Arctic Human Development Report
Arctic Human Development Report
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It gives me great pleasure to present the Arctic Human Development Report (AHDR), initiated at the Foreign Ministers meeting in Inari in the fall of 2002 as part of Iceland’s Chairmanship programme in the Arctic Council.

The report represents the first comprehensive attempt to document and compare systematically the welfare of Arctic residents on a circumpolar basis. Building on the pioneering work of the Arctic Council on environmental issues, it seeks to expand our horizons by spotlighting the social, economic and cultural aspects of the lives of the people in the region. In this way, the Arctic Human Development Report should mark a substantial contribution to the work of the Arctic Council in the area of sustainable development.

From the time of its inception, the Arctic Human Development Report was an ambitious undertaking. Many obstacles, including gaps in knowledge, scarcity of data and the difficulty of coordinating the perspectives of local, regional and national contributors, had to be overcome within a very short period. Through the dedication and hard work of a great many people in the Member States and the Permanent Participants, an impressive milestone has been reached with the publication of the Arctic Human Development Report only two years later.

I would like to thank in particular the Co-Chairs of the Arctic Human Development Report Steering Committee, Professor Oran Young and Mr. Níels Einarsson for their skill and leadership in coordinating this challenging task. Lead authors and contributing authors all deserve to be congratulated on bringing the effort to fruition. Special thanks are due to Dr Joan Nymand Larsen, project manager of the Arctic Human Development Report Secretariat located at the Stefansson Arctic Institute in Akureyri as well as to Ms. Annika Nilsson, the project’s science writer.

At a time when rapid change is sweeping through the North, it is my sincere hope that Member States will find in the Arctic Human Development Report a useful source of information and analysis as they seek to respond to the social, economic and cultural needs of Arctic residents in the coming years. The contents of the report should also pave the way for new research and stimulate general interest in issues of Arctic concern. To complete the picture and address major shortcomings in our knowledge of human conditions in the North, thought must now be given to appropriate follow-up in the framework of the Arctic Council.

In presenting the Arctic Human Development Report, I am keenly aware that the people responsible for the views expressed in the different chapters of the report are, in the first instance, the authors themselves. While mandated by governments, the report reflects neither the joint position of the Arctic Council nor the policies of its Member States. Such a disclaimer in no way detracts from the intrinsic value of the AHDR itself. On the contrary, by distinguishing between research and policy we are able to establish the synergy required for governments and the wider academic and research communities to work together in a purposeful manner. For it is only on the basis of an improved understanding of our circumstances in the Arctic that we can set about our task of building a better future.

Davíð Oddsson
Minister for Foreign Affairs of Iceland
Chairman of the Arctic Council
This report is an integral part of the evolution of regional cooperation in the Arctic. The idea of carrying out an assessment of the state of human development in the Arctic viewed as a distinct region arose in large part from difficulties experienced in devising a coherent agenda for the Arctic Council’s Sustainable Development Programme. It is our hope that this report will not only make a direct contribution toward eliminating these difficulties but also set in motion ongoing activities that will strengthen the Council’s work on sustainable development in the future.

Interest in joining a clearcut emphasis on sustainable development to the concern for environmental protection goes back to the early days of the Rovaniemi process. But for a number of reasons – political as well as technical – environmental protection became the central theme of the Arctic Environmental Protection Strategy (AEPS), while efforts to address issues of sustainable development lagged behind.

The 1996 Ottawa Declaration on the Establishment of the Arctic Council reemphasized the theme of sustainable development, establishing a Sustainable Development Programme to complement the Environmental Protection Programme inherited from the AEPS. Yet this did not result immediately in a coherent program of activities dealing with sustainable development. Members of the Council adopted divergent approaches to this theme, and it took several years to launch a Sustainable Development Working Group (SDWG) with a mandate to devise a coherent program in this area.

At this stage, the Arctic parliamentarians became involved in the process. The Standing Committee of Parliamentarians of the Arctic Region (SCPAR) assumed a leading role, launching an initiative resulting in a clear emphasis on human development in the Arctic at the Fourth Conference of Parliamentarians of the Arctic Region in 2000 and a specific call for the preparation of an Arctic Human Development Report at the Fifth Conference of Parliamentarians of the Arctic Region in 2002. As members of the SCPAR, Clifford Lincoln and Tomas Ingi Olrich were particularly effective champions of this initiative.

Shortly thereafter, in the ministerial declaration adopted in Inari in October 2002, the Arctic Council approved the preparation of the Arctic Human Development Report (AHDR) as a “priority project” with the goal of developing a “comprehensive knowledge base” for the work of the Sustainable Development Programme. Iceland agreed to provide direction and material support for this work as a part of the 2002-2004 Icelandic chairmanship of the Arctic Council.

In this regard, we are happy to acknowledge the strong and consistent support for our work on the part of Gunnar Pálsson, who has chaired the Senior Arctic Officials, and Hugi Ólafsson, who has headed the SDWG, during the Icelandic chairmanship. We could not have carried out the project mandated in the Inari Declaration without their steady support and wise counsel.

The preparation of the AHDR has gone forward under the supervision of a Report Steering Committee (RSC) including representatives of all the members of the Arctic Council, all the Permanent Participants, and a sizable number of the accredited observers. The two of us have served as co-chairs of the RSC, one (Níels Einarsson) appointed by Iceland, the other (Oran Young) designated by the University of the Arctic. We have been joined in forming a four-member Executive Committee by Ingvild Broch of the University of Tromsø and Rune Fjellheim of the Saami Council.

Joan Nymand Larsen has done an outstanding job as head of the AHDR Secretariat, located at the Stefansson Arctic Institute in Akureyri. We have been fortunate as well to have had the services of Annika Nilsson, a highly experienced science writer and editor who has a number of Arctic projects to her credit.
The result is a document that consists of eleven substantive chapters together with a summary of major findings, an introduction, and a conclusion. The AHDR does not constitute a negotiated document whose content has been agreed to by all those who have worked on it. Each of the substantive chapters has been prepared by one or more lead authors who have benefited in every case from input provided by a number of contributing authors. As co-chairs of the RSC, we have prepared both the introduction and the conclusion.

Each substantive chapter is signed by one or more lead authors who take responsibility for the content of the chapter. Nonetheless, the report is a coherent document. We have structured the chapters to provide an integrated picture of the state of human development in the circumpolar Arctic; we asked all lead authors to use a common template in order to produce substantive chapters that are parallel with regard to the approach they adopt and the topics they cover. At the same time, there is some variation among the chapters. While many provide surveys of well-established fields of study, others (e.g. the chapters on education and gender relations) deal with emerging issue areas and have a more preliminary character.

The preparation of the AHDR has proceeded in a transparent manner. All the chapters have been subjected to peer review at least once and often several times; the acknowledgements list all those who served as peer reviewers. Members of the RSC have also had an opportunity to review and comment on drafts of the individual chapters which have been made available for review on the SDWG website. Of course, this does not guarantee that the materials included in individual chapters are free of errors and questionable interpretations. But we can say with assurance that the report has been thoroughly vetted both by knowledgeable scientists and by representatives of the members of the Arctic Council, the Permanent Participants, and other stakeholders.

Naturally, readers will make their own judgments about the quality of the product and about the usefulness of the AHDR as a knowledge base for the work of the SDWG. For our part, we see the report as an initial step in an ongoing process. It provides a point of departure, a baseline for measuring changes over time and for comparing conditions in the Arctic with those prevailing elsewhere.

The report articulates a number of policy-relevant conclusions, lifts out success stories relating to human development in the Arctic, and identifies gaps in knowledge needing attention in the future. Ideally, the SDWG should revisit many of the topics addressed in the AHDR at regular intervals. This would provide the basis for tracking trends in human development in the Arctic and evaluating the performance of policies designed to address issues of human development from a regional perspective. Additionally, the SDWG may wish to consider launching new efforts to improve our understanding of matters that are not well understood at this time.

Niels Einarssson and Oran R. Young
Co-chairs, AHDR RSC
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Thanks are also due to members of the Report Steering Committee, members of the Sustainable Development Working Group of the Arctic Council, the Icelandic Arctic Council Secretariat, Senior Arctic Officials, and others, who provided valuable comments on the AHDR.

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The goal of the Arctic Human Development Report (AHDR), mandated in the 2002 Inari Declaration, is to provide “… a comprehensive knowledge base for the Arctic Council’s Sustainable Development Programme.” This report provides a scientific assessment that fulfills this goal. To this end, the report deals with five major topics: (i) policy-relevant conclusions, (ii) success stories, (iii) gaps in knowledge, (iv) regional perspectives on human development and (v) follow up activities.

**Policy-relevant conclusions**

The AHDR covers a wide range of topics grouped into two broad categories: *basic systems*, encompassing Arctic demography, Arctic societies and cultures, Arctic economic systems, Arctic political systems, and Arctic legal systems and *crosscutting themes*, including resource governance in the Arctic, Arctic community viability, human health in the Arctic, Arctic education, gender relations in the Arctic, and Arctic international relations.

The report contains a large number of policy-relevant conclusions. But two broad propositions stand out:

- Arctic societies have a well-deserved reputation for resilience in the face of change. But today they are facing an unprecedented combination of rapid and stressful changes involving environmental processes (e.g. the impacts of climate change), cultural developments (e.g. the erosion of indigenous languages), economic changes (e.g. the emergence of narrowly based mixed economies), industrial developments (e.g. the growing role of multinational corporations engaged in the extraction of natural resources), and political changes (e.g. the devolution of political authority).
- The issues that dominate the Arctic agenda today typically involve institutional issues or matters of governance. These concerns arise at the local level (e.g. creating co-management regimes), the regional level (e.g. resolving frictions between public governments and indigenous peoples organizations, finding ways for county, state, and territorial governments to generate needed revenues), and the circumpolar level (e.g. sorting out relations between the Arctic Council and the Northern Forum).

**Arctic success stories**

There is no denying the existence of serious social problems in many parts of the Arctic. Yet it would be wrong to convey a sense of gloom and doom in addressing human development in this region. The problems are accompanied by genuine success stories, including the ability of Arctic peoples to retain a clear sense of cultural identity under considerable pressure, the effective use of advanced technologies in areas like telemedicine and the delivery of education, and the creation and refinement of innovative political and legal arrangements that are responsive to the needs of a range of stakeholders.

