some of the top indigenous leaders living in Yakutsk manage to get home at least yearly for the haying season, life process rituals, and annual reindeer festivals. Wherever people meet in the city, at weddings, birthdays, hospitals, and universities, diverse figures such as “*tamada*,” doctors and teachers help link people from the same regions so that they can help each other. The subtext of this is that they are often connecting people from specific ethnonational groups. These are important social entrée mechanisms for newcomers to cities and towns.

Some indigenous groups in Sakha Republic have also transcended their disadvantaged statuses by finding other, farther-reaching bases for community solidarity and sanctioned political activity. Thus, recent post-Soviet politics have been characterized by new levels of self-organization and consolidation. Examples include the Reindeer Breeders Association; Natives of Nizhne Kolyma; Association of Indigenous Peoples of Sakha; and active participation in Moscow-based RAIPON projects.

Broadening in a different way have been the politics of cross-border communication and solidarity, whether within Russia or beyond it. Examples include the Even of Sakha and Magadan; the Chukchi of Sakha and Magadan; Evenki of Sakha and China; and a less predictable Yukaghir friendship with Forest Finns that has turned into concrete, productive projects through the Snowchange Cooperative. This process becomes a somewhat paradoxical multileveled globalization politics for cultural defense.

Indigenous peoples’ annual meetings at the United Nations and in the Northern Forum are also good examples of this dynamic.

These cases of networks, outreach and communication at multiple levels must not mask attention to land expropriation and ecological devastation that have been proceeding in Sakha Republic, as Gazprom, Rosenergo and Roshydro have moved in with megaprojects in the past decade. In Northern Sakha Republic, Even and Yukaghir were concerned in 2012 that their Tiksi (a Northern Sea Route port town) public airport access is closing, so that air traffic can be focused on new infrastructure for Gazprom, not on indigenous communities’ supplies. The most notorious example of a megaproject influencing indigenous communities is the oil pipeline that President Putin ordered to be diverted from the Lake Baikal area following public protests. Re-routed into mountainous terrain and then along the Lena River, in order to eventually supply energy to China, it has proved to be extraordinarily dangerous, with at least three spills into the Lena River publicly acknowledged, caused by technology that has

incompletely tunneled the line. Multiethnic ecology activist groups have sponsored public information and protests, and have got in trouble with their “Save the Lena” campaign. In addition, one activist told me in 2012, “Gazprom is buying up all the land that Even and Evenki reindeer breeders use, that they need.” This fit with information I had been given earlier.

“With renewed plans to auction off our lands to the highest bidders, we are once again in danger of the collectives (*obshiny*) being left with nothing,” bitterly complained Afanasy Koriakin in 2010 in Yakutsk. Afanasy, an Evenki elder, had been head of the *ulus* of Zhigansk, Sakha Republic, before moving to the capital, Yakutsk. He was doing everything he could from his prestigious, retired urbanized position in the city to help his fellow Evenki back home. His lessons were significant. First, Evenki loyalties are continually defined by the connections of urban kin to their “small homelands” elsewhere in the republic and beyond. Second, for Evenki, the main problem continues to be land and how to manage it. The framing of Evenki concerns about “identity” was interrelated with those of “homeland” and its loss. Third, ethnic tensions are implicit, with the potential to be activated or calmed depending on interethnic contexts. Any “highest bidders” in the latest round of land grabs were likely to be Russian businessmen “outsiders” or perhaps non-local “Yakut,” rather than Evenki. The business plan Afanasy referred to was massive and sophisticated, involving 10 large reindeer herds, a legal designation as a “territory of traditional land-use,” and a bank loan plan managed with coordination between village and urban Evenki representatives who originally came from the village Menkerz and its surrounding lands. They had hoped to name their base, and the *nasleg*, “Evenkiia.” But this was thwarted when officials, including former Sakha president Mikhail Efimich Nikolaev, said that their land plan was “illegal” and “secessionist.”<sup>6</sup>

A comparatively positive example of recent Evenki business success, contrasting with the Dylacha jade mine case, has been an Evenki *obshina* given a license to participate in a gold mining conglomerate (*artel*) in the Niuringri region, beginning in 2014. 60% of the start-up capital comes from a republic fund to enhance Evenki well-being in compensation for losing lands to the planned Kankun hydroelectric dam, and 40% comes from an existing gold company inexplicably called “Yantar,” based in the Evenki Iengra district (*nasleg*). The new director is Nikolai Aribalov.<sup>7</sup>

