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RETHINKING MULTIFACETED HUMAN SECURITY THREATS IN THE BARENTS REGION

A MULTILEVEL APPROACH TO SOCIETAL SECURITY

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Rethinking multifaceted human security threats in the Barents Region: A multilevel approach to societal security

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Preface

Traditional approaches to security studies are based on state sovereignty. With the emergence of the human security discourse in the beginning of the 1990s, focusing on the well-being of individuals gained popularity within the security debate. The concept of human security is broad and incorporates many aspects, such as environmental, economic, or food security. Human beings are also usually part of a community that shares a common set of values from which they derive a common identity, and which provides them a feeling of security. Human security and community well-being are closely intertwined, as community viability depends on individual well-being as much as individual well-being is related to a healthy community. Yet, in traditional security discourses the state or a state's society remain the referent object of security, meaning that it is the entire society of a nation state that need to be protected. However, communities can be defined on different scales and levels, such as the subnational, national, transnational, or international levels. An individual person may be a citizen of a state, member of a municipality, and member of an ethnic minority, with associated ties to each group. Within the Barents Region many communities have their particular characteristics which often differentiate to that of the national majority, which lives closer to the political and economic centers in the southern parts of the Barents states. Low population density, less developed infrastructure, higher dependence on non-marketed economic activities, diverging cultural traditions, or an own language – such as the Region's indigenous peoples have – set unique features for the communities in the Barents Region. Such particularities

shape common values within these communities and characterize societies of regional scale. Thus, societal security needs to be approached from a flexible and multilevel perspective, to enable meaningful and targeted policies that promote human well-being.

This book introduces episodic and empirical evidence addressing multifaceted aspects of human security in the Barents Region that potentially affect societal security on various levels. The book will discuss the interconnectedness of the rapid developments currently taking place in the Region with individual and community well-being. The aim of this book is to support the importance of a multifaceted and flexible approach to societal security in the Arctic, with a particular focus on the Barents Region. The findings of this book shall support the development and implementation of meaningful sustainable policies that target the needs and wants of the local population of the Barents Region.

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1. Introduction

One of the main tasks of states and their policies is to guarantee the well-being of the states' inhabitants and prosperity for humans in general. After the horrors of two world wars, the new security discourse began to focus on what states should provide for their citizens. This security discourse, which developed alongside the Cold War, traditionally focused on military threats to states' survival. Yet the concept of security has widened since the end of the Cold War and in reaction to changing realities (Hossain et al. 2017). While the traditional security concept has the state as the referent object, meaning that state sovereignty is what must be secured, human security focuses on human beings as referent objects and is generally understood to promote the well-being of individuals or communities. (Khagram et al. 2003). It is thus the well-being of individuals and communities that are in need of protection. The predominant challenges facing the communities and individuals in the Arctic and in the Barents Region are non-military, such as climate change, environmental degradation, industrialization, globalization and integration into the global markets, erosion of cultural traditions, disputes over political participation and autonomy, and conflicts over land use. These multifaceted challenges are not necessarily confined within states' territorial borders but may apply at local, regional, or even global scales. The Barents Region illustrates the importance of a comprehensive security understanding that goes beyond military threats, as state sovereignty is widely perceived as uncontested. Instead, common challenges, such as climate change, as well as shared interests, such as in developing the region's abundant natural resources, led to extensive

international, regional, and subregional cooperation. Human security incorporates the dynamics and interconnections of environmental concerns, the use of natural resources, the social fabric of the state, and the economic engine of local and regional stability (Klubnikin and Causey 2002: 124).

The concept of human security is frequently debated within various academic disciplines, but it is less common in public discourses, particularly in governmental policies. In the past three decades, many policy documents have utilized the concept of sustainable development. Both sustainable development and human security acknowledge that societal well-being goes beyond states' survival and that human well-being is intertwined with other factors, such as environmental integrity or economic development. Whereas the mainstream understanding of sustainable development is to reach a development path as a compromise of the economic, environmental, and social spheres, the predominant Dispositif of sustainable development is most often a preference for economic development that mainly focuses on the market sectors of the economies. This approach has often been criticized as privileging states' interests, and specifically prioritizing the interests of the dominating powers within states, rather than representing the interests of individuals (e.g., Waas et al. 2011; Escobar 1995, 1996; Esteva 1992). This may be unsurprising, given that the traditional security paradigm, where the survival of the state was the sole focus, has shaped states' policies. Many governmental policies do still treat states' economic security as a matter of state survival, in accordance with the traditional paradigm. When considering the policies of Barents states (specifically, Finland, Norway, Russia, and Sweden) that target the northern areas, the states' economic

interests in the region's resources cannot be overlooked. Access to and knowledge about utilizing natural resources, which form the physical basis of economic growth, are closely related to sovereignty and military security.

It could be argued that representing these states' interests is in the benefit of a state's society, but under the prevailing market ideology, the benefits of mainstream development policies may be limited to small groups within the states. Statistically, this can be seen in increasing Gini coefficients,[1] meaning that less people have more disposable income available. Moreover, many people are not able to economically benefit from ongoing economic developments but may still suffer the accompanying negative impacts, such as environmental degradation or socioeconomic changes. Societal security should not be confused with states' survival, as people are not merely inhabitants of a state but also struggle for the survival of the communities of which they are members.

The concept of human security offers a chance to analyze the multifaceted challenges that face people on societal and spatial scales. Individuals are embedded in communities that sometimes cross state borders or are confined within subnational regions. States' interests may even interfere with communal well-being, meaning that states' interests may threaten societal security on the regional level.

1 The Gini coefficient is a statistical measure to show a society's inequality by representing income or wealth distribution. A higher Gini coefficient means that inequality increased and that less people have more income available for consumption. In the Nordic countries (except Norway), the disposable income distribution widened since the early 1990s (Hoeller et al. 2014: 23).

This book is dedicated to providing episodic and empirical evidence from the Barents Region on the interplay between recent and ongoing developments with individual and community well-being. The book will elaborate on how individual and community well-being is interconnected, with a particular reference to the specific realities and cultures that are present in the Barents Region. The aim of this book is to highlight that a comprehensive approach to security needs to be multifaceted and flexible, to give meaningful support for the development and implementation of sustainable policies that target the needs and wants of the local population of the Barents Region. The argument is that such policies must be sensitive to local realities and challenges on various societal and spatial levels to maintain and improve community viability and safeguard societal security in the Barents Region.

2. Methodology

The material and data on which this book is based were primarily collected via two methods. The framework for this book was developed based on literature review of empirical evidence for the challenges facing communities and individuals in the Arctic, and more specifically the Barents Region. Some of the main sources were reports relevant for the region that have been published by or prepared under the auspices of organizations focusing on the investigated region. The literature review also included articles from peer reviewed journals and books. Additionally the authors reviewed news articles from local news papers. Second, these findings were supported and complemented by offering a voice to relevant actors and individuals through interviews collected during field investigation in different parts of the Barents Region and by lessons learned from discussions in seminars and workshops with local stakeholders. The field investigations also help to evaluate and analyze the viewpoint of various stakeholders. Methodological tools for this part of the study were participatory observations and semi-structured interviews. There are more studies and documentation available from regions where resource extraction takes place and more literature on challenges to indigenous communities, so the field investigations focused on areas with lower industrial activities and non-indigenous inhabitants and communities, to supplement the extant literature.

3. Recent and ongoing developments in the Barents Region: The European North under dynamic development

The Barents Region is located in the northern parts of Finland, Norway, and Sweden as well as in the northwestern part of the Russian Federation; it is currently made up of 14 member regions[2] and regarded as a gateway to the Barents Sea. The Barents Region reaches the Arctic Circle in all four countries, and parts of the region are considered Arctic. Despite certain unique features, it nonetheless shares many similarities with the overall Arctic region, such as relative remoteness, relatively low population density, harsh climate, and fragile ecosystems. The Barents Region contains the most densely populated areas within the Arctic. The influence of the Gulf Stream means that it is favored by a relatively mild climate in comparison to other places with high northern latitudes. The Arctic's rich abundance of natural resources has served as a reservoir for the southern markets since the southern sovereigns and former colonial powers first encountered it (e.g., Keskitalo et al. 2014, Nuttal 2002). This trend can still be observed and is expected to continue. However, traditional economic activities are important for many inhabitants of the region, and increasing industrialization has the potential to cause conflict with these activities. One main political characteristic of the region is the high degree of international

2 The member regions are Kainuu, Lapland, and Northern Ostrobotnia in Finland; Finnmark, Nordland, and Troms in Norway; Arkhangels Oblast, Republic of Karelia, Komi Republic, Murmansk Oblast, and Nenets Autonomous Okrug in Russia; as well as Norrbotten and Västerbotten in Sweden. In November 2016 the application of North Karelia to become member got accepted, making it the 14th member region (International Barents Secretariat 2016). Since this document was already in a very advanced state at this time, **data from the region North Karelia is missing in this document**.

and interregional cooperation, which is why conflicts are more likely to occur between regional and central governments or different economic sectors, as well as among different interest groups, rather than between states (Tamnes and Offerdal 2014).

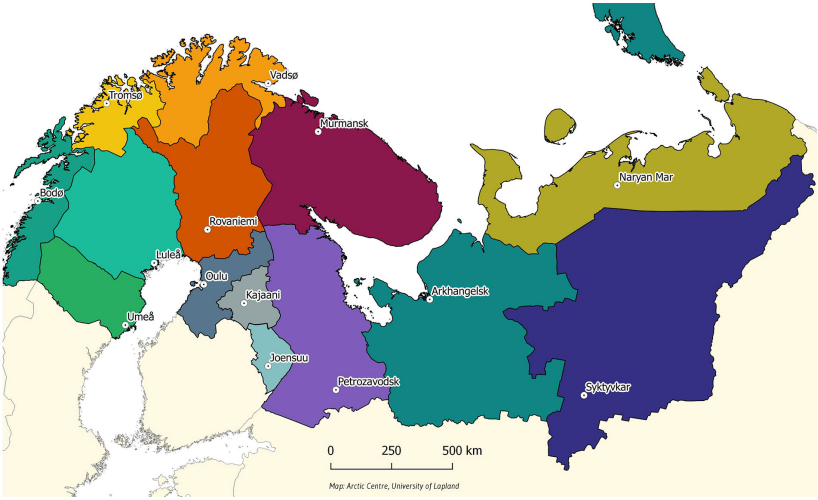
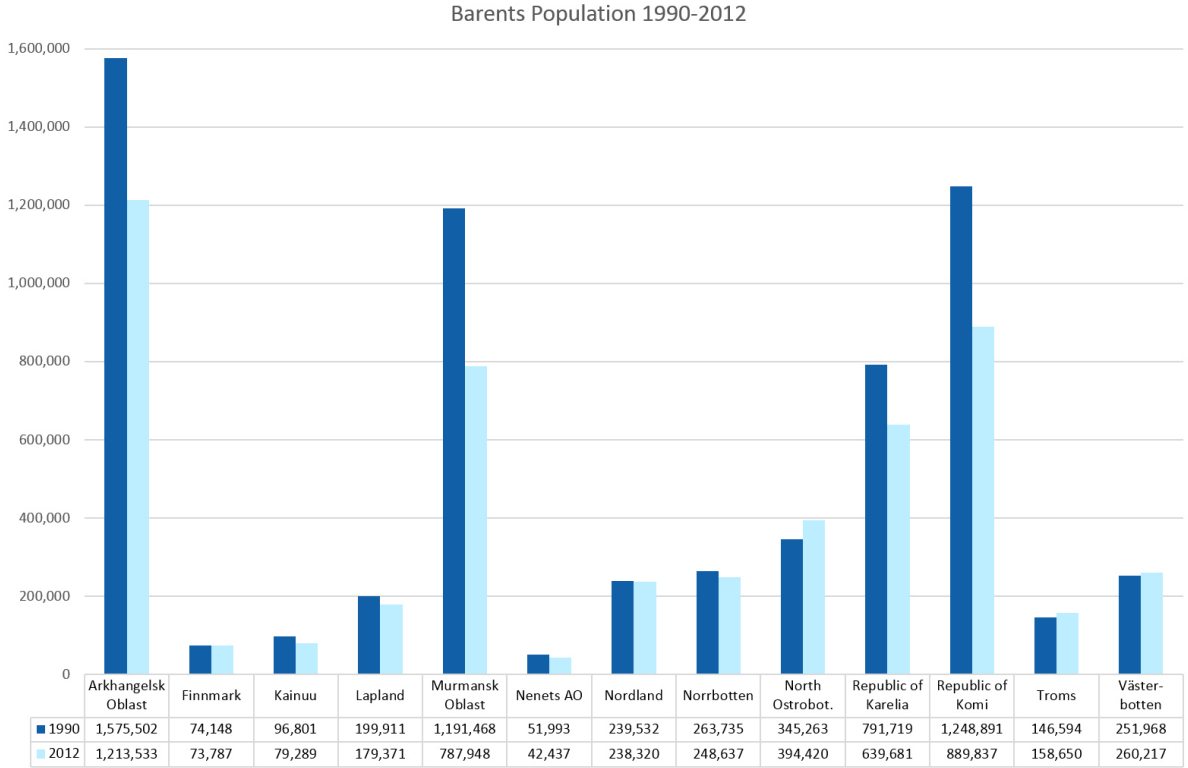


Illustration 1: The Barents Region. Map by the Arctic Centre, University of Lapland.