The important thing in this context is to strike a proper balance, recognizing the problems but at the same time celebrating the successes.

**Gaps in knowledge**

The AHDR is a scientific assessment. Its goal is to take stock of and synthesize all available knowledge pertaining to human development in the Arctic; it is not a report on the findings of new research.

In the process, the report has identified major gaps in knowledge that require attention in the near future in order to provide a firm basis for the development of the Sustainable Development Programme. Specifically, the report calls for a concerted effort to address the following topics:
Regional perspectives on human development

Tools like the UN’s Human Development Index (HDI) have become more sophisticated in recent years. There is no doubt, for instance, that the HDI, which includes measures of longevity and education levels as well as GDP per capita, is a far better measure of human development than GDP per capita alone.

Yet there is a need for measures of human development that are better suited to the conditions prevailing in a region like the Arctic. Partly, this is a matter of adjusting for regional conditions. School enrollments, for example, may not be a good measure of education in societies where subsistence hunting and gathering remain important and knowledge is passed on from one generation to another through experiential learning.

In part, it is a matter of identifying additional aspects of human development that are widely regarded as critical in a particular region. In the Arctic, human development is closely associated with:

- **Fate control** – guiding one’s own destiny,
- **Cultural integrity** – belonging to a viable local culture,
- **Contact with nature** – interacting closely with the natural world.

Follow-up activities

The AHDR should be viewed as part of a process rather than an end in itself. A number of specific steps can and should be taken to follow up on this initial effort:

- **Dissemination, education and outreach** – The AHDR should be translated into other languages (e.g. Russian) and made available electronically to students and other interested parties,
- **Monitoring** – the SDWG should organize a workshop to devise a small number of indicators to be used in monitoring or tracking changes in human development in the Arctic over time,
- **Gaps in knowledge** – the SDWG should organize an off-the-record, brainstorming workshop to set priorities and identify procedures for addressing the gaps in knowledge identified in the AHDR,
- **International Polar Year planning** – Those involved in the IPY planning process should make use of the AHDR in developing an agenda for human dimensions research,
- **Arctic Human Development posters and pamphlet** – It would be helpful to encapsulate some of the main messages of the AHDR in a set of posters and a pamphlet for use in a variety of public settings.
In its ministerial declaration adopted in Inari, Finland in the fall of 2002, the Arctic Council called for the production of an Arctic Human Development Report (AHDR) to initiate the process of developing “... a comprehensive knowledge base for the Arctic Council’s Sustainable Development Programme.” Originating in discussions in the Standing Committee of Parliamentarians of the Arctic Region and evolving during the course of meetings of the parliamentarians in Rovaniemi, Finland in 2000 and in Tromsø, Norway in 2002, the proposal to produce an AHDR met with a positive reception in the Arctic Council. During the 2002 ministerial meeting, Iceland made a commitment to the completion of the report as a matter of priority during the 2002-2004 Icelandic chairmanship of the Council. This book fulfills that pledge.

This introductory chapter presents the rationale behind the project in more detail and some of the choices made in the process of producing the report. It also provides some general background about the Arctic as it relates to human development in the region.

The Arctic Human Development Report

**Rationale and purpose**

The rationale for treating the Arctic Human Development Report (AHDR) as a priority includes a number of distinct elements:

- The AHDR will offer an accessible overview of the state of human development in the Arctic that can serve as a point of departure for assessing progress in the future.
- The report will identify critical gaps in knowledge that require attention on the part of the scientific community.
- The AHDR will provide a framework and help to establish priorities for the activities of the Sustainable Development Working Group.
- More generally, the AHDR will shed light on the concept of human development itself, highlighting dimensions of human well-being that are not prominent in mainstream discussions of this topic.

The individual chapters of the AHDR not only identify problems, they also lift out success stories that can be studied and possibly adapted by policymakers and people throughout the region. The Arctic is not the place of unmitigated gloom and doom, ridden with pollution, social problems, and depression that popular accounts often portray. We need a much more nuanced picture of life in the Arctic – the kind that ordinary inhabitants themselves possess. It should reflect an awareness of the realities of successes and failures of people and communities in coping with changes and striving to maintain lifestyles, traditions, identities, and culturally constructed meaning.

Social scientists have played a prominent role in the making of this book. This is testimony to the fact that the Earth has entered an era in which major changes in the global biosphere and global society result from human actions and the operations of social institutions. The Arctic is strongly affected by rapid social as well as natural changes, and we need to know what adaptive mechanisms societies and cultures in the North have at hand, how they are likely to react, and how these reactions will play out. To understand the effects and adaptations of Arctic societies and their welfare, we can use the tools of modern social science. These tools can help us to comprehend these societies and how they interact with outside threats and opportunities.
The concept of interaction is crucial, as human societies are not impacted as dead matter but react creatively within social and cultural structures that guide actions and adaptations of individual actors.

Given the tight schedule imposed on this project and the limited resources available, the AHDR can make no claim to be comprehensive, encyclopedic, or all-encompassing. The purpose of this book is to identify and provide policy relevant insights on key issues, themes, and trends that are of high importance and immediate concern to individual livelihoods and the welfare of people and societies in the circumpolar region.

**What is human development?**

Human development has emerged in recent years as an important concept among those seeking an alternative to Gross Domestic Product (GDP) per capita as a measure of human well-being or the quality of life. But what is the nature of human development in the Arctic and how should we go about measuring it? This question emerged as a key issue for the authors of the Arctic Human Development Report.

**The Human Development Index and its limitations**

The United Nations Development Programme has devised and made good use of a Human Development Index (HDI) that integrates three distinct factors: (1) a long and healthy life measured in terms of life expectancy at birth, (2) education treated as a combination of adult literacy and school enrollments, and (3) a decent standard of living construed as GDP per capita. Simple as it is, calculations of the HDI over a number of years have shown how a broader measure of human development diverges significantly from GDP per capita beyond a relatively modest income level. This is a finding of obvious importance. In an era in which escalating levels of material consumption constitute a major source of large-scale environmental problems, the realization that human well-being does not correlate with GDP per capita beyond a certain point is both critical and encouraging.

Nevertheless, the AHDR Report Steering Committee decided at its first meeting not to attempt to compute a regional HDI for the Arctic. Partly, this was because of the lack of regional data. As the analysis in Chapter 2, Arctic Demography makes clear, we have encountered problems even in identifying the Arctic's residents with precision. But also, the decision reflects a desire to address human development in broader terms, taking into account a range of factors not represented in the HDI.

The residents of many Arctic communities would not receive outstanding HDI scores (1). Yet humans residing in the Arctic do not generally see themselves as lagging behind in terms of human development or deficient with regard to some broader conception of human well-being. Clearly, there are social problems in the circumpolar North; the chapters of this report discuss a number of them along with strategies that have been devised to cope with them. But this does not mean that Arctic lifestyles, cultures, or social institutions are inferior to those in communities that rank higher in terms of HDI scores.

This suggests the value of enquiring into dimensions of human development that are not included in the HDI and asking about their relevance to the Arctic. Many Arctic residents – especially those who are indigenous to the region or long-term residents – associate a good life with the maintenance of traditional hunting, gathering, and herding practices. Yet it is difficult to use indicators like GDP per capita to measure the health of subsistence systems or mixed economies more generally. For many, well-being is to be found in a way of life that minimizes the need for the sorts of material goods and services included in calculations of GDP per capita.

Education raises similar concerns. Many Arctic residents have a highly sophisticated grasp of matters important to their well-being. But their knowledge often does not translate into high scores in terms of adult literacy and gross school enrollments.

Even the weight given to life expectancy at birth can be discussed in this setting. No doubt, living a long life is desirable. But what if one were offered a choice between a shorter life deeply rooted in traditional values and cultural practices and a longer life spent trying to adjust to the loss of a highly-valued lifestyle? Evidence from the Arctic makes it clear that longevity by itself is not a paramount goal.

Turning our enquiry around, we can identify several important aspects of human development that are not well represented in the HDI. Most Arctic residents value fate control or the ability to determine their own destinies. Highly
valued also is cultural continuity in the sense of nurturing traditional values and ways of life, even while embracing some of the obvious benefits of modernization. Close relationships with the natural world together with a sense of belonging to the land (and the sea) are important as well. Many of the Arctic’s residents would not want to exchange this way of life for the lifestyles of residents of southern metropolises, even though such a life may offer higher standards of living in material terms.

Anyone who has worked extensively in the Arctic is also acutely aware of the differences among individual communities in the region in terms of social welfare and community viability. It is not uncommon to find radically different conditions prevailing in communities that are located in the same area and that resemble each other in terms of a range of demographic, economic, and social factors. As a result, we found it particularly important to identify success stories relating to the achievements of individuals and specific communities in the Arctic.

Considering these issues, the Report Steering Committee concluded not only that computing a regional HDI for the Arctic would not be feasible but also that it should not be the principal objective of this effort. Instead, the AHDR seeks to identify characteristics of human development that are informative in their own right and that can pave the way for collecting data that can be used in devising indicators that illuminate the special features of life in the Arctic. Examples are efforts to capture economic rents associated with the extraction of natural resources or the devolution of authority to regional and even local decision-makers. Similarly, the report addresses measures designed to empower men and women in a rapidly changing social environment that is calling into question some traditional gender roles.

In the process, we hope to broaden and deepen the vision of human development implicit in the HDI. Our purpose is not to undermine the HDI; it has served its purpose well as a supplement to indicators based exclusively on economic measures like GDP per capita. But if we succeed, the AHDR will both identify issues that need to be addressed by policymakers concerned with the quality of life in the Arctic and contribute to a richer conception of human development that will prove useful in assessing the quality of life in other regions of the world.

The Arctic region

Defining the Arctic

There is nothing intuitively obvious about the idea of treating the Arctic as a distinct region. Unlike more familiar regions, such as Southeast Asia, the Middle East, or South America, the Arctic consists largely of segments of nation states whose political centers of gravity lie, for the most part, far to the south (2). This observation presents us with the problem of determining what specific parts of these states to include in a region designated as the Arctic or the circum-polar North.