Evenki leaders based today or previously in Yakutsk are often women, including former Il Tumen deputy Avgusta Marfusulova and young Evenki Association of Sakha Republic (Yakutia) activists Ezhana Vasileva and Aitalina Alekseeva. As Gail Fondahl (1998) and others have pointed out, a by-product of Soviet education was that women tended to go further in school than men, and thus they became more ready mediators between and interlocutors with Russians and Sakha. In addition, Andrei

Issakov of Yakutsk has chaired the youth wing of RAIPON, gaining recognition for his people at the Moscow level. Other impressive Evenki leaders include Anatoly Chomchoev, a general in the Soviet army and current head of the Yakutsk Energo company. Interested in solar energy, he is one of the many Siberians whose opposition helped postpone the horribly misnamed Evenki Hydro-Electric Power station that would have flooded large parts of Evenki territory within Krasnoiarsk on the Yenisei River.

Evenki leaders in Sakha Republic consider their top priorities to be land, ecological balance, political status, and the need to stabilize or reverse Sakhaization and Russification trends. They are working through dispersed local *obshiny*, town and city “*zemliachestvo*” organizations, and cultural associations at all levels. Against considerable odds, they have had occasional victories, such as the recognition of the Zhigansk Evenki National *ulus*, the Olenek National district, and the Iengra Evenki National *nasleg*. These victories are especially notable because they counter a Russian Federation trend toward “consolidating” small nationality-based regions. But territorial recognition does not, in itself, indicate full measures of self-rule and self-confidence. For that, creative businessmen-activists such as Afanasy Koriakin should be given more opportunities. Indeed, some argue that the cognitive skills of reindeer breeders, adapting to situational uncertainty, are congruent with those of businessmen.<sup>8</sup>

In January 2013, Uliana Vinkurova, a former Sakha parliamentarian and sociologist originally from Northern Sakha Republic (Sredne-Kolyma) gloomily assessed the implications for Sakha Republic’s indigenous peoples of recent political and economic pressures: “The issue is not just the bureaucratic fight [over RAIPON], but that social trauma has gone deep, that there has been a destruction of the will to live.” After mentioning several suicides in families I know, she added:

There is a sense of hopelessness, that one cannot do anything to put right one’s fate. That everywhere those who live with nature are being hemmed in, herded into smaller territories. We must change this atmosphere, turn around the despair. There seems to be a threshold, whereby quantity [of suicides] has become quality: they can’t take it anymore [*tak zhit’ nel’sia*].

As the new generation is coming along, some are dying and some are rebelling. It has been 5 years since our Sakha Republic Declaration of Native Peoples – people had high hopes. We are trying to balance the competing claims.

“Balance” means protection without paternalism, the ability to provide for indigenous nomadic families’ basic resource needs, and the right of young people to move back and forth between rural and urban environments

without feeling they have been driven off their land (cf. Ulturgasheva 2012).

### **Conclusions: How many times do people have to cry “crisis” before they are heard?**

Native urban leaders with international experience have repeatedly emphasized to me, including in May 2013 after the demoralizing near-loss of RAIPON, that effective leadership matters more than almost anything else for Native communities’ chances of recovering from Soviet and post-Soviet pressures, and in guiding collaborative participation in development. Enabling conditions for Native communities to flourish with flexibility – in venues that are rural, urban, and everything in between – are also crucial. Leadership cannot exist in a vacuum, without resonance, especially when people are being forced off their lands and losing their airports. As RAIPON spokesman Dmitri Berezhkov analyzed in December 2012, after RAIPON was suspended: “Indigenous peoples... are involuntary contenders and unwanted competitors in the vast expanses of the Arctic.” (Berezhkov 2012). Rodion Sulanzandiga, when asked in 2012 whether Sakha Republic could be a model, explained:

There are relative degrees of attention to indigenous rights and ecological problems. The main places that have some track record of attention to indigenous concerns are Yamal, Khanty-Mansiisk, and yes, Sakha Republic. These are all places with some wealth to share. Other areas are much more depressed – such as the reindeer breeding Todja community in Tuva.

In other words, occasionally the “trickle down” of energy wealth can be harnessed to help Native cultural and ecological projects.