3.1. People(s) of the Barents Region

The Barents Region has a relatively high population density, especially compared to other Arctic regions. It is also the only area in Europe that is inhabited by officially acknowledged indigenous peoples: The Sámi inhabit the northern parts of all four Barents states, and the Vesp and Nenets live on the territory of the Russian Federation. In 2015, the population of the region

was over 5 million inhabitants; however, the population has been declining for decades (see Illustration 2). While the member regions in the Russian Federation experienced sharp population declines (an average -28%) since 1990, the population in all Norwegian Barents member regions increased, with Troms representing the greatest increase at 11.5%. The demographics are urban dominated: In the average of all member regions, the degree of urbanization reaches almost 80%. All member regions have a degree of urbanization that is higher than 60%; the Murmansk region is the highest, with an urbanization degree of 92% (see Illustration 3). Some of the biggest cities of the circumpolar North are located in the Barents Region, such as Murmansk, Arkhangelsk, Oulu, Luleå, and Tromsø. Nonetheless, there is a considerable rural population, which often still relies on traditional economic activities. The rural population depends more directly on the region's ecosystem services, defined as the benefits to human societies arising from ecosystem processes.



	Arkhangelsk Oblast	Finnmark	Kainuu	Lapland	Murmansk Oblast	Nenets AO	Nordland	Norrbotten	North Ostrobot.	Republic of Karelia	Republic of Komi	Troms	Väster-botten
1990	1,575,502	74,148	96,801	199,911	1,191,468	51,993	239,532	263,735	345,263	791,719	1,248,891	146,594	251,968
2012	1,213,533	73,787	79,289	179,371	787,948	42,437	238,320	248,637	394,420	639,681	889,837	158,650	260,217

Illustration 2: Barents population 1990–2012. Source: http://patchworkbarents.org (Accessed August 16, 2016).

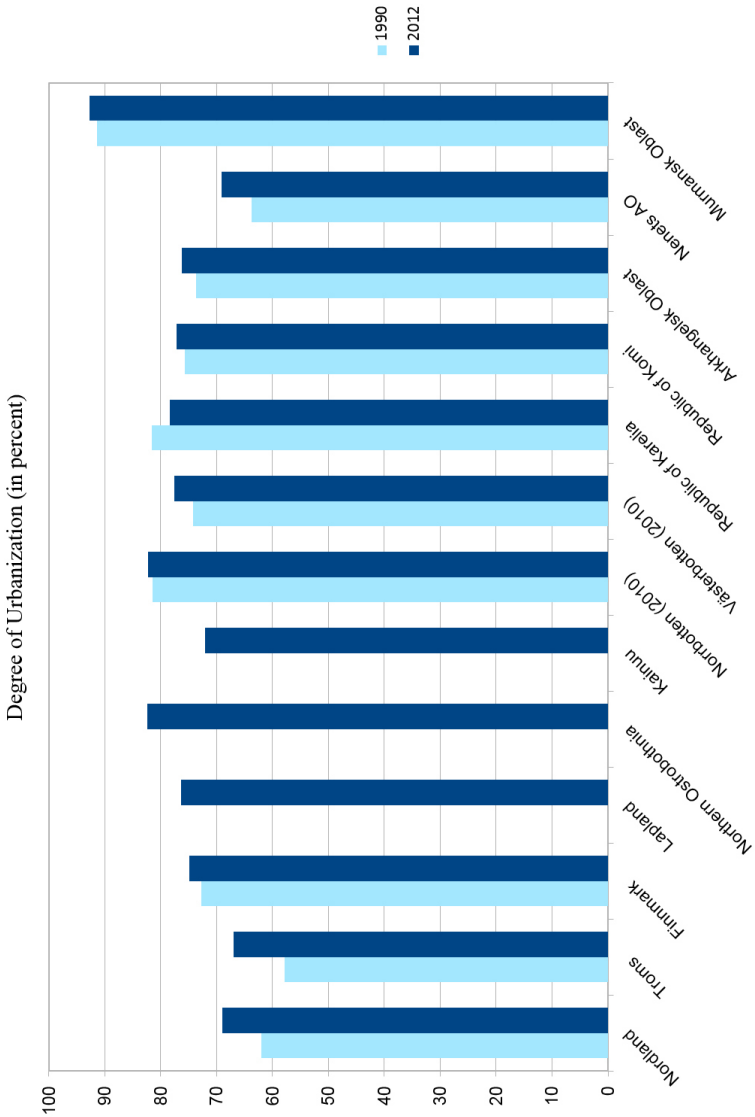


Illustration 3: Degree of urbanization. Comparison between 1990 and 2012. (Older comparison data for Finnish regions not available. Comparison data for Swedish regions from 2010.) Data Source: http://patchworkbarents.org (Accessed August 2, 2016)

Illustration 4: Murmansk. The largest city in the Arctic Circle with a population of over 300,000. Picture by Gerald Zojer.

While the population in the Barents Region is decreasing in general, the urban areas are growing due to immigration by both outsiders and people with northern origins. Women are more likely to move into urban settings within the region. Looking for education and then for appropriate jobs, women tend to move from smaller to larger settlements in the North before leaving the region in favor of the national centers or other countries. As a result, men particularly dominate the settlements that are smaller or based on resource extraction (Heleniak and Bogoyavlensky 2014, Rasmussen et al. 2014). While the Nordic countries generally face an aging population (Gassen and Heleniak 2016), the communities in the Barents Region also

have a higher number of elderly residents in comparison to other, more southern parts within the Barents states, which is a trend that is expected to intensify rapidly in the near future (Emelyanova and Rautio 2012). Large-scale natural resource extraction affects the region's demographics: A lack of workforce with the skills necessary for industrial activities in the northern regions means that (temporary) immigration influences the local demographics, and urban settings are sometimes dominated by residents who originate outside the North (Heleniak and Bogoyavlensky 2014, Huskey 2010).

3.2. The economy of the Barents Region

Despite the region's population decrease, the gross regional products (GRPs) in most member regions are increasing rapidly. The GRP of the entire Barents Region grew almost threefold from 2000 to 2012, with all regions experiencing an increase in their per capita GRP (see Illustration 5). Increasing economic activities and industrialization due to large-scale natural resource extraction explain the sharp growth rates. The Barents Region is rich in natural resources, both on land and in its adjacent maritime areas, and so it is of interest to the international markets and other outside parties, including the central economies of the nation states of which the Barents Region is a part. For example, an oft-quoted study by the US Geographical Survey from 2008 suggests that the Arctic holds roughly 30% of the world's undiscovered natural gas and 13% of the world's undiscovered oil resources (Gautier et al. 2009: 1175). Almost 20% of these

undiscovered Arctic hydrocarbon resources are in the Barents Region, both onshore and offshore.[3] In recent decades, the region has been the focus of rapid development, not least due to outside interests in its precious resources. However, the economic structure of the member regions varies widely. Natural resource extraction significantly contributes to most of the local marketed economies, though the most economically important resources vary from region to region. In general, the extraction of hydrocarbons and the mining of ferrous and non-ferrous metals, coal, and other resources significantly contribute to the local GRPs. Forestry, fisheries, or tourism are also important sources of income in some regions and to various degrees. In addition to continuously growing industries and the establishment of new economic activities, traditional economic activities also offer multiple and important values for many inhabitants of the Barents Region. This is true even if these activities are often not marketed, which means that they offer economic value but not necessarily in monetary terms and will not appear in economic statistics. For example, these activities can be a means to safeguard local or individual economic security, a way to provide for dietary needs, or a contribution to communal identities or spirituality. While these aspects are not exclusive to the indigenous peoples in the region, indigenous people are nonetheless more vulnerable to threats to their traditional activities, since their cultural and spiritual systems are strongly connected to the land and their traditions (Greaves 2012). This is crucial because large-scale natural resource extraction has the potential for

3 Together the East Barents Basin, the Norwegian Margin, the Barents Platform, and the Timon-Pechora Basin account for 79,161.67 MMBOE of the 412,157.09 MMBOE the USGS study suggested to be found north of the Arctic Circle. (Bird et al. 2008)

conflict with traditional economic activities, such as over land use or the right to utilize certain natural resources.

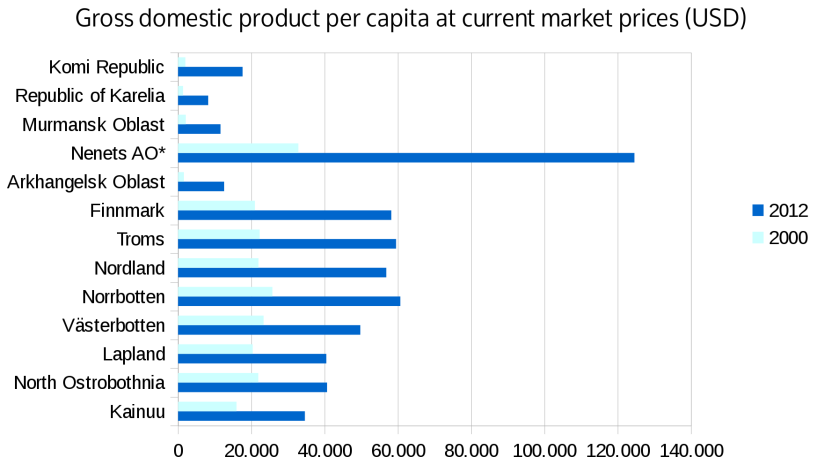


Illustration 5: Gross domestic product per capita at current market prices, in USD.
* Nenets AO data from 2004 and 2012. Data source: http://patchworkbarents.org (Accessed August 16, 2016).