Even more troublesome is the fact that this effort requires the application of different geopolitical conventions in individual sectors of the region. In the Canadian Arctic, for instance, it seems reasonable to adopt 60°N as the southern boundary of the region, a convention that separates the three northern territories from the southern provinces (3). Yet applying the same convention to Fennoscandia would demarcate a region running as far south as Oslo and Helsinki, an outcome that makes little sense to those who think about Arctic issues in the Nordic countries.

Of course, it is possible to resort to the use of biophysical criteria to determine the extent of the Arctic as a region. But aside from the fact that this approach has little to recommend it in cultural, economic, or political terms, it also fails to produce a clear cut result.

In practical terms, we have concluded that there is much to be said for bounding the Arctic in a manner that is broadly compatible with studies of other Arctic issues rather than adopting yet another approach to determining the extent of the region. For this reason, the AHDR takes as its point of departure the region that the Arctic Monitoring and Assessment Programme covers in its 1997 and 2002 reports (4-5). For reasons having to do mainly with the location of jurisdictional or administrative boundaries and the availability of data, however, the area covered by this report differs from the AMAP Arctic in some respects.

Thus, the AHDR Arctic encompasses all of Alaska, Canada North of 60°N together with northern Quebec and Labrador, all of Greenland, the Faroe Islands, and Iceland, and the northernmost counties of Norway, Sweden and Finland. The situation in Russia is harder to describe in simple terms. The area included, as
demarcated by our demographers, encompasses the Murmansk Oblast, the Nenets, Yamalo-Nenets, Taimyr, and Chukotka autonomous okrugs, Vorkuta City in the Komi Republic, Norilsk and Igsrka in Krasnoyarsky Kray, and those parts of the Sakha Republic whose boundaries lie closest to the Arctic Circle.

This, then, is the AHDR Arctic. It encompasses an area of over 40 million square kilometers or about 8% of the surface of the Earth, a sizable domain by any standards (4, 6). But the human residents of this vast area number only about 4 million, of whom almost half are located within the Russian Federation (4).

Unless otherwise stated, we use the AHDR Arctic as our domain of interest. Nonetheless, the lead authors of some chapters have found it necessary to deviate from these boundaries in addressing certain topics. In these cases, we have asked the authors to indicate clearly where these differences lie.

Arctic cooperation: a context for this report

A number of writers have questioned the appropriateness of treating the Arctic as a region at all. They point to striking differences in the history of the Arctic and the roles the Arctic has played in North America, Fennoscandia, and Russia. To them, the idea of the Arctic as a coherent region with a policy agenda of its own is little more than an artificial construct that requires serious manipulation of the facts to seem credible (7). Although it is understandable in some respects, this critique is falling increasingly on deaf ears among both those who live in the Arctic and others who think about Arctic issues today. More and more, the Arctic has emerged as a distinct region in public policy discussions (8-12).

During the Cold War, the Arctic loomed as a region of confrontation, if it merited treatment
as a region at all. Yet today, the circumpolar North has become an arena for launching cooperative activities featuring not only interstate agreements but also innovative transnational initiatives on the part of subnational units of government and a variety of non-state actors (11-12).

At the interstate level, the most important joint initiatives include the Arctic Environmental Protection Strategy (AEPS) established in 1991 and its successor, the Arctic Council, founded in 1996. The agenda of this cooperation has grown from an initial focus on environmental protection to a broader emphasis on sustainable development. Moreover, the Arctic Council has introduced innovative procedures granting indigenous peoples organizations the status of permanent participants and allowing them to participate fully in its work. Although its authority is limited, the Council has played a part of considerable significance both in framing a policy agenda for the Arctic and in amplifying the voice of the Arctic in global settings.

The Council has assumed a proactive role in sponsoring scientific assessments regarding pollution, flora and fauna, and climate change and variability. The Arctic Human Development Report is an assessment prepared under the auspices of the Arctic Council’s Sustainable Development Working Group.

The Arctic has also become an arena for efforts on the part of lower levels of government to form transnational associations. The most striking example of this phenomenon is the Northern Forum, founded officially in 1991 and evolving over time in parallel with the AEPS/Arctic Council. The years since the founding of the AEPS/Arctic Council and the Northern Forum have witnessed also a remarkable growth in the number and variety of non-governmental organizations focused on Arctic issues. Among the most important of these are
The Permanent Participants and the AHDR
A unique and innovative feature of the Arctic Council is the role it accords to the Permanent Participants. Although they are not treated as formal members, the indigenous peoples organizations representing the six Permanent Participants are engaged in all activities of the Council on a basis of de facto equality. Representatives of all the Permanent Participants sit on the AHDR’s Report Steering Committee; one of the members of the Executive Committee is indigenous. The Permanent Participants have taken an active interest in the preparation of the AHDR and made many contributions to the quality of the product. While the report is not in any way a negotiated document, the concerns of the indigenous stakeholders of the Arctic are clearly reflected in the substantive chapters of this assessment.

Global connections
Given the fact that the Arctic is still emerging as an accepted region in world affairs, it is tempting to focus on efforts to delineate Arctic-specific issues and, in the process, to ignore or downplay links between the Arctic and the outside world. Such an approach would be misleading. The Arctic is affected increasingly by outside developments and the region has also played a role in shaping the course of world affairs.

Roughly, these links can be categorized under the headings of global environmental change and globalization or global social change. The environmental links between the Arctic and the outside world are emerging with greater and greater clarity. Impacts of climate change, for example, are already observable in the Arctic. It is accepted now that there is a critical need to improve our understanding of regional processes and that the high latitudes of the northern hemisphere constitute a critical region both as a generator of global processes and as an area in which the effects of climate change are likely to be particularly severe.

Globalization, too, has affected the Arctic in a number of ways. The volatility of world markets for raw materials (e.g. oil and gas) has intensified preexisting forces giving rise to rapid socioeconomic changes – often called boom-bust cycles – in many Arctic communities. The narrow economic base of most Arctic communities has made them vulnerable to actions (e.g. bans...
on the import or sale of seal products, sudden changes in the rules governing uses of whales and other marine mammals on the part of outsiders who may not understand the impacts of their actions on northern communities. More positively, Arctic indigenous peoples have become leaders in the global struggle to secure the rights of indigenous peoples.

A scientific assessment
The AHDR constitutes an assessment rather than a report intended to present original research. In this, it resembles the reports of the Arctic Monitoring and Assessment Programme and the Arctic Climate Impact Assessment. The essential goal is to identify and synthesize existing knowledge in the interests of presenting an integrated picture of human development in the Arctic, including similarities and differences between the Arctic and other parts of the countries whose northern areas make up the Arctic. The practice of scientific assessment has become relatively familiar in the natural sciences during the past 20 years. But there is no parallel tradition of conducting scientific assessments in the social sciences. Accordingly, we envision the AHDR as a contribution to the rise of scientific assessment in the social sciences in general, as well as a contribution to the work for the Arctic Council’s Sustainable Development Working Group.

Scope and structure of the report
The AHDR is broad in scope. The topics covered range from straightforward issues of demography, through more or less familiar socio-cultural, economic, political, and legal concerns, to emerging issues of health, education, and gender roles. In each chapter, the lead authors have undertaken to single out the most important themes and trends rather than attempting to address all matters of interest pertaining to that topic. Specifically, the instructions given to the lead authors requested that they single out the 3-5 most important trends in an issue area, compare and contrast conditions regarding these matters in the Arctic with parallel conditions in the southern reaches of the Arctic states, comment on variations from one section of the Arctic to another with respect to these concerns, and identify important issues where there is a need for improving our understanding to provide a basis for making public choices in the future.

Native? Aboriginal? Indigenous?
Aside from language differences, Arctic countries have different words to designate the peoples who were already established at the time of European tradition came to the North. In Alaska, “Native” is the most common designation. In Canada, the constitution defines the term “aboriginal peoples of Canada” to include “the Indian, Inuit and Métis peoples of Canada.” But while the Constitution of Canada uses the term “Indians”, Indian people themselves increasingly prefer the term First Nations. Soviet, and then Russian, legislation distinguishes between “indigenous numerically-small peoples”, less than 50,000 strong, and other non-Russian peoples – e.g., in the Arctic, the Sakha and the Komi – who, by virtue of their numbers, are denied indigenous status. The AHDR uses the term “indigenous” in recognition of the need to find a common terminology that transcends a particular people or peoples. We note as well that many Arctic residents are of mixed heritage. The rules regarding who qualifies as indigenous vary from one part of the Arctic to another. But it is fair to say that a sizable proportion of those living in the Arctic today have both indigenous and non-indigenous roots. A map of the indigenous peoples of the Arctic is provided in Chapter 3. Societies and Cultures: Change and Persistence.

The report is structured with these ends in mind. Chapter 2. Arctic Demography addresses a range of demographic issues arising from the treatment of the Arctic as a distinct region, including population growth rates, the balance between indigenous peoples and other residents, and rates of in- and out-migration in the North. Together with this chapter, it provides a point of departure for examining a range of aspects of human development in the Arctic.

The second section includes four chapters addressing the basic systems of the circumpolar North: socio-cultural systems (Chapter 3), economic systems (Chapter 4), political systems (Chapter 5), and legal systems (Chapter 6). The goals are to monitor trends over time in a set of basic systems, to contrast systems prevailing in the Arctic with those more typical of the outside world, and to compare recent developments occurring in various sectors of the Arctic itself. More specifically, these chapters address issues like the retention of culture in the face of rapid social change, the rise of mixed economies in remote Arctic communities, initiatives designed to secure the rights of indigenous peoples to self-determination without eroding the rights of others, and shifting approaches to property and property rights in the Arctic.

The third section of the report contains a series of chapters focusing on themes that are crosscutting in the sense that they relate to all the basic systems considered in the previous section. Specifically, these chapters focus on managing harvests of renewable resources (Chapter 7), community viability (Chapter 8),
human health (Chapter 9), education (Chapter 10), gender issues (Chapter 11), and international relations (Chapter 12). To take a single example, the discussion of managing the harvest of renewable resources touches on enduring cultural practices dealing with consumptive uses of animals, the significance of the informal economy, the creation of co-management regimes, and the legal bases for creating unconventional but innovative resource regimes. The result is a set of accounts of cutting-edge concerns that go to the heart of sustainable development in the circumpolar North.