A major indicator of rare indigenous political success inside Russia is Native parliaments, or quotas inside existing regional parliaments. Valentina Sovkina, the dynamic and articulate head of the Saami parliament, based in Murmansk, affirmed in 2011: “Places that have allowed a Native parliament best enable indigenous voices to be heard, and development to be somewhat cooperative.” But this means only the Saami, Khanty and Mansi are models, and sadly, since 2012, the small, token Khanty-Mansi parliament, based in Khanty-Mansiisk, has been threatened with a downgrade to committee status within the *okrug* parliament. In Sakha Republic, efforts to enable a stable quota for indigenous representatives in their parliament, Il Tumen, have thus far failed, despite the valiant efforts of Evenki representative Andrei Krivoshapkin.<sup>9</sup>

When analyzing urbanization, relative degrees of “indigeneity” should be acknowledged, as well as multiple identities, situational

identities and fluctuating defense of one's people. Ethnicity is fluid and relational, as many theorists have pointed out (see, for example, Barth 1969; Anderson 1991; Appadurai 1996). It matters greatly whether you have republic boundaries to defend and to imagine your community within – Altai, Buryatia (though gerrymandered), Sakha, Tuva, and Khakassia – or just *okrug*-level boundaries (eg. Khanty-Mansiy), or official land-based status. Homelands and state definitions influence and can validate identity, encouraging a functioning federal ethnonationalism that is not chauvinist.<sup>10</sup>

Potential “indigenous cosmopolitan” models outside Russia include the Inuit of Canada, where the territory of Nunavut (meaning “Our Land”) has a flourishing capital, and Iqaluit (formerly Frobisher Bay), a democratically elected founder-lawyer president and a Native parliament. Further South, the Inuit community in Ottawa has been struggling with urban life, with some, albeit more limited, success:

As transnational spaces evolve and communities are constructed in urban centers, new forms of Inuitness emerge. These are not disconnected from Inuit cultural and linguistic practices, and political claims to Arctic sovereignty. Indeed the Inuit ethnoscape is changing and Inuit are an important part of this transformation. (Tomiak and Patrick 2010, 140).<sup>11</sup>

To enable new forms of indigeneity and empowerment, a dynamic civil society is crucial. In Russia, for those groups with little official Federal territorial support, the importance of umbrella groups like RAIPON is growing stronger – and indeed the recent threat to their existence drew frequently in-fighting indigenous activists closer to solidarity with each other. They are threatened particularly when they have advocated against specific excesses of Gazprom, Rosenergo, and Roshydro. RAIPON's NGO status has been in effect converted into a GONGO (governmentally organized non-governmental organization). The recent NGO law that stipulates registration of NGOs as foreign agents when they receive money from abroad is also alarmingly relevant, because they receive money from a “Scandinavia Fund.” Serious broader threats include the lack of fair elections of regional leaders (in republics or Russian-based *oblasty*), after they were abolished in 2004, reinstated under President Medvedev with filters, and recently constrained again. The abolishing of lower level territories – “*okrug* amalgamations” – has also not helped. The cases of Komi-Permyak, Ust-Orda, and Aga have polarized and radicalized non-Russians.

Another set of civil-society-related ramifications derives from President Putin's 2012 announcement that regional leaders are responsible for keeping interethnic relations “tolerant” in their republics and oblasts. This has revealed interethnic tensions in some regions. In the Sakha Republic, it may have more productively resulted in greater official



attention to the problems of “small-numbered indigenous people.” For example, eight Evenki communities received compensation in a controversial 2013 decision about lands taken by the Kankun hydroelectric dam that is supposed to extend for the next 20 years.

Increasingly, more individuals and groups are being put into “opposition” and “dissident,” to use a (neo)Soviet word, categories. This is not how they define themselves. Certainly, long-established groups like RAIPON, Memorial, or Helsinki Watch do not see themselves as “traitors” or “separatists.” But a strategic chill is being applied by the state to various emblematic, targeted actors; the indigenous peoples of the North, Siberia and the Far East as represented by RAIPON are part of a long line of recent examples. A Native Sakha leader and ecology activist who frequently travels throughout the republic has been advocating that indigenous people with grievances, whether group or individual, must stop taking every obstacle they encounter as an insult directed personally at them, but rather refuse to receive words or deeds from “ethnic others” as insults. This may be a noble and self-empowering idea whose time is overdue. However, a broader perspective analyzing potential social change in Russia must acknowledge that one of the hallmarks of civil society is how it handles its indigenous peoples.

<sup>1</sup> This estimate comes from the July 2011 report of Elena A. Pivneva at the IX Congress of Ethnographers and Anthropologists of Russia in Petrozavodsk, Karelia.