3.3. Political structure and cooperation

An abundance of natural resources is often seen to offer the possibility of achieving sustainable development, which is also the case for the central governments of the Barents states. This led some observers, particularly from the media sector, to introduce the idea of an ongoing “race” for the Arctic’s resources and paint a picture of the Arctic states’ competing over these resources (e.g., Doward et al. 2007; Omestad 2008; Schlindwein and

Traufetter 2007). It is true that all the Barents states have voiced an interest in extracting these resources, and some — such as Norway and the Russian Federation — have even emphasized their willingness to protect these resources by military means (Heininen 2011). However, there are no undisputed land or maritime areas in the Barents Region, and the vast majority of the estimated resources in the region are within territorial realms. As a result, many academics claim that the Arctic can be politically characterized by peaceful cooperation, which is also true for the Barents Region (e.g., Tamnes and Offerdal 2014; Nicol and Heininen 2013; Le Miére and Mazo 2013; Rafalesen 2010). Even during the Cold War, when the border between East and West — between a NATO country (Norway) and the Soviet Union — ran directly through the Barents Region, regional cooperation progressed. One example of this early cooperation is the Arctic Environmental Protection Strategy (AEPS), which was born during the end of the Cold War and eventually formalized through the Rovaniemi declaration in 1991 (Keskitalo 2004). The AEPS was based on the objective of creating an Arctic cooperation to eliminate pollution. It evolved into the Arctic Council (AC) in 1996, which is a high-level intergovernmental forum of the eight Arctic states that includes all the Barents states. The main objective of the Council is to achieve sustainable development in the region. The dominating Dispositif, however, is based on the assumption that economic growth will lead to a prospering Arctic society (Zojer 2014). This economy-centered approach is best illustrated by the “Visions for the Arctic” document, which was created at the ministerial meeting — the main decision making body of the Council which meets biannually — in 2013 and states that “[e]conomic cooperation will be on top of our agenda”

(Arctic Council 2013a). The concept of human security is not discussed in the Council's declarations, though the sustainable development approach indicates that this cooperation's agenda is clearly centered on human development (Zojer 2014).

The Barents Euro-Arctic Region was born in the early 1990s, in parallel to the establishment of the AEPS. The Barents Euro-Arctic Region can be seen as an attempt to "advance the political reconstruction of Northern Europe and support sustainable development in the region" (Tennberg et al. 2012: 16) and to meet the new security challenges following the dissolution of the Soviet Union (Rafaelsen 2010). This region-building process was formalized into the establishment of the Barents Euro-Arctic Council (BEAR) and the Barents Regional Council (BRC), which together are often referred to as the *Barents Cooperation*. While it is debatable whether the establishment follows a bottom-up (e.g., Rafaelsen 2010) or top-down (e.g., Zimmermann 2013) approach, processes of region building can be seen as a security policy approach intended to promote peace and stability. Moreover, by promoting positive cross-border interaction through the Barents Cooperation, the "involved countries signaled an important shift from hard security priorities to an alternative and diversified security approach" (Rafaelsen 2013: 486). The Barents Cooperation has a strong emphasis on economic development and economic cooperation in the region, even beyond that of the AC. The BRC emphasizes "that economic development is of utmost importance for all the Barents regions. A new period of Barents cooperation is to be focused on active creation of preconditions for

companies, scientific and business community to release the full economic potential of the Barents Region" (BRC 2015: 1).

3.4. Summary of chapter

The Barents Region shares many similarities with the Arctic region: Having the characteristics of an internal periphery within the respective nation states; a partial history of internal colonialism; an abundance of natural resources that interests the global markets; being inhabited by indigenous peoples; and a number of inhabitants that rely on the soundness of nature, which is particularly important for traditional economic activities that contribute to local subsistence. However, a relatively well-developed infrastructure and high population density mean that it is also one of the most developed regions within the Arctic. Due to its abundance of natural resources, the region is under dynamic and rapid development and strongly influenced by the interests of outside actors, including the general international markets and the centers of the nation states of which the regions are part. Economic development is in the core interest of most relevant intergovernmental and interregional cooperations for the Barents Region, but these developments also challenge the traditional lifestyles of the local inhabitants.

4. Challenges to the local and indigenous population

Recent socioeconomic development in the region has increased the economic output and led to expanded and modernized infrastructure (transport systems, health care, IT services, etc.) but simultaneously resulted in a number of new challenges for the local and indigenous communities. Integration into the global markets, adoption of modern technologies, and the effects of industrial activities, both locally and from industries outside the region, cause numerous impacts on traditional life. Climate change poses one of the most significant challenges in the Arctic region. Industrial activities and the dispersion of a global, modern lifestyle also cause associated sociocultural and environmental effects. While new technologies or a warming climate may offer fresh economic opportunities, these also challenge the sustainability of traditional livelihoods and practices from which many communities and individuals derive their identities and values. Many residents depend on the region's living resources, and the aforementioned developments may threaten the abundance of these resources or lead to increased competition over them. In short, recent and planned future developments may benefit some inhabitants yet challenge the well-being of others.

4.1. Economic security

Economic security is difficult to define and highly politicized, which makes it a contested subject *per se*. The main positions within this debate can be summarized as "whether states and societies or markets should have priority

and whether private economic actors have security claims of their own that must be weighed against the verdict of the market" (Buzan et al. 1998: 95). Economic security has been given significant priority in mainstream realist discourses, where it is often considered a part of the traditional (state-centered) security concept, because the "primary tools for maintaining security in an anarchical international system are assumed to be military capability and economic wealth" (Tamnes and Offerdal 2014: 6). In mainstream international debates over the past decades, economic wealth was synonymous with financial wealth and usually measured in gross domestic product (GDP). GDP per capita is commonly used to compare the economic performance of different regions or states' economic outputs. However, this measurement has been criticized because it only accounts for marketed sectors and does not properly incorporate non-marketed economic activities or non-material aspects of wealth, such as health, well-being, or happiness (e.g., Rautio et al. 2014, Larsen and Huskey 2010, Altvater 2005, Duhaime et al. 2004). This particularly weakens the quality of GDP as a measure in the world's northernmost regions, where many inhabitants engage in informal (non-marketed) activities. The policies of states or regional governments, however, mainly target the marketed sector of the economies (c.f. Larsen and Huskey 2010). While the Barents Region encompasses some of the largest towns within the Arctic, small communities play an important role for many inhabitants of the rural part of the Region. These small communities are vital for protecting and using the Region's resources for both market-based production and an informal subsistence economy (Arsaether et al. 2004).

The northern regions within the circumpolar states are historically often seen as internal economic peripheries or internal colonies of nation states. The utilization of natural resources and the export of these resources shaped the northern economies throughout history, which is a trend that continues through the present (e.g., Keskitalo et al. 2014, Nutall 2002). While the resources in which southern actors are interested have changed, exploiting northern resources remains a constant. Today, the Barents Region's GDP is strongly determined by economic activities from outside actors and their interest in the region's natural resources, including living resources, such as fish and timber wood. Developing large-scale natural resource extraction offers the opportunity to create jobs in the northern areas and is typically accompanied by the construction of new or modernization of existing infrastructure, potentially also benefiting the local population. For instance, developing resource extraction often results in the construction of new roads, health centers, or information and communication technology (ICT) infrastructure (AHDR 2014). However, building new infrastructure may also reduce the amount or quality of available land for other economic activities, such as animal husbandry, hunting, or tourism. Rees et al. (2008) conclude that infrastructure may have a more severe impact on the prospects of reindeer herding than the effects of climate change will. Thus, developing industrial activities in the North may benefit some inhabitants while causing a negative impact on others (AMAP 2007). Northern residents — both indigenous and non-indigenous — are not generally opposed to large-scale natural resource extraction (Dodds 2010) or other industrial activities. While the northern regions may not benefit widely from industrial activities, it may lead to new local jobs or even the rapid

development of towns or the establishment of new towns, which are sometimes referred to as “boom towns” (e.g., Huskey 2010). For some local residents, a modern lifestyle and its associated amenities, financial wealth, or the infrastructure that accompanies the development of new or increased industry may outweigh the negative impacts or render them acceptable. For example, when asked about the toxic smell from the emissions of a pulp and paper mill in a Karelian (Russia) single-industry town, an employee responded that the local population often refers to the olfactory byproduct of the town’s main economic premise as: “That’s the smell of money” (personal conversation).

The predominant Dispositif of sustainable development within the Barents states is neoliberal, focusing on the financial growth of the nation-state (Zojer 2014). This is also apparent when looking at the northern strategies of the Barents states, where the exploitation of natural resources is of high importance (Heininen 2011). With the combination of current technologies and the predominant market ideology, access to dense energy resources, such as hydrocarbons, is essential to maintain production of mass consumer goods, which is a precondition for continuous economic growth (Bridge 2011, Altvater 2007). However, this does not mean that the economic growth necessarily reaches the inhabitants of the resource-rich regions. Even in regions that may benefit from such economic ventures, regional disparities remain, as the economic wealth is unequally distributed. The financial benefits from industries are usually concentrated in the small areas where the resources are extracted. The overall economic benefits often accrue to the political and economic centers, which are outside of the

Barents Region, or to the international markets (Huskey et al. 2014, Huskey 2010, Duhaime and Caron 2006, Duhaime et al. 2004). The extent to which northern communities can benefit from large-scale natural resource extraction generally depends on the state of political security, as “the scope for redistribution is closely linked to the capacity of citizens to express their position and make their voices heard, and to the propensity of public authorities to listen to them” (Duhaime and Caron 2009: 21; see also chapter 4.4). Although part of the revenues from marketed activities leaves the region, informal economic activities are an important part of the livelihood for many northern residents (Larsen and Huskey 2010). Traditional economic activities, such as reindeer husbandry, hunting, fishing, or berry picking, remain important for the local population, particularly in rural areas (Huskey et al. 2014). For many fishers or reindeer herders, ecosystem services account for a significant share of their diet but also reduce their dependency on the financial wealth gained by taking part in the marketed economy. In rural areas, local inhabitants often need to pursue a number of economic activities to make their living. For instance, one interviewee in Finnish Lapland responded that his first job is in health care, where he runs his own small-scale year-round business as an entrepreneur, but during the tourist off-season, he also does construction work, earns money from selling self-picked berries, or performs other small jobs as these become available. Utilizing nature’s resources by virtue of hunting or fishing also substantially contributes to satisfying dietary needs. Asked if he would prefer to have a single job in the extractive industries that could cover all expenses for his desired lifestyle, if it were available, he rejected the suggestion and argued that he would feel that this would

decrease his quality of life despite the steady and higher income (personal conversation; see also case study 2).

To summarize, the Barents Region was able to triple its economic output in the past 15 years (see Illustration 5), but this does not mean that all inhabitants benefited. Tennberg et al. (2014) conclude that the policies within the Barents Region are inspired by neoliberal ideas on the national, regional, and local scales and that it "becomes a challenge to combine neoliberal practices and socially sustainable development at the local level, especially when sustainable development is equated with stable economic development" (Tennberg et al. 2014: 68). The public discourse often uses human development synonymously with economic growth and measures this in monetary performance. While other concepts to measure human well-being, which include non-material and non-financial aspects, are increasingly under discussion, governmental policies still mainly target at financial aspects. GDP/GRP is often used to compare regions' developments; however, such indicators can be misleading, fail to quantify perceived well-being of individuals or communities, and do not serve as a measurement for quality of life and happiness (Rautio et al. 2014). The first Arctic Human Development Report (AHDR) concluded that the Arctic's residents regularly emphasize the importance of three dimensions of human development: Control of one's fate, maintaining cultural identity, and living close to nature (AHDR 2004: 240). Yet, even if unemployment rates in many areas in the Barents Region are relatively high and many household incomes are lower than in the national average, "satisfaction with life" is rated high among the inhabitants of the North (Rautio et al. 2014). This

finding also accords with a study conducted by Deutsche Bank Research that shows no correlation between financial wealth and perceived well-being (Bergheim 2006).