**Policy-relevant conclusions**

The AHDR closes with a chapter that highlights policy-relevant conclusions arising from the analyses presented in the previous chapters. The aim is to draw attention to policy-relevant findings rather than to advocate the adoption of specific policies. There are cases in which the pursuit of this goal necessitates walking a fine line. Ignoring the identification of policy-relevant conclusions, however, would be incompatible with the terms of reference for the preparation of this report articulated in the 2002 Inari Declaration. The AHDR will succeed to the extent that it proves helpful to the activities of the Arctic Council’s Sustainable Development Working Group.

**Arctic visions and interests**

Before turning to the substance of the report, we pause to reflect on the general perspectives that stakeholders bring to a consideration of human development in the Arctic. Those wanting to plunge directly into the main concerns of this assessment may want to skip this section. But others will find it helpful, providing a broader context for the AHDR accounts of conditions prevailing in the Arctic.

It is tempting to assume that we can characterize a region like the Arctic in objective terms that will somehow capture the perspectives of all those who are active in the area as well as those who are interested in the region even though they are not players in the Arctic in any direct sense. But efforts of this sort are doomed to failure. There are many visions of the Arctic, and the appeal of individual visions varies as a function of the vantage points and interests of individual actors. Thomas Berger’s familiar phrase “Northern Frontier, Northern Homeland,” for instance, captures the distinction between those who see the circumpolar Arctic as a storehouse of natural resources of interest to industrialized societies to the south and those who reside in the Arctic and see themselves as the current representatives of peoples who have lived in the region.

Important as it is, this dichotomy does not do justice to the range of Arctic visions that have framed northern issues and shaped the interests of individuals and stakeholder groups during the course of modern history (15). Many of the visions have given rise to distinct mindsets. Because these mindsets tend to spawn dramatically different and sometimes conflicting approaches to Arctic issues of public importance, they provide an important backdrop for the Arctic Human Development Report.

**Homeland**

First and, in our view, foremost, is the idea of the Arctic as a homeland for a diverse group of indigenous peoples ranging from the Inuit and Athabascans of the North American Arctic through the Saami of Fennoscandia and the Kola Peninsula and on to the small-numbered peoples of the Russian North and Arctic. They are the descendents of peoples who followed the retreating icecap in Europe, spread out over northern Siberia and the Russian Far East, and crossed the Bering Strait some 4,000 years ago or more. They have found ways to live comfort-
ably in the Arctic and to respond in a flexible manner to the biophysical fluctuations in the region. Throughout much of the past, groups like the Inuit of the North American Arctic and the Nenets of Northwestern Siberia have led a relatively self-contained existence, a condition that accounts for their common practice of using terms that mean “the people” to refer to themselves and “the land” to characterize the areas in which they live.

In more recent times – ranging from the end of the 10th century for the Greenlandic Inuit as a result of Icelandic Norse passages and settlement (16-17), to the middle of the 18th century for the Aleuts residing in the Bering Sea region, and on to the early 20th century for the Inuit of the High Arctic in Canada – the Arctic’s indigenous peoples have come into contact with a variety of outsiders. Over the past fifty years, these contacts have precipitated a cascade of rapid and accelerating social changes among the Arctic’s indigenous residents.

Today, the indigenous peoples of the Arctic constitute only a fraction of the region’s permanent human residents (though they are the majority in some subregions). Under these circumstances, a major issue facing those responsible for making decisions about the Arctic is the clarification of the rights of the region’s indigenous peoples, including not only human and political rights but also the rights to the land and natural resources of those who have never relinquished their aboriginal rights despite the absorption of their homelands into the jurisdictions of modern nation states. Struggles centered in one way or another on claims and counterclaims relating to indigenous rights now constitute a major feature of the Arctic’s political and legal landscape. For more detail, see Chapter 5. Political Systems and Chapter 6. Legal Systems.

**Land of discovery**

From a European perspective, the Arctic has long loomed large as a land of discovery (18). Starting in the 16th century and accelerating well into the 19th century, Europeans, ignoring or denying the presence of the region’s indigenous peoples and driven by a desire to open up a Northwest Passage or a Northeast Passage to the Orient, strove to explore the far reaches of the Arctic and to assert jurisdictional claims to various parts of the region on behalf of their countries of origin. The intensity of this vision waxed and waned with seemingly unrelated circumstances, like the existence of a surplus of naval officers in Great Britain in the aftermath of the Napoleonic Wars and the culture of chivalry that fueled the search for the lost Franklin Expedition during the middle decades of the 19th century (19). Today, most of the Arctic is well mapped and firmly allocated in jurisdictional terms to the eight Arctic states, a fact that suggests that this vision of the region is no longer relevant. But we should avoid jumping to such a conclusion prematurely. There are major unknowns regarding the undersea topography of the Arctic Basin, a situation whose importance is growing with the onset of climate change in the region. Moreover, many outsiders persist in viewing the Arctic region as a land of discovery or a wilderness mostly devoid of permanent human residents. Such perspectives make it hard for decision-makers to come to terms with the real concerns (e.g. establishing the rights of indigenous peoples, protecting the region’s environment) that dominate the Arctic policy agenda today.

**Magnet for cultural emissaries**

As in other parts of the world, Christian missionaries arrived in the Arctic on the heels of explorers. In fact, the region soon became an arena for competition among a wide range of Christian sects, including Roman Catholics, Russian Orthodox, Anglicans/Episcopalians, Lutherans, Moravians, Presbyterians, and Quakers, to name but some. The most determined efforts of the missionaries produced in many areas some form of syncretism rather than a complete conversion to one variety of Christianity or another. See also Chapter 3. Societies and Cultures. Change and Persistence. Today, the era of Christian missionaries is largely over in the Arctic. Nonetheless, the legacy of this experience lives on in many quarters, and the impact of western culture, ranging from dietary habits through recreational activities and on to popular music, is pervasive. In many cases, this cultural impact on the Arctic encompasses unintended side effects from activities carried out with little or no concern for these extraneous effects. But the consequences are no less pervasive and powerful. At present, efforts to come to terms with the impacts of the missionaries and their successors as emissaries of western culture constitutes an important preoccupation for many of the Arctic’s permanent residents.
**Storehouse of resources**

Starting with the activities of Basque and Dutch whalers in the 16th century, the Arctic has appealed to many as a storehouse of natural resources – both renewable and nonrenewable. This perspective has given rise to a view of the Arctic as a place to be mined for natural resources with relatively little concern for sustainability or the side effects of resource extraction. In earlier times, these practices focused mainly on the exploitation of living resources, as in Russian harvests of sea otters and fur seals starting in the middle of the 18th century, and American and British harvests of great whales during the 19th and early 20th centuries.

During the 20th century, the Arctic emerged as a locus for world-class fisheries as well as a storehouse of nonrenewable resources, including minerals and hydrocarbons. Today, the region is a major source of nickel, lead, zinc, and even diamonds. Perhaps even more important is its role as a relatively secure source of oil and gas. The Prudhoe Bay oil field, identified as commercially significant in 1968, is the largest field in North America. The immense gas fields of Northwest Siberia, as well as the oil and gas potential of the Barents Sea, are critical to the efforts of Russia to mobilize the financial resources needed to engage in international trade. Those who complain about the sizable role that transfer payments from southern governments play in the Arctic economy seldom stop to think about the money flowing south in the form of economic returns and rents arising from the extraction of the Arctic’s raw materials. But as Chapter 4, Economic Systems demonstrates, the southward flow exceeds the northward flow.

**Theater for military operations**

Although the region’s hydrocarbons are important to the operation of advanced industrial societies, those who focus on matters of security have seldom considered the Arctic as a prize in its own right. Nevertheless, the region has emerged from time to time as an important theater of military operations (9). Perhaps the most dramatic case is the role of the Arctic during the Cold War between the Soviet Union and the United States and its allies. Not only did the region encompass the closest point of contact between the superpowers, it also provided attractive conditions for the deployment of nuclear weapons mounted on manned bombers equipped with cruise missiles and nuclear-powered submarines able to operate beneath the region’s sea ice in relative safety (20). With the collapse of the Soviet Union and the end of the Cold War, it would be reasonable to assume that the military perspective would be marginalized, and to some degree this has happened. But it would be a mistake to assume that the idea of the Arctic as a theater of military operations is a thing of the past. The United States continues to deploy strategic weapons systems to forward bases in Alaska and Greenland as well as in the waters of the Arctic. The residue of military operations remains in evidence in many parts of the region. A prominent example involves decommissioned Russian nuclear-powered submarines at rest in the Murmansk Fjord as they await the attention of those with the expertise and technology needed to dismantle them safely. Another example centers on the fate of the American airbase at Thule in northwestern Greenland. See also Chapter 12, Circumpolar International Relations and Geopolitics.

**Environmental linchpin**

The environmental importance of the Earth’s high latitudes and especially the high latitudes of the northern hemisphere has been recognized for a long time. Partly, this is a product of the fact that waterborne and airborne pollutants originating in the mid-latitudes make their way to the Arctic and often remain there for extended periods of time. Information about the accumulation of persistent organic pollutants (POPs) in the Arctic and their impact on human health played a role of some importance in the successful effort to negotiate a multilateral environmental agreement – the 2001 Stockholm Convention designed to curb the production, uncontrolled use, and release of POPs (21). Even more dramatic is the emerging evidence regarding the role of the Arctic in climate change. The impacts of climate change, in such forms as the retreat of sea ice, the erosion of beaches in storm surges, and increased depth of the active layer of permafrost, are now clearly in evidence in the circumpolar North (22). Moreover, climate change in the Arctic may produce feedbacks that serve to accelerate global climate change. The melting of permafrost may change the region from a net sink to a net source of greenhouse gases, and the melting of sea ice will lower the capacity of the Arctic to reflect solar radiation back into space. As a consequence, those interested in the global impacts...
of climate change and variability have begun to pay close attention to the Arctic.