<sup>2</sup> My Sakha colleague Uliana Vinokurova defines “minorities” as those peoples who are relatively politically defenseless (email 5/16/11). See also Vinokurova 2011 and Donahoe et al. 2008. In Russia, “minorities” are guaranteed rights in the 1993 Constitution, and in numerous documents asserting progress. But the documents themselves can belie their own propaganda. For example, one submitted to the Council of Europe in 2010 affirmed the “preservation of ethnic identity of the peoples of the Russian Federation” on page 12 while blatantly reporting the abolition of national district names on page 200. (See “Third Report submitted by the Russian Federation pursuant to Article 25, para. 1 of the Framework Convention of National Minorities” to the Council of Europe, April 9, 2010. [http://www.coe.int/t/dghl/monitoring/minorities/3\\_fcnmdocs/PDF\\_3rd\\_SR\\_RussianFed\\_en.pdf](http://www.coe.int/t/dghl/monitoring/minorities/3_fcnmdocs/PDF_3rd_SR_RussianFed_en.pdf))

<sup>3</sup> This data comes from 2010-2013 interviews with indigenous leaders at the Moscow and local levels, but is too sensitive to name the interlocutors.

<sup>4</sup> Olga Murashko presented the results of this survey in July 2011 at the IX Congress of Ethnographers and Anthropologists of Russia in Petrozavodsk, Karelia.

<sup>5</sup> Department premises share space with the Association of Indigenous Peoples of Sakha, as well as a club house. The building complex was lobbied for by Even linguist Vasily Robbek and Andrei Krivoschapkin with President V. Shtyrov. For Sakha Republic Scheme 2020 plans that include indigenous peoples’ development, see [www.sakha.gov.ru/sites/default/files/story/files/2010\\_10/114/shema2020](http://www.sakha.gov.ru/sites/default/files/story/files/2010_10/114/shema2020).

<sup>6</sup> Afanasy continued his tirade: “If the authorities would only let us handle our own economy, our own ‘business plan’ for a successful reindeer breeding base at the level of a *nasleg* (unit within an *ulus*), we could begin selling reindeer products on a larger scale, and living better. We were beginning to do this, but we were blocked [starting in the 1990s]... then about 73%



of us were Evenki in our own *nasleg*.”

<sup>7</sup> Vitaly Alekseev. 2013. “Evenki zaimutsia zolotodobychei” [Evenki will engage in gold mining]. *Gazeta Yakutia*. See ROSHYDRO’s report on Kankun: [http://www.yakutia.rushydro.ru/file/main/yakutia/company/investprojects/17376.html/Kn\\_iga\\_2.pdf](http://www.yakutia.rushydro.ru/file/main/yakutia/company/investprojects/17376.html/Kn_iga_2.pdf) ; and Vera Solovyeva’s UN report: <http://unsr.jamesanaya.info/study-extractives/index.php/en/cases>.

<sup>8</sup> Adam Mickiewicz University (Poznan) scholar Ivan Peshkov, studying growing Evenki nationalism and cross-border contacts with China, somewhat optimistically concludes: “The northern Evenki play a special role in the cultural-integration process, since they have preserved their traditional culture, they inhabit exceptionally vast territories and they have participated in socialist modernization selectively.” [http://asiandynamics.ku.dk/pdf/Indig\\_abstracts](http://asiandynamics.ku.dk/pdf/Indig_abstracts). Compare Fondahl and Sirina 2003; and Sirina 2008-9.

<sup>9</sup> I am grateful to Andrei Krivoschapkin for many interviews, including one in his Il Tumen office on July 21, 2010. Compare Wessendorf, Kathrin and Olga Murashko, eds. 2005 *An Indigenous Parliament? Realities and Perspectives in Russia and the Circumpolar North*. Copenhagen: Eks\_Skolens Trykkeri for IWGIA and RAIPON.

<sup>10</sup> Anthropologists, grappling with diverse understandings of “indigeneity,” understand it as contextual and a matter of degree, much as older linguistic ideas of “emic” (insider) and “etic” (outsider) views have become “problematized.” See especially the scholarship of Orin Starn (2011, 179-204) and Marisol de la Cadena (2007; 2010, 334-370). See also Axelsson et al. 2011; Balzer 2006; 2010; Comaroff and Comaroff 2009; Beier et al. 2009; Dean et al. 2003; Donahoe et al. 2008; Forte 2010; and Neizen 2003.

<sup>11</sup> “Ethnoscape” is a term coined by Arjun Appadurai (1996).

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*and Perspectives in Russia and the Circumpolar North.* Copenhagen: Eks\_Skolens Trykkeri  
for IWGIA and RAIPON.

## ROBERT ORTTUNG

Research Director,  
The George Washington  
University Sustainability  
Collaborative

## MARLENE LARUELLE

Research Professor and  
Associate Director at IERES,  
The George Washington  
University

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