Case study 1: Village for sale

In the mid-eighteenth century, Finnish settlers moved to the southeastern tip of the Varanger fjord, in the eastern part of Finnmark, not far from Norway's border with Russia, where they established the village Bugøynes. The warmth of the Gulf Stream meant that fishing boats could go out to sea year-round, so harvesting marine living resources always played a crucial role in the village's subsistence. Until the 1980s, fishing, and in particular the harvest of cod, was the center of the flourishing village development. In its heyday, at the end of the 1970s, approximately 400 people were living in the village. However, with the collapse of the cod stocks in 1982, the local fish factory also failed, which nearly brought the village to its end. In 1989, some of the inhabitants came together to write an advertisement for *Dagbladet*, one of the biggest Norwegian tabloid newspapers. In their despair, they put the whole village up for sale, and they were ready to move anywhere in Norway where they would be welcome (personal conversations).

Many of the inhabitants, particularly the older generations, still speak the Finnish dialect of their ancestors. According to two local residents, approximately 70% of the elderly people speak an old variant of Finnish that has long disappeared in Finland, replaced by a reformed and "more modern" variant. One Bugøynes inhabitant is afraid that if the village had ceased to exist, the language might have vanished as well. For many locals, the language is an important marker of their identity. However, it is not only the language that defines the local identity and binds the community

together; other characteristics, which a local resident describes as typical Finnish, have also survived. For example, one local resident proudly explains that “we have a much stronger sauna culture than it is common in Norway”; almost every house has its own sauna.

Illustration 6: Harbor in Bugøynes. Due to the warming Gulf Stream, the sea remains open during the winter, allowing year-round fishing. Picture by Gerald Zojer.

It seems that it is particularly these characteristics, which some locals feel set them apart from inhabitants in the surrounding area, that may have helped the community to survive. While no one made an offer when residents advertised the village, many people suddenly became aware of Bugøynes. The abrupt increase in interest substantially contributed to its revival. Until recently, it has been predominantly Finnish people who come to visit Bugøynes — or Pykeijä, as it is called in Finland — and whose

interest triggered the start of tourism activities. One Finnish tourist whom I met during my stay in Bugøynes explained that she greatly enjoys listening to this old variant of Finnish, which does not exist in her home country. A local tourism entrepreneur added that some clients have emphasized how nice it is to once again hear the language their grandparents spoke. Some elderly residents are afraid that the old variant of Finnish is severely threatened with extinction; in the local school, the children are taught modern Finnish. Another attraction Bugøynes offers its visitors is the "Arctic Ocean Sauna," located on the bright and fine-grained sandy beach. Buses full of people come every year from Finland, sometimes loaded with students, to experience the exotic swim in the Arctic Ocean combined with the Sauna. In 2015, 3,000 came to enjoy the Sauna; it was 4,000 in 2016, and 6,000 visitors are expected for 2017. The new trend is that tourists are not predominantly from Finland but increasingly from Asia. In addition to this unique sauna experience, Bugøynes offers another tourist attraction: King crab safaris.

King crabs were artificially introduced toward the end of the nineteenth century, in Murmansk's gateway to the sea. While this is seen as a great economic opportunity in Russia, the Norwegian government treats the king crab as an invasive species. In the western part of Norway, king crabs can be harvested unrestrictedly, whereas a quota system has been implemented in the eastern part. A local fisher explains that one can only earn around 10% of the yearly income required for subsistence with the maximally allowed catch. The cod returned in recent years, but king crabs are a welcome new fishing opportunity as well as a tourist attraction. Bugøynes is

Illustration 7: Beach in Bugøynes. The *Arctic Ocean Sauna* at the beach attracts thousands of international visitors per year. Picture by Gerald Zojer.

located not far from where the king crab was introduced, so it was in Bugøynes that the selling of king crabs commenced (Jaycen June 10, 2014). Bugøynes now exports living crabs worldwide, as the village hosts one of the main harbors for king crab fishing in Norway (Karlsbakk January 4, 2013).

Other local economic activities include the establishment of a bistro, which is new for the village, where until recently it was not possible to go out for a meal. Some small concerts take place in a newly opened gallery, providing cultural attractions from outside the region. The gallery has recently become the venue for a few local residents to celebrate the Finnish independence day, as a local resident smilingly declares. A small fish factory exists once again in Bugøynes, even if it only employs a few people. The community of

Bugøynes also managed to establish a retirement home. This service facility not only provides jobs and training opportunities but is particularly important for the elderly residents. Some of the inhabitants were afraid that if they had to live in a retirement home away from Bugøynes, they would not be able to speak Finnish anymore and be forced to communicate in Norwegian with the staff. With the local facility, they can now enjoy their beloved surroundings and the familiar sound of the local fauna as well as continue to speak their mother tongue. Today, there are approximately 180 permanent residents in the village, which is almost double the number that the village had during its most difficult times (ca. 100 residents). Yet, some of the residents are still concerned about Bugøynes' future. On the one hand, the aging population meant that due to the lack of workforce, some foreigners had to be employed in both tourism and reindeer meat production. On the other hand, people are afraid that their old variant of Finnish will shortly die out. Not only are the schoolchildren taught modern Finnish but, as one of the elderly residents explains, also the increasing number of tourists from Finland encourages the more modern Finnish.

4.2. Environmental security

The human species depends on the soundness of nature in many regards: In a biophysical way, as it presents the basic source for human life in the form of food and drinking water; in a psychological or spiritual way, such as often seeking nature to relax or for leisure reasons; and in a cultural way, in the sense that cultures, particularly those of indigenous peoples, are strongly influenced by the relationship with nature (c.f. Washington 2013). Environmental security must be considered one of the main factors contributing to a comprehensive security approach in the Arctic (Heininen 2014).

Environmental concerns were also the primary driver behind establishing intergovernmental cooperation in the Arctic and an important aspect of the Barents Cooperation since its establishment. Through the AEPS, the Arctic states, including the Barents states, acknowledged the severe adverse effects of environmental degradation caused by various pollutants, many of which did not originate in the North. The program aimed to “identify, reduce, and, as a final goal, eliminate pollution” in the Arctic, to protect the northern environment and its population (AEPS 1991: 9). The AEPS defined the main problems as persistent organic pollutants (POPs), oil pollution, heavy metals, noise, radioactivity (often a legacy of the Cold War), and acidification (ibid.). The most pressing environmental issue for the northern population is climate change, although it was excluded from the AEPS agenda, (albeit subsequently identified as a highest priority in the policies of the AC). In the past decades, the Arctic region has warmed twice as much as

the global average, leading to warmer temperatures, shorter winter seasons, more precipitation, and more wind (Anisimov et al. 2007). Immediate effects on the North include the loss of sea ice and reduction of the ice mass on land, increased coastal erosion, change of snow cover, thawing permafrost, and a distribution change of numerous species (ACIA 2005). Some of these changes may have positive effects for the local residents. For example, the marine ecosystem may become more productive; a milder climate may increase productivity for agriculture or forestry; the opening of sea ice offers the possibility of expansion of offshore economic activities, such as drilling for hydrocarbon resources, which could lead to the creation of new jobs; and the opening of Arctic sea ice will allow Arctic shipping and decrease transportation distances and times (ACIA 2005). Certain communities may be able to significantly benefit from the opportunities that accompany climate change. However, whether a "particular impact is perceived as negative or positive often depends on one's interest" (ACIA 2004: 8), and what may seem beneficial for some individuals could disrupt the interests of other community members. In general, it is assumed that the negative consequences of climate change outweigh the positive results (IPCC 2014, ACIA 2005). For example, while increased plant growth may allow higher absorption of CO_2, methane released from thawing permafrost and reduced reflectivity of land surface likely outweigh this effect. Thawing permafrost also damages existing infrastructure. Melting sea ice and warming waters may increase the productivity of coastal fisheries but also raise sea water levels, increasing coastal erosion and the risks of flooding, which may necessitate the relocation of certain coastal communities. Reduced sea ice will shrink the habitat of numerous marine mammals,

affecting food security for those communities that hunt for these species. Warming increases stress to reindeer due to alteration of food sources and changes to historic migration routes. Introduction of new species and diseases may accompany the changing climate. New weather patterns may decrease the usefulness of local residents' traditional knowledge, particularly within indigenous communities, threatening the survival of their culture: Experienced herders or hunters who could predict weather and grazing or hunting hunting grounds using traditional techniques are now frequently unable to do so, because weather seems more variable, behaving unexpectedly, unfamiliar, and outside the norm (ibid.).

Case study 2: Impacts of climate change on reindeer herding

Reindeer are a very important animal for many inhabitants of the northern parts of the Barents Region. For many rural communities, reindeer are essential for gaining economic wealth and serve as an important source to satisfy dietary needs. Reindeer husbandry also fundamentally shapes local cultures and common identities, particularly for many indigenous communities. Over the extensive time in which people have been living from and with reindeer, they had to adapt to climatic variations several times. One of the results is seasonal migration between summer and winter pastures (Tyler 2007). Reindeer have a different diet throughout the seasons. In summer, they prefer pastures near the coast and feed on plants, mushrooms, berries, etc., which are rich in protein and nutritious. In winter, they consume smaller amounts of foods that are richer in carbohydrates, such as lichen (Lent 1988, Young 1994). Empirical studies show a correlation between the successful reproduction of female reindeer and their winter diet during pregnancy: A mild autumn with little precipitation and a dry winter increase the survival rates of newborns (Lee 2000). As is already being observed, and predicted for future climate scenarios, the temperatures in reindeer herding areas are increasing, leading to higher amounts of snow and warm periods in winter. This causes the top snow layers to freeze, which makes access to food more costly in terms of energy. At the same time, the amount of lichen — an important winter forage — may decrease, since warmer temperatures favor faster-growing green plants. Hot temperatures in summer may cause additional stress, since the reindeer anatomy favors a colder climate. Thawing permafrost and late or non-

freezing rivers and lakes may hinder the ability of reindeer to follow historic migration routes. The expected increase of precipitation in autumn may lead to frozen ground before the snow arrives, making forage more difficult. More precipitation in winter increases snow cover, which also renders digging for food more energy intensive. The expected increase of wind in winter creates a harder snow pack and may lead to wind chill and so to energy loss for reindeer. However, the wind chill effect may be beneficial during the summer, since more wind may also reduce stress from insects (Rees et al. 2008, Tyler 2007, ACIA 2005, Heggberger 2002). Rees et al. expect that the reindeer population may decrease by about 25% in the Barents Region by 2080, with variations from a 10% increase in Russia to a 60% decrease in Norway. As one reindeer herder explained, in recent years, the reindeer have not gained as much weight as they had in the past (personal conversation). Today, reindeer herders cannot adapt to climatic changes as easily as in the past, not only because most of them live in permanent settlements but also because numerous new administrative restrictions apply (Rees et al. 2008). The aforementioned importance of reindeer husbandry for many communities in the Barents Region means that the impacts of climate change on reindeer husbandry pose a significant threat to the viability of these communities, particularly for many indigenous people (see chapters 4.3 and 5.2). This risk highlights the close correlation between a rapidly changing climate and societal integrity.