Looking at the Arctic solely as an environmental linchpin does nothing to address the cultural, economic, or political issues of importance to the Arctic’s permanent residents today. If anything, it may distract attention from more immediate regional concerns, such as the decision whether to continue eating traditional but now increasingly contaminated foods. Still, it is undeniable that this vision of the Arctic is on the upswing.

**The scientific Arctic**

The Arctic has long served as a magnet for researchers, ranging from physical scientists interested in glaciers and the Earth’s climate system to cultural anthropologists seeking to reconstruct the peopling of the new world and to understand the cultures of indigenous peoples whose lives are focused on herding or hunting and gathering. Today, awareness of the sophistication of indigenous or traditional ecological knowledge is growing. Efforts are underway to compare and contrast the two approaches to knowledge and to bring both western science and traditional ecological knowledge to bear in efforts to solve concrete problems.

Scientists interested in the Arctic became driving forces behind the International Polar Years in 1882-1883 and 1932-1933 and, to a lesser extent, the International Geophysical Year in 1957-1958. In recent years, the Arctic has loomed large in the work of scientists seeking to understand such matters as climate change, the depletion of stratospheric ozone, and the effects of different pollutants. The focus has been on both global processes and conditions that are specific to the region. Planning is currently well underway to prepare for a new International Polar Year in 2007-2008, in which Arctic concerns will loom large.

**Destination for adventure travelers**

As the planet grows smaller in conceptual terms, regions that appeal to eco-tourists as relatively unspoiled wilderness and to devotees of extreme sports as physical challenges become rarer and take on added value. In some respects, Antarctica with its lack of permanent human residents fits this vision better than the Arctic. While it is difficult and costly to reach Antarctica, however, many parts of the Arctic are readily available to adventurous travelers. It is possible to reach Svalbard as well as many remote locations in the North American Arctic via scheduled commercial air service, for instance.

Of course, the circumpolar North is not a wilderness at all. Most parts of the region have been lived in and used on a regular basis by a variety of indigenous peoples for centuries. Nonetheless, it is possible to travel quite extensively in the Arctic in a manner that allows visitors to retain an image of the region as an unspoiled wilderness area. This vision of the Arctic encourages some visitors to oppose efforts to develop the region’s nonrenewable resources and to espouse measures (e.g. prohibitions on the killing of whales or wolves) that are likely to erode cultural practices important to some of the region’s indigenous peoples and coastal communities (23-24). These side effects seem like acceptable consequences to those adventure travelers who have limited knowledge of Arctic cultures and little understanding of the dynamics of Arctic ecosystems. They wish to sustain their “Arctic,” regardless of the likely impacts of such a position on the interests of other Arctic stakeholders.

**The Arctic of the imagination**

Last but not least is what some have referred to as the Arctic of the imagination. The region has come to occupy an important place in the thinking of many who will never set foot in the Arctic and who lead lives in urban settings that are increasingly divorced from direct contact with nature (25). The Arctic has played a role of considerable significance in fleshing out the concept of the sublime (26). The region has produced a seemingly endless supply of accounts of derring-do – starting with expeditionary reports of Elisha Kent Kane, and the fictional stories of Jack London – that appeal to sedentary urban dwellers. It has even attracted a wide range of advertisers looking for appealing images to be used in promoting specific products.

It may seem at first blush that this vision on the part of outsiders is – or should be - of little or no significance from the point of view of those who live in the Arctic. But it would be a mistake to dismiss this view of the Arctic too quickly. Not only is there an extraordinary demand for images and writings that reinforce the Arctic of the imagination, but those who view the region in this way are easily recruited to causes calling for a cessation of the harvesting of wildlife and, more generally, for the imposition of severe restrictions on human
activities in the Arctic. Given their numbers and their general lack of interest in human welfare in the region, members of this group can and often do support policies that prove disruptive to the interests of the Arctic’s permanent residents as well as to those of a number of other stakeholder groups in the region.

In summary, the Arctic is not a uni-dimensional space. Because they start from different vantage points, Arctic stakeholders frequently talk past one another, often without realizing that they are doing so. A first step in assessing human well-being in this region, then, is to recognize this diversity of perspectives and to grasp its implications for any effort to understand the state of human well-being in the Arctic.

References/Further Reading

1. This is true despite the fact that whole countries like Finland, Iceland, Norway, and Sweden regularly receive high UN HDI scores.
2. The exception is Iceland, the only country that lies wholly within the Arctic.
3. Even in this case, there are complications due to the fact that Nunavik (or northern Quebec) and Labrador extends below 60°N.
4. Arctic Monitoring and Assessment Programme (AMAP), Arctic Pollution Issues: State of the Arctic Environment Report (AMAP, Oslo, 1997).
5. Arctic Monitoring and Assessment Programme (AMAP), Arctic Pollution 2002 (AMAP, Oslo, 2002).
12. O. R. Young, “Arctic Governance: Preparing for the Next Phase” (Background paper prepared for the Fifth Conference of Parliamentarians of the Arctic Region, 2000).
22. These changes are documented fully in the Arctic Climate Impact Assessment, a work in progress under the auspices of the Arctic Council that is scheduled for release during the fall of 2004.
27. F. Griffiths, Ed., Arctic Alternatives: Civility or Militarism in the Circumpolar North (Science for Peace/Samuel Stevens, Toronto, 1992).
Approximately 4 million people live in the Arctic. Some countries are completely located within this region, namely Iceland, Greenland, and the Faroe Islands. Other countries, Russia, Canada, United States, Norway, Sweden, and Finland, have just a small portion of their overall populations residing within their respective Arctic areas.

This chapter describes the different populations in the Arctic by focusing on key demographic characteristics: how many people there are, where they live, fertility, mortality, age and gender composition, and migration. The statistics refer to the population of the Arctic countries as a whole for those countries that are completely within the Arctic. For the other countries, the statistics refer to the geographic areas included in the circumpolar region of the world as defined in Chapter 1. Introduction: Human Development in the Arctic.

### General population characteristics

Despite the fact that the demographic situation is different in various parts of the circumpolar region, there are general population characteristics that make the various Arctic populations closely related to each other and distinctly different from those residing in the more southern areas of their countries, or in other non-circumpolar areas of the northern hemisphere.

Fertility, although decreasing, is generally higher in the Arctic when compared to southern parts of Arctic countries and the Nordic countries in Europe as a whole. Mortality is also higher, and life expectancy, accordingly, is lower.

During the last decade of the 20th century, the inflow of population in all the circumpolar regions has been less than the outflow, resulting in a net loss of population due to migration.

The age structure of the Arctic population differs from that of its more southern counterparts. The most noticeable difference is the relatively high share of the population in the labor-force age group, as well as in younger age groups in some circumpolar regions, and a smaller portion in older age groups. This peculiar feature of the age structure is characteristic of the population in the majority of circumpolar regions and depends on migration flows into and out of these regions.

In the countries where there are data for the indigenous populations, these populations tend to be much younger, with a very high share of their populations under 5 years old (see box on page 29 for definitions of indigenous). Depending on the relative shares of indigenous and non-indigenous populations in each circumpolar region, this factor often has significant impact on the socio-economic conditions of the region. An example is Nunavut, Canada, where 85% of the population is Inuit, and only 15% is non-indigenous. The median age of Inuit in Nunavut is 19 years, old (which means that half the Inuit population is under that age). If one includes the non-indigenous population in Nunavut, the median age rises to only 22 years because of the...
### Some Vital Indices of Arctic Countries (1950–2000)

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* Includes only NWT + Yukon + Nvt.
* Includes only NWT + Yukon + Nvt.
** Note: Life expectancy for males & females are for NWT (including Nunavut) as a proxy for Canada’s Arctic regions.

CBR: Crude birth rate  
CDR: Crude death rate  
TFR: Total fertility rate  
LEx-m: Life expectancy – males  
LEx-f: Life expectancy – females

numerical weight of the Inuit population. By contrast, also in Canada, the Yukon Territory population is 75% non-indigenous and the median age for the total population is 35.8 years, only 2 years younger than for Canada as a whole. Yet its indigenous population has a median age of 28.6 years.

Our inability to obtain data for all the circum-polar countries by indigenous and non-indigenous composition is very likely hiding important demographic distinctions in those countries where such data are not available. Not having such data available may pose serious challenges for the country’s national and regional governments in their planning processes, and subsequently affect outcomes in these regions.
Population dynamics and settlement patterns

There have been major changes in the Arctic population since World War II. This section looks at the number of people in different parts of the Arctic, including how this has changed over time. Later sections focus on the different factors contributing to growth and decline: fertility, mortality and migration.

A peak in population growth

In the 1950s, the population of the entire circumpolar region was increasing. In the case of Greenland, Alaska, and Northern Russia this increase was significant.

In Greenland, the growth was mostly the result of natural increase, while in the other two countries, much of the growth was due to immigration up to the 1990s. Greenland’s population continued to grow in a strong upward trend until the 1970s when it slowed down sharply. In the last decade of the 20th century, growth continued to grow in a strong upward trend up to the 1990s. Even then, however, Greenland’s official statistics identify those individuals born in Greenland and those born outside. As a proxy, people born in Greenland can be viewed as indigenous inhabitants. In the US census, indigenous peoples include American Indians and Alaskan Natives. The Canadian census defines as indigenous the following: Inuit, North American Indians, and Métis.

Indigenous and non-indigenous populations in official statistics

A certain part of the circumpolar population is indigenous to these northern localities. They have been residing here for over a thousand years. Another part of the overall circumpolar population is non-indigenous. These ethnically dissimilar populations differ noticeably in their demographic characteristics and lifestyles, despite considerable rapprochement in recent decades.

Official statistics from several Arctic countries do not identify indigenous peoples specifically, nor do they all identify people of other ethnicities. For example, in the Saami inhabited circumpolar areas of Norway, Sweden, and Finland, ethnicity is not registered in official statistics. Therefore, no demographic indicators are available for them. In Greenland, where the indigenous population – the Inuit – are a majority, the situation is similar, although Greenland’s official statistics identify those individuals born in Greenland and those born outside. As a proxy, people born in Greenland can be viewed as indigenous inhabitants. In the US census, indigenous peoples include American Indians and Alaskan Natives. The Canadian census defines as indigenous the following: Inuit, North American Indians, and Métis.