Climate change is currently the most debated environmental challenge affecting the inhabitants of the Barents Region. Due to the low population density in the region, the causes of climate change are mainly external and must be addressed on a global scale, but local activities increasingly contribute to certain sources of climate change. Gas flaring from hydrocarbon activities in the Arctic accounts for approximately half the surface black carbon concentration in the circumpolar North (Stohl et al. 2013), contributing to the albedo effects[4] and further accelerating climate change. In addition to growing industrialization, an increasing usage of motorized vehicles and general adaptation to a Western lifestyle also increases pollution that contributes to the acceleration of climate change. However, developments within the region have significant impacts on the local environment, and these activities are also on the rise. In the past decades, the Barents Region has become the site of numerous mines and ore processing plants, such as smelters, which contribute to locally emitted pollution. The nickel smelter in the Murmansk region, in the vicinity of the town "Nikel," emits five times as much sulfur dioxide as the whole of Norway (Nilsen December 15, 2009). The severity of the environmental degradation caused by the smelter's emissions is highly visible in the area surrounding the facility, where sedimentation of heavy metals and other pollutants left a vast stripe in the landscape that looks deserted and where hardly any vegetation can be seen (see Illustration 8). Certain industrial activities emit pollutants from regular operations, but extractive industries often pose the additional risk of accidents that may lead to severe

4 The albedo effect describes the phenomenon that the melting and retreat of snow and ice (both on land and at sea) reveal more darker surfaces, which reduce the planet's ability to reflect sun light, but instead to increasingly absorb the solar energy. The albedo effect does accelerate the warming of the planet.

Illustration 8: Devastated landscape near nickel smelter in Nikel, Murmansk region (RUS). Picture by Gerald Zojer.

environmental damage. For example, in spring 2012, an estimated 2,200 tons of oil were spilled over the tundra vegetation, severely polluting the reindeer pastures of Nenets' communities (Staalesen April 23, 2012). Oil pollution not only affects land area but often also reaches aquasystems, such as in the Komi Republic in 2013. In this case, "at least 500 tons of oil [were] spreading from the Kolva River into the adjacent rivers of Pechora and Usa," threatening vulnerable waterways. Local residents informed reporters that it smelled like oil everywhere and that they and their children were forced to breathe this toxic air day and night (Staalesen June 14, 2013). A Greenpeace representative told the news agency *RIA Novosti* that in Russia more than 20,000 oil spills occur annually, and most of them do not have any consequences for the operators (Staalesen April 23, 2012). In

addition to hydrocarbon exploitation, the extraction of minerals also poses risks of water pollution, as evidenced by leakages from the Talvivaara mine in Finland, although this is just south of the Barents Region. Many mines have huge wastewater ponds filled with potentially harmful substances that threaten the surrounding environment. In recent years, there have been several leaks in a gypsum pond reported from the Talvivaara mine (YLE April 5, 2013), introducing heavy metals into surrounding water systems, poisoning fish and other organisms (YLE November 13, 2012), which illustrates the potential danger of extractive industry sites.

In addition to direct environmental impacts of industrial activities, the increase in infrastructure also affects the environment in numerous ways. For example, the increasing transportation of goods and supplies contributes to emissions of greenhouse gases and other harmful substances, such as particulate matter or black carbon. An increased infrastructure also reduces grazing land, cuts across the migration route of wildlife, and decreases land available for other potentially less harmful economic activities, such as tourism or reindeer husbandry (CAFF 2001, Rees 2008).

Industrial activities are not the only source of adverse environmental impacts. The ongoing integration into and availability of products from the global markets contribute to the local emission of various pollutants. For example, after the introduction of the snowmobile to reindeer herding communities in Lapland, the local population quickly adopted this technology, as it could reduce the time herders need to spend in the field (c.f. Pelto 1987). Support from airplanes and helicopters has also recently

Illustration 9: Helicopter support for rounding up reindeer in Finnish Lapland, in autumn 2016. Picture by Gerald Zojer.

become more widespread (see Illustration 9). As one reindeer herder from Finnmark (northern Norway) explains: “Using helicopters makes reindeer herding so much more convenient” (personal conversation). Another reindeer herder from northern Finland shares this opinion, elaborating that sometimes there are steep hills or tight forests, where it is difficult to use snowmobiles or all-terrain vehicles (ATVs). The technological advances of motorized vehicles are widely perceived as significant improvements over herding with skiers or on foot (personal conversations). However, increased use of ATVs and snowmobiles contributes to increasing emissions of carbon dioxide and other harmful substances, noise pollution, and disturbance of

wildlife, among other issues. As a consequence, “reindeer husbandry based on feeding and heavy technology now has a large environmental impact and carbon footprint” (Nieminen 2014: 69).

Snowmobiles are perceived as superior technologies to reduce the workload associated with traditional activities, but hydrocarbon-based technologies also offer the potential for new economic activities. For example, as a tourist guide explains (personal conversation), snowmobile safaris are one of the most popular products for foreign tourists in northern Finland. Such snowmobile safaris may even be advertised as a way to experience nature and the clean air of the North,[5] yet these inflict unpleasant odors, noise pollution, and harmful pollutants such as carbon dioxide and benzene. These pollutants pose a health risk to the vehicles’ operators and passengers, particularly passengers in trailers or the back seat. Children often sit in the areas that are most vulnerable to such substances. Consequently, even families who only occasionally use snowmobiles for leisure are exposed to hazardous substances at relatively high levels despite spending their time in a relatively unpolluted area (Eriksson et al. 2003). The pollution additionally disrupts wildlife, and frequently used snowmobile tracks cut through the natural migration routes.

In the past, Europe’s northernmost environment was mainly challenged by activities from outside the region; more strict environmental mechanisms and regulations, both on an international and local level, helped to reduce pollution in the region. At the same time, increasing economic activities,

5 Even though there are traces of pollution in the air of Finnish Lapland, in international comparison the air can legitimately be described as the cleanest in Europe (Anttila 2014).

such as from industrialization, tourism (see Illustration 10), traffic, or mining, as well as the adoption of new technologies for traditional activities, changed the balance of environmental security. While earlier contaminants entered the Arctic through long-distance transport, new or increasing economic activities now bring the polluters directly to the region (e.g., Rautio et al. 2014, Peltola and Sarala 2014). Since humans depend on the soundness of nature and its ecosystem services in multiple ways, these environmentally adverse impacts also challenge the population and the environmental security of the Barents Region.

Illustration 10: Cruise ship in Adventfjorden, Svalbard. Cruise ship tourism is booming in northern waters. Most cruise ships as well as container ships are powered with heavy fuel oil. Shipping industries are significantly contributing to global CO_2 emissions. Picture by Gerald Zojer.

Case study 3: Importance of natural resources for human well-being in Finnish Lapland

The fieldwork for this case study was carried out in the Enontekiö and Inari municipalities, both in the north of Finnish Lapland and part of the Sámi homeland. Most most respondents were not members of the Sámi people. The unemployment rates — which are relatively high compared to both the national average and the Barents Region average — are 19.2% in Enontekiö[6] and 17% in Inari[7] respectively, and informal economic activities are of significant importance for many inhabitants. The two municipalities combined have fewer than 10,000 inhabitants and are rather sparsely populated: The population density is around 0.2 and 0.4 people per square kilometer in Enontekiö and Inari, respectively.[8] The local marketed economies are dominated by the service sector (e.g., 75.4% in Enontekiö), while the primary and secondary sectors contribute significantly less. The main sources of employment are public services (administration, education, health care, border guarding, etc.), and the most important industries are tourism, forestry, reindeer husbandry, fishing, and cold technology.[9] Produced goods relate to such activities as reindeer herding or the making of jewelry and handicrafts. There is small-scale, artisan mining, but no

6 Source: Statistics Finland, data from 2012. http://www.stat.fi/tup/kunnat/kuntatiedot/047.html (Accessed 10 December 2016)

7 Source: Inari municipality website, data from 2015. http://www.inari.fi/fi/inari-info/tilastotietoa.html (Accessed 10 December 2016)

8 Data source: http://www.lappi.fi/en/home (Accessed 10 December 2016).

9 Municipal information from Inari municipality website: http://www.inari.fi/media/tiedostot-2014/nordica/kuntaesite-2015/inari_esite_a4_englanti_aukeama.pdf and Enontekiö municipality website: http://www.enontekio.fi/fi/palvelut/kuntainfo/tilastotietoa-kunnasta.html (Both accessed 10 December 2016).

extractive activities at the industrial scale. As these municipalities are within the Sámi homeland, reindeer husbandry is a major economic activity, even if it is often not marketed. Today, only a few families can obtain sufficient income from reindeer husbandry alone. Many reindeer herders practice husbandry part time, to harvest meat for personal use only or to continue their cultural traditions. For many inhabitants, whether they own reindeer or not, food from hunting, fishing, or gathering remains crucial. Nonetheless, the importance of food harvested from the local ecosystems has decreased substantially, due to significant changes in the socioeconomic structure and increasing integration into the global markets throughout the past few decades.

For example, one interviewee in his sixties claims that quality of life significantly increased in the 1970s, when new economic opportunities (such as increases in tourism or transfer payments) elevated families' income. This allowed local residents to become less dependent on hunting, fishing, and berry picking to fulfill dietary needs. Additionally, a new and bigger grocery store opened, providing imported food products. Until then, the whole family, including children and the elderly, were forced to provide food by harvesting from nature and through trade. The men in the family were skilled in creating handicrafts and doing woodwork (including construction work), so they were able to exchange their work and products for meat from local reindeer herders. As the interviewee said, getting enough food for the entire family was hard work, so increased financial wealth offering access to new technologies "made life easier." With the further expansion of tourism and new opportunities to sell their handicrafts,

they could increasingly exchange their goods for money instead of meat. Yet, even today, the formal economy does not provide sufficient income for everyone. For some residents, even working different jobs over the course of the year does not satisfy their economic needs, and local resources remain economically significant. As several respondents explained, big game animals are especially important, as “with the meat you get from a moose, you can save a lot of money.” Additionally, net fishing is widespread among local residents, and big freezers guarantee that fish remains available during the winter months. However, hunting for small game or birds (ducks, grouse, etc.) is not economically rewarding due to the substantial effort, even if the meat is appreciated as a Sunday or holiday dish. While the interviewed residents had differing degrees of economic dependency on the region’s ecosystem services and divergent relationships with nature, they all greatly appreciated food from local resources because of its quality. In addition to enjoying the better taste and texture of the meat compared to industrially produced store-bought food, they also liked knowing that their catch lived in freedom, was not fed with unknown forage, and was not treated with medicine. All respondents mentioned that hunting and fishing provide recreational value, as they enjoy being in nature and observing flora and fauna. As one Enontekiö resident said: “Even if I don’t catch anything, I will still be happy that I went hunting or fishing, as being in nature is also a way to relax and to recharge my batteries.”

Illustration 11: An Enontekiö resident cleaning a fish during a multi-day hiking trip in the Pöyrisjärvi Wilderness Area. Fishing in remote places may not only provide nutritious, high-quality food but also serve as a way to relax and recharge batteries. Picture by Gerald Zojer.

Depending on the targeted species, hunting may take place individually or in groups. For some respondents, the recreational value is higher when they are in nature without company, whereas others enjoy hunting or fishing in groups. Some respondents highlighted that going for a hunting or fishing trip is the only time when they actually manage to get together with their friends, who are usually occupied with work or spending quality time with their families. They also pointed out that for hunting or fishing trips, people join together with neighbors or other community members, with whom they generally have little in common. Most villages have their hunting group(s), and carrying out this joint activity has been highlighted as one of the main events where the men from the village come together. Hunting in groups has

also been described as a “glue” that holds the community of a small settlement together. One respondent from the Enontekiö municipality explains: “Moose hunting is important for our community as well. Within the hunting group, we eat together and celebrate together. Dividing the moose is particularly important, as this is THE event when we all come together!” However, hunting seems to be less important to younger residents. Older generations perceive being able to hunt and knowing how to properly separate an animal as part of manliness, and it is part of the local and common identity. However, “many of the younger guys seem to be more interested in playing computer games” and do not share the traditional values of older generations. “Apparently, they are influenced by other cultural values and different lifestyles than our traditional ones.”

Cultural impacts are not the only effects of globalization. Increased financial wealth and access to international markets introduced industrial technologies for traditional activities as well. For example, a respondent explained that fishing nets made from nylon became available in the 1970s and replaced handmade nets from organic material, which were less sturdy and less durable, yet consumed a lot more time for maintenance. The adoption of this newly introduced technology increased the catch and the consumption of fish. Moreover, the ease of catching fish also changed the relationship between the local people and their environment: As residents from both municipalities explained, earlier people were happy with all kind of fish they caught, and the entire catch was quite welcome. However, some of the younger fishermen said: “We only hunt for specific fish [such as trout, graylings, or white fish; annotation by author] but kill and throw away

pikes and perches, as they are of low quality and only eat the good fish we want to catch." While these reports suggest that there is a great abundance of fish, several respondents stated that it is now necessary to drive further away from the villages to reach good hunting or fishing grounds, as those close to the villages are increasingly empty. Rising hunting and fishing tourism[10] as well as a higher amount of locally paid hunting management fees[11] suggests that there are more people harvesting the region's ecosystem services. Yet the perception of the respondents in Enontekiö is that fewer people hunt these days, and respondents from Inari complained about "southerners" who come to the North to go hunting solely for leisure reasons. Respondents from Enontekiö mentioned that nowadays they may run into groups of hunting tourists, but the impression is still that fewer people currently hunt. Indeed, the number of paid hunting management fees increased by 5% in the whole of Finland, while the number of active hunters remained more or less stable from 1996 to 2015. However, the total amount of harvested game meat in Finland and the most commonly hunted species in Lapland decreased significantly over the past 10 years.[12] Nonetheless, the respondents think that today there is much less fish, grouse, ducks, capercaillie, etc. to be found. In addition to the decreasing stocks of animals, the interviewed residents also think that there are significantly

10 The Tana River Fishing Administration for example reports in its catch statistic an increasing share of salmon fish harvested by tourists. http://tanafisk.no/en/statistikk/fangststatistikk (Accessed 20 April 2015)

11 The number of paid hunting management fees in Ylä-Lappi district, which includes the municipalities of Enontekiö, Inari, and Utsjoki, raised by about 18% from 1996 to 2015. Data source: Luke (Natural resources institute Finland), http://stat.luke.fi/en/hunting (Accessed 6 December 2016)

12 The total amount of harvested game meat in entire Finland decreased by 35% from 2006 to 2015. Data source: Luke (Natural resources institute Finland), http://stat.luke.fi/en/hunting (Accessed 6 December 2016).

fewer cloudberries in lower areas, such as the bigger valleys and near villages, since the mid-1980s. Gathering cloudberries is described as a good way to make some extra money: “In a good year, you could earn enough to buy a new ATV with that money,” but it became increasingly difficult to find sufficient amounts. Larger numbers of berry pickers from abroad also increase the pressure on this resource. Respondents also noted that the need for motorized vehicles is a motivation to earn more money, either by a regular occupation on the job market or selling the harvest of the local ecosystems. Motorized vehicles are generally seen as a necessity for hunting and fishing trips. However, the respondents noted that increased traffic to sites further away also heightens pressure on the resources in more remote places. Additionally, the visual impact of ATVs, their tracks, and the garbage along these routes were criticized as aesthetic drawbacks of motorization.

Illustration 12: Garbage on ATV track. In Enontekiö at many good view points - such as fell summits - and next to tracks for motorized vehicles, significant amounts of non-degradable litter can be found. Picture by Gerald Zojer.

Illustration 13: ATV track. ATV trails are very visible in the vulnerable and fragile fauna of the North, which has a very slow recovery rate. Particularly in swampy areas, ATV drivers often use new tracks to avoid sinking into the swamp, which then leaves wide areas cut open from the vehicles. Picture by Gerald Zojer.

4.3. Food security and health and well-being in the Barents Region

Maintaining a sound environment is not only important in terms of the intrinsic value of nature; environmental damage directly threatens the physical and mental health of human beings in numerous ways (Washington 2013). Many potential challenges to human well-being are the result of impacts from globalization or environmental changes. Rautio et al. (2014: 297) argue that "emerging threats for human health and well-being are the effects of a warming climate resulting in worsening food and water security; changes in the patterns of infectious diseases, and impact on health care infrastructure; or mental health problems including suicide, accidents and domestic violence." In the Barents Region, there are substantial disparities among regions and countries as well as among subgroups of people within regions, such as between indigenous and non-indigenous people. In a circumpolar comparison, the Nordic countries perform quite well in most health indicators, whereas the Russian North tends to perform less well. However, in general, there has been progress in the North, not least as a result of an increasing number of initiatives to promote health (ibid.). In the Barents Region, cooperation on health issues started in 1999 and eventually led to the establishment of the BEAC-BRC Joint Working Group on Health and Related Social Issues (BEAC 2004). The main targets of the *Fifth Framework Programme for Cooperation on Health and Related Social Issues in the Barents Euro-Arctic Region* are vulnerable groups (such as children/youth, elderly people, migrants), indigenous peoples, and the typical challenges of sparsely populated areas. The program defines three

main priority areas for this cooperation: Prevention of non-communicable diseases (including reduction of lifestyle-related risk factors, environmental factors, and new emerging risks); prevention and control of communicable diseases (such as sexually transmitted diseases); and strengthening health systems and relevant social services (JWGHS, no date).

Interplay of globalization with food security and health

In the past decades, integration into the global markets as well as transfer payments led to an increase of material wealth in northern and rural areas and allowed for the creation of a new health-related infrastructure that improved access to health care services in many regions. Even if the number of physicians per capita increased only slightly,[13] the per capita health expenditures in the entire Barents Region grew from $7,428 USD in 2001 to $20,801 USD in 2013. Consequently, progress in regard to human health is observable: The positive effects can be measured, for example, by increased life expectancy (see Illustration 15) or reduced infant mortality[14]. Nonetheless, certain indicators also emphasize that the Barents Region still performs less well than the national average of the Barents states. For example, the northern regions within Scandinavia have a higher rate of

13 The number of physicians increased from 4.6 to 5.1 per 1000 inhabitants in the Russian Barents, in the Swedish Barents from 3.1 to 3.3, in the Finnish Barents from 2.6 to 2.9, and in the Norwegian Barents from 1.1 to 1.3 in the period from 2003 to 2012. Data source: http://patchworkbarents.org, based on national statistics (Accessed 5 December 2016).

14 Health usually depends on several factors and thus single indicators hardly can give a clear picture. However, infant mortality depends on several health factors, and thus relates relatively good to people's sense of well-being (Hamilton et al. 2010). While not having data available for all regions within the Barents, data from northern Finland (3.0 to 2.6), northern Sweden (4.2 to 2.4), and northwestern Russia (13.2 to 9.1) show decreased rates of infant mortality from 2000 to 2009, while in northern Norway the infant mortality rate slightly increased from 4.2 to 4.4 per 1000 live-births during the same period of time (Data source: http://circhob.circumpolarhealth.org, accessed 6 December 2016).

cardiovascular diseases than the national average (Rautio et al. 2014). In Russia and Finland, most regions within the Barents have a higher suicide rate than the national average; in Norway, only Finnmark has a higher suicide rate than the national average; and in Sweden, the northern member regions are beneath the national average suicide rate (Young et al. 2015). Committing suicide is a severe response to a lack of well-being. Numerous factors are contributing to higher suicide rates in the Arctic than in the national average, such as dynamic changes in government, culture, and in community and family values, which all may stress individuals. In some areas in the Arctic efforts to allow self-government improved mental health and lead to decrease of adolescent suicide rates. There is also a strong relationship between suicide risks and cultural continuity within communities (Hild et al. 2004). “For young Sámi growing up, it might be especially important to have access to a vibrant Sámi community, including a strong Sámi network, as well as to master their Sámi language” to prevent mental ill-health (SANKS and SC 2017: 12). Consequently, the *Plan for Suicide Prevention Among the Sámi People in Norway, Sweden, and Finland* suggests, among others, that strengthening Sámi self-determination or protecting the Sámi cultural identity may contribute to suicide prevention (ibid.). Moreover, changing diets and a shift in key nutrients may also be linked to mental health, and even suicide (Hild et al. 2004).

In regards to health infrastructure, the more remote communities of the Barents Region still face some structural disadvantages: Due to the relatively low population density, the distances to suitable health care services are greater than in the more urbanized southern parts of the Barents

states. One resident of the Enontekiö municipality explains that she twice had to travel almost five hours to the closest hospital in Rovaniemi to give birth. The nearest X-ray facilities may be hours away from some Barents residents. In addition to longer traveling distances, the low population density also results in less frequent availability of health services. At the time of writing, the website for the Enontekiö municipality states that, excepting emergencies, the current waiting times for an appointment with a doctor or a dentist are two weeks and half a year, respectively.[15]

Public services can significantly contribute to improved health, but civil society can also become an active stakeholder in promoting a healthier life. For example, in Kilpisjärvi, the northernmost village in the Enontekiö municipality, it was the wilderness guide Yrjö Metsälä who established a mid-summer ski race in the 1940s as an alternative to the frequent alcohol abuse during the midsummer festivities. In 2016, this ski race was conducted for the seventy-first time, but it has not lost relevance: In most regions within the Barents — with the exception of Russia —alcohol consumption has increased over the past years.[16] Nowadays, this alternative event is jointly organized by *Kilpisjärven Saana-Veikot RY* and *Kunnon Elämä RY*, an association for a healthier way of living, and in cooperation with *Ehyt RY*, a preventive substance abuse work organization, and the

15 Enontekiön kunnan terveyspalvelut. [Enontekiö municipal health services] http://www.enontekio.fi/fi/palvelut/terveyspalvelut.html (Accessed 5 December 2016).

16 Per capita alcohol consumption of inhabitants aged older than 15 has increased in the Finnish, Swedish, and Norwegian part of the Barents Region by (combined) 7.7% from 2008 to 2013, while in the Russian part of the Barents Region it decreased by approximately 14% from 2006 to 2014. Data source: http://patchworkbarents.org (Accessed 6 December 2016)

municipal sports section *Enontekiön liikunta ja vapaa aikatoimi* (Zojer July 2, 2015).

Illustration 14: Midsummer ski race in Kilpisjärvi. Introduced in the 1940s, the ski race is aimed at providing an alternative to alcohol abuse during the midsummer festivities. Picture by Gerald Zojer.

Outdoor sports contribute to physical health, and spending time in nature also positively affects mental well-being. The effects are even stronger when spending the night outdoors, and this can be a good alternative to drugs, which are prescribed with increasing frequency to treat mental health problems. Thus, “nature-based activities can be recommended to everyone, especially due to their psychological well-being benefits” (Kaikkonen et al. 2014: 48; see also Washington 2013).

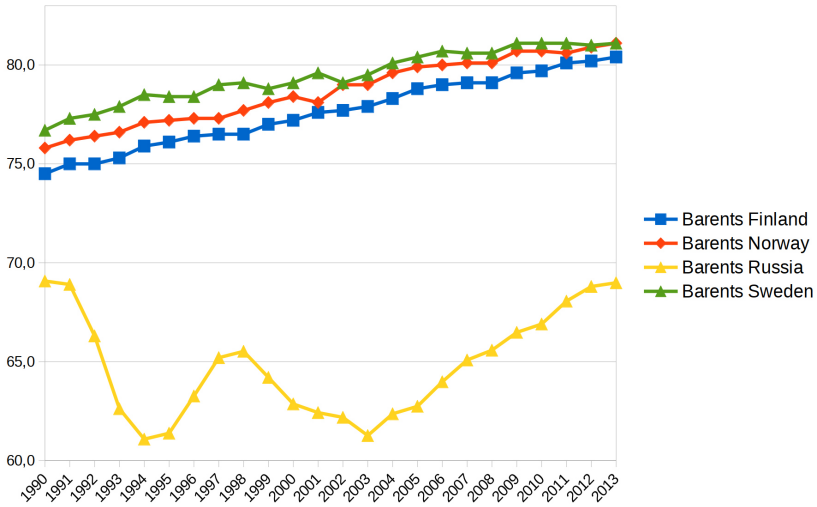


Illustration 15: Life expectancy in the Barents Region, 1990–2013. Data source: http://patchworkbarents.org (Accessed 6 December 2016).