Indigenous Populations of the Arctic Region

<table>
<thead>
<tr>
<th>Arctic Region or Country</th>
<th>Date</th>
<th>Population (1,000) Total</th>
<th>Indigenous</th>
<th>Share of indigenous (%)</th>
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<tr>
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<td>98 (11.6)*</td>
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<td>Census 2001</td>
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<td>2003</td>
<td>48</td>
<td>NA</td>
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<tr>
<td>Norway: Arctic region</td>
<td>2003</td>
<td>463</td>
<td>50**</td>
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<td>Sweden: Arctic region</td>
<td>2003</td>
<td>254</td>
<td>50**</td>
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<td>~90***</td>
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Notes:
* Just American Indians & Alaska Natives (American Indians & Alaska Natives and some other race)
** Estimate for Nordic Saami (AMAP, 1998)
*** Estimate author (D. Bogoyavlensky, Census 1989 = 77)

The Russian census identifies the following indigenous peoples (from west to east): Saami, Nenets, Khanty, Sel’kup, Enets, Nivkh, Dolgan, Evenk, Even, Yakut, Chukchi, Chuvan, and Inuit.

Population increase in population gave place to a slow decrease. The population of Iceland continues to grow.

The Arctic regions of Russia and Alaska have witnessed considerable population growth. In Russia it grew dramatically in the 1930s, the population increasing from 120,000 in 1926 to 520,000 in 1939. Prisoners and deportees counted for a large share of this increase. In the 1950s-1960s, growth was also fast but not as fast as in the 1930s. This time, it was caused by voluntary in-migration. In the 1990s, there followed a dramatic population decline with the so-called flight from the North. The local population shrank by almost a quarter.

In Alaska, population growth was most rapid in the 1940s-1950s, after which it slowed down, especially in the 1990s. Even then, however, Alaska’s population continued to grow.

Canada has demonstrated a similar pattern of growth since World War II, with very rapid growth in its North in the 1950s and 1960s and a marked slow-down in the past 30 years (2). Much of the earlier growth can be explained by a combination of a natural increase (birth rates being higher than death rates) and immigration. This immigration was connected to the rapid development of Canada’s northern resources, and to the sovereignty and defense issues in the 1950s and early 1960s. Much slower growth has been observed in the Canadian North since the 1990s.

In summary, the peak of the population growth in Arctic Finland and Canada was in the 1960s, in northern Norway in the 1980s, and in...
northern Sweden and Russia in the 1990s. In general, by the beginning of the 21st century only Canada, Alaska, Greenland, and Iceland were still growing.

**Declining share national populations**

In the European countries, the share of the total population residing in their respective northern areas is declining gradually. In Norway, its maximum was registered in the 1950s (12.5%), in Sweden in the early 1960s (3.5%), while in Finland the maximum was reached in the mid-1960s (4.8%). At present, the northern population share is 10.2% in Norway, 2.9% in Sweden, and 3.6% in Finland.

The share of Russia’s population living in its Arctic regions increased without interruption until recently. It reached its maximum in 1990 (1.7%). There has been a recent rapid drop, however, and in 2002 it was 1.4%.

The growth of the Alaskan share in the total US population has stopped in the past decade at a negligible 0.2%. In Canada, the northern share of the total population was about the same in the 1950s as Alaska’s is now, but it rose steadily to about 0.4%, where it has remained stable from 1981 to the present (3).

### Where do people live?

The extremely sparse population is the main feature making the Arctic different from the rest of the world. What is more, it is often settled in a rather contrasting way, with vast uninhabited territories and relatively big cities.

#### Cities of the Arctic

In Alaska, Anchorage is the largest city with 260,000 inhabitants (40% of the total population of the state). More than one half of the Alaskan population is concentrated here and in the other two largest cities (Juneau and Fairbanks, with a population of 30,000 each).

In Iceland, the concentration of population is even greater, with a population of almost 180,000 residing in the capital city of Reykjavik and the six surrounding towns (more than 60% of the country’s total population). The population of the next largest city, Akureyri, is about 16,000.

There is not enough population to form what could be considered large cities in Canada, Greenland, and the Faroe Islands. Canada’s largest population concentrations can be found in Yellowknife (16,500) and Whitehorse (19,000). Greenland’s biggest town, Nuuk, has a population of less than 15,000 while the population of Torshavn, the capital of the Faroe Islands, is just over 15,000. The biggest towns of the northern Norway (Tromsø, 50,000), Sweden (Luleå, 45,000), and Finland (Rovaniemi, 45,000) are far from being large.

The nine biggest cities in the Russian Arctic (over 50,000 each) are scattered from the Kola Peninsula to Taimyr. Almost 980,000 people, or about one half (49.5%) of the population of Arctic Russia, are residing there. The biggest city of the circumpolar world is Murmansk, as a major Russian seaport in the Arctic Ocean (military, fishing and commercial), with its population of about 340,000. Other “mining cities” are Norilsk (135,000) and Vorkuta (over 85,000). Two young “oil-and-gas cities” are Noyabrsk and Novy Urengoi (about 100,000 and 90,000 respectively). The population of most cities in the Russian North, like that of the entire Russian North, is declining (the “oil-and-gas cities” are an exception), and this specific feature makes them different from other big cities of the Arctic.

About two thirds of the total Arctic population is concentrated in relatively big settlements (over 5,000 inhabitants each). But this share varies across the Arctic, reflecting great differences in settlement patterns across countries and regions. Thus, in Arctic Russia, over 80%

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### Population Dynamic of Arctic Region 1940-2000

#### Population (in 1,000)

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**Notes:**
- Canada’s Arctic population excludes Nunavik in Quebec due to historical availability issues.
- Its 2001 population stands at 9,630, which can be added to the 2001 count above.

### Average Year Increase (per cent)

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live in big settlements, over 70% in Iceland, over 60% in Alaska, and over half in Norrbotten (Sweden), while it is just over 40% in Arctic Canada, less than 40% in northern Norway and the Faroe Islands, and only one third in Greenland.

Focusing on the share of the population living in small settlements, northern Norway stands out among the Arctic countries with 33% of its population in locations of less than 200 people including those in unorganized areas (for Norway as a whole the share is 23%). In other Arctic countries, the share of the population residing in either the smallest locations or outside any settlements is considerably smaller: 18% in Norrbotten (Sweden), less than 10% in Alaska, about 8% in Iceland and Greenland, and more than 3% in the Faroe Islands.

In Arctic Russia, the census data available indicate that the share of the population in these smallest settlements hardly reaches 1%, though there are almost 200 such small communities. Nomads are not listed separately in Russia, however, but rather assigned to various permanent villages and registered as part of those communities. About 15,000 people in the indigenous population of the Russian Arctic lead a nomadic way of life. The biggest nomad group is in Yamal (over 10,000, with the Nenets making the majority); smaller groups are engaged in a nomadic lifestyle in the Nenets Autonomous Okrug, in Taimyr, Yakutia, and Chukotka (about 1,000 people in each region).

In Canada, the majority of northern communities are in the 100-499 range in population size. This represents, however, only about 11% of the overall northern population, while only five communities have 5000+ population, containing 43% of the population of the North.

Fertility
With an average crude birth rate of 19.7 births per 1,000 population, the present-day fertility in the circumpolar region as a whole cannot be characterized as high compared with that of the world (4). However, compared to other developed countries, the USA and Iceland stand out with somewhat higher fertility rates; in Greenland and the Faroe Islands fertility is even higher. At the same time, fertility in Russia is one of the lowest in the world.
Québec and Labrador) was an average 3.1 births per woman over the 1996-2001 period. By contrast, in Nunavut where the population is 85% Inuit, the total fertility rate is estimated at 3.7 births per woman.

In both Norway and Sweden, the differences in fertility rates are small between the Arctic and the rest of the country. In Norway, for example, fertility in the county of Nordland is low and almost equals the overall Norwegian rate; however, in the county of Finnmark, it is appreciably higher (6).

The fertility of Russia’s circumpolar population is equal to, or slightly lower than that of Russia’s total population. This can be explained by the high proportion of urban population, including those inhabiting large towns (Murmansk, Norilsk, Vorkuta, Noyabrsk, Novy Urengoi), where fertility rates have always been lower. Since the share of the indigenous population in the Russian North is very small, its indicators have almost no bearing on the indicators of the overall population of the region. However, in regions with a relatively high share of indigenous people, the differences in the levels of fertility among the urban and rural population are evident, and reflect the fact that the indigenous population by and large consists of rural inhabitants. For example, in Chukotka in year 2000, the total fertility rate of the urban population was only 0.9 per woman while that of the rural population was as high as 2.5.

**Declining fertility rates in various stages**

Fertility rates declined during the second half of the last century among all the populations in the Arctic. However, the rates of decrease and their contemporary levels differ significantly among the various countries and regions. One explanation is that the decrease in fertility of the indigenous and non-indigenous populations is taking place in different stages.

In the Nordic countries (Iceland, the Faroe Islands, Norway, Sweden, and Finland), an intentional constraint of fertility has been practiced for over a hundred years, with the fertility of older women being reduced first. Since the 1960s, a new fertility pattern has been underway, with the fertility of young women under age 25 declining faster than in other age groups. The peak in fertility is now pointing at the 25-29 age group, in comparison to the 20-24 age group in earlier years. One of the basic reasons for this is the conscious decision of women to postpone giving birth to their first child for reasons of educational and professional growth. This phenomenon is referred to as the second stage of the demographic transition. This fertility decline in the last decades of the 20th century occurred at an especially fast rate. The same phenomenon is characteristic of the non-indigenous populations of the United States and Canada.

In Russia, there are signs that large-scale intentional postponement of giving birth to the first child is underway. This is a relatively new trend however, and the fertility peak is still pointing at the 20-24 age group. The 1990s in Russia witnessed a fast decline of fertility rates, which was aggravated by the simultaneous onset of a severe economic crisis.

Among Arctic indigenous peoples, the decline in birthrates started in the 1960s. Greenland is a classic example of this process (7). While Greenland experienced a certain growth of fertility at the earliest stage of the demographic transition in the 1950s (8), the rates soon declined. In the 1960s, Greenland exhibited possibly the fastest and the most significant decline in fertility rate in the world. In the first half of the 1960s, the total fertility rate was 7 children per woman, and only ten years later, in the first half of the 1970s, this indicator had dropped to 2.7 (9).

At about the same time, a very rapid fertility decline among Alaska Natives was observed (10), though slower than in Greenland. Also, the fertility decline in Alaska was not as profound, only reaching 3.7 children per woman in the late 1970s.
The decline of fertility among Russia's indigenous peoples also started in the 1960s, according to the data available, but from lower levels (11).

Fertility decline among indigenous northerners started with a decline in the number of births among women in older age groups. Simultaneously, fertility in the youngest group (15-19 year olds) was growing. Even today, when fertility among indigenous people in this age group is on the decline, the crude birth rate among Alaska Natives are still a high 90 births per 1000 women, while in Greenland and Russia it is about 60 per 1000 women. By contrast, the rate among Alaskan non-indigenous young women is about 30 per 1000 women. The rates are even lower in other countries. The peak of fertility among indigenous women in all the countries observed is in the 20-24 age group (12).

In the Canadian North, fertility rates appear to be declining among the indigenous populations, but they remain high relative to those of non-indigenous peoples. The former group appears to be going through the second stage of the demographic transition with declining but still high fertility, while mortality is declining yet more quickly, yielding a relatively high natural population increase rate. This is more true of the Inuit than of other indigenous populations in Canada, who have much lower fertility rates and are approaching the third stage of the demographic transition, namely low fertility, low mortality, and low natural increase.

The recent decline in fertility is evident in the age composition of the various Arctic countries and regions, with the 0-4 age group being smaller than that of older age groups. There may be an echo baby boom, however, when the very large cohorts who are currently under age 15 enter the family formation stage in the next ten to fifteen years. Even if fertility rates continue to decline, these cohorts could still produce large numbers of children - the echo effect - because they are numerically large.

**Mortality**

In an international comparison, the majority of Arctic countries have very low mortality among both children and adults (13). Life expectancy at birth is an indirect measure of mortality. The Scandinavian countries and Canada are among those countries whose life expectancy, on the whole, is among the highest in the world. Iceland also ranks high.

Russia is an exception, however, joining countries with low infant mortality rates but high adult mortality rates (14). Consequently, in the Arctic as a whole, Russia has the lowest life expectancy.

In the Arctic regions of large countries, mortality is generally higher than in other parts of those countries, which results in a lower life expectancy. In Alaska, life expectancy is almost two years lower than in the United States as a whole.

In the circumpolar parts of Norway and Sweden, the differences in life expectancy in their northern areas are due in part to greater male mortality.

As with the case of fertility, differences in life expectancies between the northern counties in
Norway are quite noticeable. In Nordland, this indicator does not differ significantly from that of Norway as a whole, while in Finnmark it is one year lower for women and almost three years lower for men.

In Russia, the geographic and socio-economic differences are great across the North, and differences in mortality rates follow this pattern. In the Murmansk Region, life expectancy is almost the same as in Russia as a whole, while in Taimyr, Sakha-Yakutia, and Chukotka, it is 2–3 years lower.

In the circumpolar region as a whole, male mortality is higher than female mortality. However, gender differences in life expectancy rates vary greatly across the Arctic. They are the lowest in Iceland with a difference of about four years. In Alaska, Greenland, and Norrbotten (Sweden), the difference is more than five years, and in northern Norway and the Faroe Islands, it is more than six years. There are no data on Lapland (Finland), but on the whole, the difference in Finland is more than seven years, and it is likely that it is not less than that in the Arctic. In various Arctic regions of Russia, this difference reaches 11–13 years, similar to Russia as a whole (15).

Changes in overall mortality and life expectancy

There is a trend towards a decrease in mortality in the majority of the Arctic countries and regions. During the past 15–20 years, male mortality has decreased faster than female mortality, with life expectancy increasing 1–2 years for women and 2–4 years for men.

Russia is an exception to this trend of decreasing mortality, with no steady decrease during the past 30–40 years. Also, life expectancy has been on the decline, a decline that has been faster among men than among women. Hence, Russia is facing a gender gap in life expectancy of about 13 years, which is larger than anywhere else in the Arctic.

The circumpolar pattern of decreased mortality was most pronounced among the indigenous population in the 1950s-1960s. It started from extremely high mortality rates in the indigenous populations in the early 1950s, much higher than among their non-indigenous counterparts. Life expectancy of Alaska Natives (48 years) was 20 years lower than in the United States as a whole (16), while infant mortality was four times higher than among the non-indigenous population (17). During the same period, life expectancy in Greenland was 35 years, 34 years less than in Denmark at that time.

In Alaska, the general mortality rate went down from 19 per 1,000 in the late 1940s to 10 per 1,000 in 1955. It stayed around 9 per 1,000 throughout the 1960s. Life expectancy of indigenous Alaskans grew from 48 (1949–1951) to 60 years (1959–1961) in about a decade (18). The mortality decline in Alaska continued, although at a slower pace. During the following 30–40 years, life expectancy increased by 9 years (19). While this increase in life expectancy among the indigenous Alaskan population is significant, their life expectancy is still lower than that of their non-indigenous counterparts (a 6-year difference) and that of the United States as a whole (an 8-year difference).

In Greenland, the overall mortality rate dropped from 25 per 1,000 in the late 1940s to 9 per 1,000 in 1960 and 6–7 per 1000 in the second half of the 1960s. At the same time life
expectancy went up from 35 (1946-1951) to 60 (1960-1965) (20). The decrease in mortality rates in Greenland slowed down notably in the 1970s-1990s, with a life expectancy of 65 years in the late 1990s, 11 years less than in Denmark. The gap has hardly changed since the second half of the 1960s.

Among the indigenous peoples of the Russian Arctic, the decrease in mortality rates started in the 1960s, but it was not as rapid, and even in 1979 the crude death rate was 17 per 1000, while life expectancy was about 50 years (21). In the mid- and late-1980s, the crude death rate went down to 11 per 1000, while life expectancy increased to 60 years (22). In the 1990s, mortality among indigenous peoples, similar to Russia’s population as a whole, was increasing with the death rate up to 15 in mid-decade, and 13 at the end.

There are also regional and ethnic differences in mortality of indigenous populations in the Russian Arctic, being lowest among the Saami of the Murmansk Region, and highest among the indigenous populations of Taimyr and Chukotka (23).

Changes in infant and adult mortality

The high mortality rate of the indigenous peoples of the Arctic is rooted in higher infant mortality (especially in Greenland and Arctic Russia) and high mortality among adults due to non-natural causes, such as accidents, suicides, and murders.

The decrease in mortality rates for infants and children has been most significant. In the early 1950s, there were about 100 infant deaths per 1,000 births among the indigenous peoples of Alaska, which was four times higher than among the non-indigenous population, while at present it is only twice as high (about 10 per 1,000 and 5 per 1,000 respectively). In Russia, infant mortality has dropped from more than 100 infant deaths per 1000 births in the early 1960s, to 70 per 1,000 by the first half of the 1970s, and 30 per 1,000 in the late 1990s. In the Russian Arctic, the infant mortality rate among the indigenous peoples is twice as high as that of the non-indigenous population (15 per 1000).

Adult mortality decreased at a considerably slower pace. At present, the differences between indigenous and non-indigenous mortality rates are largely determined by higher mortality rates among young and middle-aged indigenous groups. Non-natural causes stand out as leading causes of death.

In Greenland, approximately every sixth death is due to non-natural causes (17.5% in 2000). While this is a considerable share, it has been declining in the last 10-15 years. At its peak, from the 1970s into the first half of the 1980s, it reached 30% and more. In comparison,
the indigenous populations of the Tumen’ Region, incorporating the circumpolar Yamalo-Nenets Okrug, was still 37%, which is far greater than Russia’s high average share (14%).

**Age and gender composition**

The age structure of Arctic populations differs noticeably from the structure of the overall populations in the respective Arctic countries. The most striking difference is the higher share of individuals of labor-force age and the smaller share of those in older age groups. This peculiar feature of the age structure is affected by the inflow of working age migrants and the outflow of retiring people of older ages.

The smallest differences in age structure between the Arctic regions and their countries as a whole are observed in Norway. Here the age-gender pyramids almost coincide. There are small though noticeable features making Sweden’s Norrbotten and Finland’s Lapland different from their corresponding country’s national age structures. The share of younger adults (25-39) is somewhat smaller here, while that of the older adults (40-59) is bigger than in the countries as a whole. The differences between national age-gender composition and those of the Arctic populations in Russia and the United States (Alaska) are far greater. The most profound differences are seen in the Canadian Arctic and are a consequence of the high proportion of indigenous people in the population,
the highest in any large country’s Arctic region. Greenland’s “born-in Greenland” age-gender structure is similar to those of Canada and Alaska.

**Focus on age pyramids**

The demographic history of Arctic populations is clearly reflected in the age pyramids. Their modern pattern largely depends on the level and dynamics of fertility decline, but also on the age structure of in- and out-migrants from the Arctic.

The most stable age pyramid belongs to the population of Iceland. There are almost no age cohorts that appear very deep or which protrude more than others. Fertility declined gradually, without strong fluctuations. On Greenland’s pyramid, in contrast, there is a very pronounced cavity in the 20-34 age groups formed as a result of a very rapid fertility decline more than 30 years ago. In Canada and in Alaska, the smallest age cohort is the 20-24 age group. To understand the shape of their current age-gender pyramid it is important to analyze not only fertility 20 or so years ago but also how migration and mortality patterns have affected the size of this age group over time.

The age pyramid of Russia’s Arctic population is considerably “indented,” with a cavity at the age of 30-34. This reflects a numerically small generation of children born to those who were born during World War II, a “second demographic echo of the war”). The abruptly narrowed foundation of the pyramid reflects a dramatic fertility decline in the past decade, when the economic crisis of the 1990s and “the second echo of the war” coincided.