While increased material wealth may improve access to health care services, integration into the global markets also has adverse effects on human health. For example, access to new technologies and the adoption of these technologies for everyday life result in changing lifestyles and increase the exposure to harmful pollution. The growing assortment of food products from outside the region changes the regular diet (Rasmussen et al. 2014). Traditional foods from the wild are free from chemical preservatives and known to be nutritious. Rautio et al. (2014) point out that the transition to store-bought (usually imported) food leads to increasing rates of medical conditions, such as diabetes, cardiovascular diseases, or obesity. Moreover, people relying on store-bought foods are increasingly limited to cheaper and less healthy choices (Rautio et al. 2014, Nilsson et al. 2013). Although still

of relatively good quality, also local food sources are exposed to potentially harmful pollution, such as from industries within as well as outside of the Barents Region. Moreover, increasing pressure on and competition over land use decrease the available resources for local foods (Nieminen 2014, Poikolainen and Rautio 2014, Rautio et al. 2014).

Impacts of climate change on food security and health

Climate change in the Barents' environment (see chapter 4.2) also affects the health and well-being of its residents in numerous ways. Many of the region's inhabitants rely on ecosystem services. It was easier for the local population to adjust to or migrate in response to climatic changes in earlier centuries, but most people now live in permanent communities and cannot adapt as easily (ACIA 2005). Coastal areas may benefit from the increased productivity of the marine biomass, which is also expected to develop a new mix of species (McBride et al. 2014), resulting in a higher abundance of consumable fish. By contrast, diminished sea ice cover and changed weather patterns may threaten marine mammals with extinction. Extreme weather events, such as floods and storms, may create a threat to human health or increase the risks of accidents (Rautio et al. 2014, ACIA 2005). Due to the longer growing seasons, a warming climate may make agriculture more productive and provide more food. The expected shift of vegetation and animal species may offer new possibilities for food production (AMAP 2011), while a shift of flora and fauna may also change the mix of species in a way that imperils preferred or traditional food sources. The impact on reindeer's grazing land may contribute to increased difficulties for reindeer husbandry (Nilsson et al. 2013). With a warming

climate, it is expected that diseases and parasites will be introduced to new habitats, potentially putting stress on wildlife and (semi-)domesticated animals (ACIA 2005). The unusually warm temperatures during summer 2016 in the tundra area in Nenets Autonomous Okrug led to melting of the permafrost, which resulted in the release of anthrax spores and pathogens. Over 1200 reindeer died during the outbreak, reducing available food for the local communities. Several inhabitants were also infected; over 30 people, including children, had to be hospitalized in intensive care (Nilsen July 28, 2016). Reindeer are among the most important food sources for many people in the northern parts of the Barents Region, particularly for many members of the indigenous communities. The meat has a low fat content, is rich in proteins, vitamins, and minerals, and is easily digestible (Soppela 2002). Since the impacts of climate change significantly affect the Barents' reindeer populations (see case study 2), both the potential change of diet and the economic hardship due to the decreasing size of the reindeer population jeopardize the food security of reindeer herders. Increased UV radiation may affect the immune system, increasing vulnerability to diseases and the risk of developing cancer (ACIA 2005). In addition to direct challenges to human health, climate change may even affect access to health care. For example, "It has been documented that in Arctic Russia, the reindeer herding Nenets people are 'stuck' in the tundra for longer periods of time waiting for snow and have to leave their villages earlier before the snow melts in order to reach medical care" (Rautio et al. 2014: 208).

4.4. Political security

Some of the challenges to human well-being can be addressed on a local level, while others must be dealt with on an international level. The latter is true for many environmental challenges, such as climate change. Acknowledging this fact led to a “politicization of the environment” that eventually sparked numerous international institutions, regimes, and treaties and agreements (Heininen 2013), such as the Kyoto Protocol (to reduce greenhouse gases) and the Stockholm Convention (to reduce POPs). Environmental concerns united political entities with shared interests and encouraged the establishment of regional cooperation. This is what happened in the world’s and Europe’s north, where common environmental concerns provoked the establishment of the AEPS/AC cooperation (e.g., Koivurova 2011, Keskitalo 2004, AEPS 1991). Long-range pollution was the focus of the North’s environmental problems at the beginning of the Arctic cooperation, but climate change became the focal point of environmental aspects (Koivurova and Hasanat 2009). Parallel to the pan-Arctic cooperation, a new intergovernmental cooperation was created in Europe’s north: The Barents Cooperation (see chapter 3.3). The main actors in intergovernmental bodies are typically nation states, which are legally the only actors allowed to conclude international treaties. The Vienna Convention on the Law of Treaties defines a treaty as “an international agreement concluded between states in written form and governed by international law" (UN 1969, Art. 2.(a)). However, numerous institutions for decision making already exist within the UN and its bodies. The aim of these new Arctic or Barents intergovernmental bodies was to increase

cooperation and not to establishment new legal entities. As a consequence they were shaped as soft-law bodies rather than decision making bodies. The outcomes of soft-law bodies are often guidelines, declarations, memoranda of understanding, or defining codes, rather than legally binding agreements or treaties. However, soft-law bodies may establish customary law, which eventually may translate into legally binding agreements (Picciotto 2007, Hasanat 2007). Thus they can be seen as decision-shaping bodies rather than decision making. This, however, offered the advantage that non-state actors could become more profoundly involved.

Integration of non-state actors is what makes these bodies interesting from the viewpoint of political security. Political security is concerned with the organizational stability of social orders (Buzan et al. 1998), and one of the most important aspects is that "people should be able to live in a society that honors their basic human rights" (UNDP 1994: 32). The aforementioned cooperations are good examples. Honoring human rights also includes protecting people from state repression. Given that the circumpolar North has a history of internal colonialism, indigenous peoples' representatives taking part in regional cooperations is a valuable step toward increasing political security. The Barents Cooperation and the AC were among the first international institutions where indigenous peoples' representatives gained a strong voice (Koivurova and Hasanat 2009). For example, in the AC, indigenous peoples' organizations (IPOs) have the status of *permanent participants*.[17] "Even though final decisions are made by the Arctic states in

17 The indigenous peoples of the Arctic are being represented by 6 Indigenous Peoples Organizations in the Arctic Council: Aleut International Association (AIA), Arctic Athabaskan Council (AAC), Gwich'in Council International (GCI), Inuit Circumpolar Council (ICC), Russian Association of Indigenous Peoples of the North (RAIPON), Saami

consensus, the permanent participants must, according to the [founding] Declaration, be fully consulted, which is close to a *de facto* power of veto should they all reject a particular proposal" (Koivurova and Heinämäki 2006: 104). IPOs' place at the table with high state officials of the northern countries has been hailed as a comparatively new concept in international cooperation (e.g., Hasanat 2007).

While IPOs and indigenous peoples' representatives are well integrated within the Barents Cooperation and the AC, they have relatively little autonomy. Indigenous peoples' land rights remain unresolved in many Arctic countries, and the ILO Convention 169, which grants indigenous peoples more decision-making rights over their traditional lands, has not been ratified in most Arctic states. Their power to influence decision-making processes remains limited in the "mosaic" of Arctic governance (Young 2005). The central governments of the Barents states push for large-scale natural resource extraction within the Barents Region. Yet natural resource extraction and other major development projects are one of the most significant sources of abuse of the rights of indigenous peoples (Anaya 2011: para 82). As a result, the *Action Plan for Indigenous Peoples in the Barents Euro-Arctic Region 2009–2012* of the Barents Cooperation's Working Group of Indigenous Peoples criticizes the lack of involvement of local inhabitants. The Action Plan argues that "present increased selection of resources does not necessarily lead to development of the local

Council (SC). While decisions in the Arctic Council can only be made my the members, which are the 8 Arctic states, the permanent participants may participate in all meetings and shall be consulted before any decision is made (Arctic Council 2013b). In this position IPOs have more political weight than other, non-Arctic nation states, which can only take part in the Council as (permanent) observers.

communities and indigenous peoples' communities, but rather to problems of industrial, environmental and social kind" (WGIP 2009: 13). As Strauss (2012) points out, non-indigenous communities in the North also struggle to influence decision-making processes in regard to large-scale natural resource extraction. It is important to include potential stakeholders from the planning phase onward, since large-scale projects can have socioeconomic impacts even during the planning or citing phases. Strauss argues that as soon as the discussion about prospective projects starts within a community, it may influence the decisions for future development of other stakeholders as well. For example, entrepreneurs in a tourist sector may alter their choice of where to establish their business based on potential industrial sites and so negatively affect a community where a large-scale project is discussed, even if it is not built (ibid.).

4.5. Summary

Global changes, such as climate change, affect the Barents Region as much as local changes, such as industrialization or integration into the global markets. While governmental policies focus on the development of economic activities, these often benefit only a small number of people and tend to favor urban settings. Nevertheless, traditional activities remain economically important for the rural population, even if these activities are not marketed. Individual and community well-being are not limited to financial wealth; maintaining cultural values and being close to nature are highly appreciated factors. A sound environment not only provides space for

relaxation but also establishes a foundation for a functioning ecosystem that allows the local inhabitants to harvest resources for their needs.

The various elements of security may also contradict each other or spark conflict. Motorization may make traditional activities more convenient, yet increased pollution and costs stress the environment or people with lower incomes. New economic activities, such as tourism or extractive industries, may provide new jobs or infrastructure, but pressure over land use increases while quality of life may be perceived as decreasing. A comprehensive security approach also calls for balanced policies and developments. To maintain and improve community security, it is important that local inhabitants are offered a chance to participate in local decision-making processes.

5. Human security and its interplay with societal security

The traditional security concept focuses on states' survival and so also on collectively securing the society on a national level. In a more comprehensive and non-traditional approach, Wæver et al. (1993: 23) define *societal security* as the "ability of a society to persist in its essential character under changing conditions and possible or actual threats," including the sustainability of "traditional patterns of language, culture, association, and religious and national identity and customs." Most people derive security from being members of groups that share common characteristics, such as language, traditions, customs, or spirituality, and through which they define a common identity that provides them with a "we" feeling (UNDP 1994: 31). Thus, "communities are social constructs based on dynamic relationships between people, and can therefore serve as sites for negotiating community sustainability and viability" (Rasmussen et al. 2014: 429). For such a community definition, it would be confining to delineate the community's borders to correspond with political-administrative boundaries, particularly along the borders of nation states. This is also true for the Barents Region, where many areas are sparsely populated and communities may cover vast areas, regardless of the border of their municipality or nation state. Nonetheless, political-administrative commonalities may provide a "we" feeling. For instance, a reindeer herding community may be spread over different villages but share the grazing land of their jointly managed livestock; its members may simultaneously derive identity from residence in their village, the municipality, and their nationality. All these entities present their own specific challenges. Yet, even

within the smallest scale of the spatial extension of a community, members may experience different sets of challenges due to, for example, different economic foci (such as tourism or fisheries, their gender, or their hobbies). While societal insecurity exists when communities of any kind identify a threat to their survival (Wæver 2008), the survival of a "group can indeed be seen to rest ultimately on the maintenance of collective identity" (Roe 2005: 51). Threats to community viability and sustainability can therefore also be conceptualized as threats to societal security, as different challenges may threaten the survival of different kinds of communities. An approach to societal security needs to be flexible in scope and scale to take into account the complex yet often intertwined challenges that various communities and community members experience (see also Hossain et al. 2017).

5.1. Identity and common values

For most people, personal well-being is connected to their identity, which usually refers to common values within their communities (UNDP, 1994: 31). For many inhabitants of the Barents Region, and particularly for the indigenous population, traditional activities are closely related to culture and communal identity. For example, reindeer husbandry is a typical feature of indigenous cultures in northern Europe (Pennanen 2002). Reindeer husbandry and its related practices are an important cultural marker and a common means of subsistence for many indigenous people in Fennoscandia (Aarsæther et al. 2004: 136). Because their language, cultural artifacts, or spirituality are closely linked to reindeer husbandry, the loss of these

traditions would also affect their common identity (Pennanen and Näkkäläjärvi 2002). However, the identity of non-indigenous residents of the Barents Region, especially in rural areas, is also strongly related to traditional activities, such as hunting or fishing (Keskitalo et al. 2013). As illustrated in case study 3, the respondents find hunting or fishing important to both their individual well-being and their community viability. Similar conclusions can be drawn from coastal communities; for example, a study in the Lofoten (Norway) shows that "self-ascribed and socially-ascribed locally-based identity still holds great merit" and the ability to live from the products the sea provides is an important identity marker (Kristoffersen and Dale 2014: 218). Nonetheless, identities are not fixed and may be renegotiated over time. In the case of the Lofoten, potential future scenarios relating to an economic shift from relying on traditional fisheries to becoming an area of hydrocarbon exploitation may trigger "debates and reflections concerning *who we are, what we do, and what we will become*" (ibid.: 206). The adherence to locally based identity may also influence the position of community members in regard to socioeconomic status within their community. Respondents in the Enontekiö area raised concerns about how the community values will change because the younger generations show a lack of interest in traditional activities. On the other hand, one respondent (age group 20–35) stated that he moved away from Enotekiö for good because the local inhabitants were not open to cultural changes. He felt that someone who is less interested in traditional activities finds it more difficult to be part of the community, even if that person generally gets along well with others there (personal conversation). Respondents in the village of Bugøynes seemed mainly concerned that the loss of the unique

language variant spoken in the village threatens the common identity of the inhabitants, creating anxiety about future common values in the village. In all these cases, members of the older generations (who are more likely to be worried about continuing traditional activities, maintaining their language, or preserving other cultural markers that shape their identity) demonstrate emotional concern that cultural values appear to be threatened. A common identity may be grown organically, but an identity can also be artificially created; for example, as a means to promote a political project. For instance, nationalism can only be the consequence of the creation and promotion of nation states. While there are numerous communities throughout the Barents Region, it is questionable to what extent the Barents Region itself qualifies as an identity-providing entity. The construction of a political region may contribute to establishing a common identity, but Zimmerbauer (2013) points out that in regard to the Barents Region, he sees indications that it is a top-down political project to promote business interests, which may actually hamper the reinforcement of a common identity.

5.2. Challenges to societal security

In the first AHDR, Arsaether et al. define a viable community as “one in which people feel that they can stay as inhabitants for a period of their lives, where they find sources of income and meaningful lives” (2004: 139). A viable community will allow members meaningful lives embedded in the community and culture they were born into and from which they derive their identity (Arsaether et al. 2004). Societal security is threatened when

changing conditions pose a risk for the persistence of the society's essential character (Wæver et al. 1993). Many communities in the Barents Region, and particularly in rural areas, are characterized by their common values and traditional activities from which most members derive their identity. As elaborated in chapter 4, financial wealth is not the only factor that determines well-being. Yet, most policies targeting the development of the Region focus on marketed values and show a lack of sensitivity for local peculiarities (chapter 3). If people perceive that certain challenges within their community may hamper their well-being, such as decreasing possibilities of (marketed or non-marketed) economic opportunities, political repression, or a deteriorating culture, they may feel threatened in their existence and potentially consider leaving their community, since "people migrate in order to improve their quality of life" (Heleniak and Bogoyavlensky 2014: 90). In a worst-case scenario, such people may even commit suicide. Individual well-being is strongly connected to the viability of communities. In other words, societal security is threatened when individuals perceive changes as threats to their well-being or to community viability. The well-being of individuals depends on a functioning community, where key factors include successful resource management, the role of public services and infrastructure (Arsaether et al. 2004), the possibility of participation in policy making, including the provisions for being heard by public administration (Duhaime and Caron 2009), or a set of common values from which most individuals derive their identity (UNDP 1994).

The local population in the Barents Region faces numerous challenges connected to the region's development. In particular, growing industrialization is leaving its mark, challenging the practice of traditional activities. Conflicts over land use and resources pose threats to socioeconomic opportunities, especially related to traditional and non-marketed activities. Environmental degradation also poses threats to societal viability in the Barents Region. If the impacts of new infrastructure or industries jeopardizes the socioeconomic or environmental integrity of the local inhabitants to such an extent that they experience a decline in well-being or lose the possibilities for economic subsistence (for example, due to a lack of public sensitivity to the importance of non-marketed economic activities), the basis for societal security is endangered. Community viability not only depends on local challenges but also relates to outside factors, including demographic changes. This is partly because the survival of a community depends on healthy reproduction, but also because urbanization, globalization, or migration affect local cultures and lifestyles. Population growth is a combination of natural increase or decrease due to fertility or mortality and migration. The trend in the North is that traditional economic activities decrease, while extractive industries continue to attract people from outside the region. This is clear in the Russian Barents, where decades of active extractive industries have led to a substantial share of residents with ancestors from outside the region (Heleniak and Bogoyavlensky 2014). "Newcomers," who often have other skills or higher education than the original population, significantly influence northern communities (Rasmussen et al. 2014) but arrive with a broad set of different cultural traditions. However, people who moved into the North and their

descendants develop a sense of being home in this region, as they acquire an attachment to the place and an identity related to it (Bolotova and Stammler 2010). Eventually, due to population decrease, immigration may also contribute to societal security in the Barents Region. In addition to migration, tourism may influence the language and culture of a region. Language and culture changes can also be observed over different generations. For example, elderly people often speak traditional languages dominantly, while younger generations may grow up bilingual, with the national language as the dominant one (Schweitzer et al. 2010). In the case of Bugøynes, lack of schoolbooks in the local language variant hampers the survival of the local language. In this case, one interviewee emphasized that a lack of public support in maintaining the local language threatens societal integrity (personal conversation). The survival of cultural heritage of northern communities is not only challenged by the influence of national culture but also by global culture, entering the communities through the global entertainment industries (Arsaether et al. 2004), or by the adoption of new technologies for traditional activities. Technological change has the potential to substantially alter the socioeconomic context. For example, the introduction of the snowmobile for reindeer husbandry in Lapland created dependencies to the international markets and increased socio-economic disparities within herding communities. Consequently, less people were able to live from reindeer herding, while the sizes of the reindeer herds increased to remain economically feasible (Helander-Renvall 2008, Pelto 1973). While some reindeer herders claim that these technologies are necessary to make a profit, those who cannot afford the initial costs may be forced to leave the reindeer husbandry business. This means a potential loss of part of

their identity. Some reindeer herders have to leave their communities temporarily in order to earn enough money to aquire a snowmobile and to remain competitive, leading to a "de-localization" (Pelto 1973). Both cultural disruptions and increase of socio-economic disparities challenge the integrity of a community. The utilization of such technologies also levies associated ecological consequences, putting stress on the harvest of other natural resources and threatening the balance of some communities. The "dependence on animals for food and social, cultural, and economic well-being is reflected in rules for community hunting, in herding traditions, and in patterns of sharing and gift-giving based on kinship ties and other forms of close social relatedness" (ACIA 2005: 654). Even as some perceive changes as threats to the well-being of their communities, those same changes may also offer new opportunities that allow traditional values to prevail in an altered form. For example, in the case in Bugøynes fisheries (see case study 1), the main source of income and an important cultural marker was threatened with extinction. Yet the local population found ways to partly compensate for the loss with tourism. Integrating king crab fisheries also makes it possible to combine activities on the sea with new economic ventures, such as tourist safaris and so to continue traditions related to the sea. By maintaining the local economy, it was also possible to preserve the village and to allow the unique local culture, with its Finnish-speaking island in northern Norway, to survive. In this case, societal security could be preserved for a time. As Rasmussen et al. (2014: 462) point out, "a community is viable when it is able to combine outside influences with local cultural and social competence and creativity."

6. Conclusions: A multifaceted security approach for the Arctic region

Over the past decades, the security discourse shifted from a state-centered and militaristic approach to a comprehensive one that considers communities and people as individuals. Nevertheless, the dominating discourse in policies targeting the Barents Region focuses on a development path that both simplifies human development to economic indices and emphasizes national societies' security over the needs of the local communities. Kristoffersen and Dale point out that even if state policies aim to secure the entire population, these processes simultaneously create regional insecurities, in the sense that "national politics aiming at securing the whole (national) population can be seen as opposing locally based security" (Kristoffersen and Dale 2014: 215). Economic wealth, which is often the keystone of northern development policies, is only one aspect that may contribute to human well-being. Human well-being as a whole results from the satisfaction of a complex set of various requirements, such as a sound environment for biophysical and psychological reasons, a vital community, and a government that respects people's needs and listens to the governed. The challenges affecting communities are manifold, including issues from both without and within the region. Community viability is still strongly related to individual well-being. Communities are not defined by political-administrative units *per se* but can be groups of people who built their common identity through shared characteristics, such as language or traditions. Neglecting the interdependencies of the multifaceted challenges to societal security and the multiple levels on which they affect different kinds of communities risks failing to properly address the challenges

confronting the various communities within the Barents Region. When discussing societal security, it is important to use a flexible approach that respects the diversity of challenges to different communities and multiple spatial scales.

For a better representation of the northern local population in decision-making processes, new ways of political participation and thinking are needed. Development policies for the Barents Region should focus less on the states' interests and consider development paths that leave space for the interests and needs of the local communities. This does not mean that future policies should primarily be concerned with preserving the status quo. To the contrary, younger generations have different needs, and global changes require adaptation to new realities. Policies targeting future developments for the Barents Region must, however, be sensitive to the common values of the local communities. Local public administrations could take the lead in mediating between community values and the adaptation processes that are necessary to respond to global changes, as these administrations potentially have the expertise to understand both. It is equally important not to succumb to the pressure of states' or other outside interests or development paths that often lack understanding of the importance of local particularities. A sensitive development in close cooperation with the inhabitants of the local communities is necessary to maintain societal security in the Barents Region. Nevertheless, it is a matter of political will whether policies that respect the cultural diversity and different needs of the various communities are desired or whether the dominating powers in the nation states and global elites will be permitted to decide the fate of the communities in the Barents

Region. The voice of civil society and northern stakeholders needs to be increased in any development path that respects the local interests. Allowing representatives of IPOs to participate in intergovernmental fora is a good first step. Non-indigenous representatives of northern communities still lack adequate participation possibilities, which needs to be addressed. Only by allowing local communities and their inhabitants to take part in decision-making processes will northern individuals and communities become securitizing actors. This in turn provides them with the ability to contribute to defining the agenda for future policies. They could then take their fate in their own hands and be empowered to contribute to a future development that guarantees societal security in the Barents Region.

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Communities can be defined on different scales and levels, such as the subnational, national, transnational, or international levels. Defining societal security along the border of nation states comes short in addressing the particular challenges for individuals and small communities. Within the Barents Region many communities have their particular characteristics and thus distinct set of challenges.

This book introduces episodic and empirical evidence addressing multifaceted aspects of human security in the Barents Region. The book argues that societal security needs to be approached from a flexible and multilevel perspective, to enable meaningful and targeted policies that promote human well-being.

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