The foundations of the “Arctic” pyramids of Sweden and Finland are similarly narrow, indicating low fertility, though lacking the sharp differences seen in Russia. The broadest foundations are observed for the populations of Canada and Greenland, but they are narrowing.

The differences in the tops of the pyramids are even more radical. The greatest shares of seniors are in Norrbotten and in Lapland, where they are even higher than in the total populations of Sweden, Finland. The smallest shares of seniors are in the Arctic regions of Canada and Greenland. Those few who are 70 years or older lived here during periods of high mortality, especially high infant mortality.

**Focus on indigenous age structures**

Age structures of indigenous and non-indigenous populations differ greatly even within the same region or country. Indigenous populations have a distinctly higher share of children in the age cohort 0-14 years. In Arctic Canada it is 37%, compared to 19% among the non-indigenous population. In Alaska the figure is 32% (for non-indigenous it is 24%). Among people born in Greenland, children make up 28% of the population, while for children of those born outside Greenland the figure is only 10%. In the Arctic regions of Russia, 0-14-year olds make up 37% of the indigenous population compared to 29% of the non-indigenous population (24).

There are more individuals of labor-force age (25-64 years) among the non-indigenous population of the Arctic region. In the Arctic region of Canada, 41% of the indigenous population is in the labor-force age group, compared to 64% of the non-indigenous population. In Alaska, 45% of the indigenous population is in the labor-force age compared to 57% for the non-indigenous population. In Russia in 1989, these shares were 42% and 56% respectively; and in Greenland, 51% and 80% respectively.

**Focus on gender structures**

On the whole, there are more men than women in the Arctic, largely as a result of more male than female migrants moving to the North. The only region where the number of women is somewhat higher is the Russian Arctic: 990 men per 1,000 women according to the latest Russian census. However, the female majority throughout Russia is far more impressive: 872 men per 1,000 women. The female majority is a new phenomenon for the Russian Arctic. In the 1989 census and earlier, there were more men than women. This shift is most likely a consequence of the high male mortality rate. During the period 1995-2002, the number of male deaths outstripped male births by 3,000, while the number of female births outstripped female deaths by 25,000. There was thus an overall natural increase of population in the region of about 22,000.

In all other circumpolar countries and regions, there are more men than women. At the same time, there are more women than men in “large” Arctic countries as a whole. The male majority is greater among the non-indigenous population than the indigenous one.
Migration

Migration is important to the population structure in many areas of the Arctic. One of the main causes of migration seems to be employment opportunities. The Arctic is not an exception in this. Migration depends heavily on economic conditions and the inflows of population into the Arctic regions often give way to outflows.

Focus on Alaska

The connection between migration and economic conditions is clearly seen in Alaska, where there have been three “tidal waves” of in-migration changing into almost similarly big ebb tides during the past three decades. The strongest fluctuations of migration gains and losses have also been registered here, caused by the relatively small Alaskan population when compared to the country as a whole, making the flows of in-migration from and out-migration to “the lower 48” especially significant for the state. During 2001-2002, the net migration was positive, but in the previous eight years (1993-2000), Alaskan migration losses were 24,000. Compared to the late 1980s, when such losses were 44,000 in four years, the recent migration is not very significant, however.

Focus on Greenland

Greenland has witnessed an almost constant flow of out-migration for the past twenty years, varying in quantity only. Most people who leave were born outside Greenland. The long-term net migration is practically zero as the number of in-migrants roughly equals that of out-migrants, the latter being 3% more. The migration flows declined notably in the 1990s compared to the 1980s (by 40%). Despite the fact that those born in Greenland migrate less than those born elsewhere, the number of indigenous people leaving Greenland is greater than the number of those returning to Greenland. Net out-migration was 3,300 in 1992-2002 compared to 1,800 in 1981-1991. It is a remarkable figure for Greenland and represents about 6% of the total population leaving in 11 years.

There are more women than men among the indigenous people leaving Greenland. This raises the question of whether there is a gender bias among those leaving the North. (see Chapter 11. Gender Issues, for further discussion.)
Focus on the Nordic countries

In Iceland, the migration out-flow has changed into an in-flow. The end of the last decade and the beginning of the current one (1997-2002) are characterized by a net in-migration, while the previous five-year period (1992-1996) had a negative balance. The net in-migration for the past decade amounts to a total of 1,700 people or 0.5% of Iceland’s population.

The Faroe Islands experienced a considerable outflow of population, relative to total population size, in the first half of the 1990s, when in-migration decreased and out-migration went up sharply. The total population decrease was more than 7,000 people (15% of the 1989 population) because of the migration processes in 1989-1995. More recently, in the period 1996-2002, there has been a net in-migration, but this has only compensated for one third of the losses suffered in the previous five-year period.

In the three northern counties of Norway out-migration has almost always exceeded in-migration during the past three decades. On the average, the annual migration loss was close to 2,000 people. However, fluctuations still prevail: in “good” years (1972-73, 1979, 1991-93, 1999), the migration loss was minimal or even non-existent, whereas in “bad” years (1984-86, 1996-97) it went up to 4,000 people a year or more.

In Norway as a whole, immigration has ensured an inflow of population since the second half of the 1960s. The number of immigrants in the northern part of Norway has also exceeded the number of out-migrants from the beginning of the 1970s. However, numerically they offset less than one half of losses in the migration exchange with the southern parts of Norway.

Finland’s Lapland has been decreasing in population size as a result of net out-migration for more than thirty years now, while in Finland itself, net migration has been steadily positive since the early 1980s. During the past nine years (1993-2001), Lapland lost about 17,000 people, or 8% of its 1993 population, due to migration.

In Norrbotten (Sweden), unlike its Nordic neighbors, the migration outflow of population at times changes into an inflow. In the long run, however, there has been net population loss here as well. During the past 20 years, the migration waves in the Arctic region of Sweden have been contrary to those in Arctic Norway: when there is an inflow of population in Norrbotten, then the biggest outflows occur in Nordland, Troms, and Finnmark.

Focus on Russia

The past 15 years have witnessed the greatest-ever outflow of population from the Russian Arctic (and on a greater scale, from all of the Russian Far North), and it is still going on. This tendency has been in direct contrast with the situation facing Russia as a whole, where an impressive inflow of population from the outside has taken place.

Migration from the Arctic began in the 1990s and reached its peak in the period 1992-1994, when 2-4% of the population left the region every year. In Chukotka, more than 10% of the population left every year. Unlike the Faroe Islands, the migration outflow, although somewhat diminished, did not stop and was still underway in 2002.

A comparison of the Russian censuses of 1989 and 2002 makes it possible to assess the migration losses in the Arctic regions. These amount to 650,000 people, or about one fourth of the total population in 1989. However, Russia’s Arctic is far from being homogeneous in this respect. The greatest losses were in Chukotka, where about 70% of the population registered in 1989 was lost to migration. The Arctic part of the Republic of Sakha has lost almost one half of its population, while the Sakha as a whole lost only one fifth of its overall population. Almost 40% of the population in Vorkuta have been lost as a result of migration, and the rest of the districts have lost 20 to 30% of their populations. Only the Yamalo-Nenets Okrug stands out against the general background with its minimal losses of a mere 7% of the 1989 population.

Key conclusions and gaps in knowledge

The demography of the Arctic is diverse and thus challenging to describe. The diversity is observed not only across the circumpolar region, but also within the Arctic areas of individual countries such as Canada and Russia. Without specific data on the different ethnicultural groups, the overall population patterns and trends tend to hide important demographic differences within countries or regions. Furthermore, the demographics of the non-
indigenous populations in the circumpolar North are quite different from those of their indigenous counterparts. Depending on their weight in the overall population, this also can make a big difference demographically in assessing age structure and total population growth. This suggests that the diverse populations within the Arctic regions need to be more specifically identified in official data collection systems within each country.

That said, this chapter has attempted to highlight the overall demographic picture in the circumpolar regions of the world, with its population of about 4 million. Since World War II, the population has grown. The growth pattern has been somewhat sporadic, but, in general, growth was fairly rapid in the 1950s and 1960s, and in some countries into the 1970s. In recent years, this growth has slowed down and in some cases (e.g. Russia) been replaced by population decline. However, some northern areas, such as Canada, Alaska, and Greenland, still show signs of growth. Much of the overall growth pattern appears to be dependent on resource development cycles. Nevertheless, for regions and/or countries where data are available for the indigenous populations, their growth rate is high. This is largely driven by natural increase rather than net migration. In some regions, such as in Canada, there is evidence that fertility rates among the Inuit are starting to decline, but they still remain more than double that of the country as a whole.

Age structures also vary and are very much affected by the relative shares of non-indigenous and indigenous populations in a particular region. Regions with high shares of non-indigenous populations tend to have an older population with more people in the labor-force age groups, while regions with large indigenous shares have younger populations. The latter includes Canada, Alaska and to some extent Greenland.

The size of communities varies greatly across the Arctic. Some regions (e.g. Alaska and Russia) have the vast majority of their population in large urban centers or cities, while others (e.g. Canada) have a large share of the population living in small or very small communities. In many of the circumpolar countries, the indigenous populations generally live in the smaller communities. To understand the demography of the North, it is thus necessary to take account of this variation in settlement patterns.

With this wide variation in demography, any cross-country comparisons need to control for a variety of key variables, such as the indigenous versus non-indigenous populations, different age structures across regions and groups, and community-size differences. Without more such data, we get a very disjointed picture of the overall demography of the circumpolar region.

References and notes

1. Incidentally, in Russia the inhabitants of this part of the country call it “the Norths” (in plural) while in the rest of the country, its southern part is referred to as “the mainland” (“continent”), though “the Norths” have, in fact, nothing to do with islands. This expression is an echo of the times when communication with the South used to be time-consuming and difficult, and the North was viewed as “an island” of sorts, isolated from the rest of the country.
2. Data for calculation of the growth rate for Canada’s North exclude northern Quebec, as data for earlier years were not readily available.
3. Data for calculation of the percentage share in Canada’s North excludes northern Quebec, as data for earlier years were not readily available for the time series comparison.
6. We have no data on the overall fertility in the Finnish North (Lapland), though it is likely to be higher than in the country as a whole judging by the fact that the share of children of the high order of births (third and more) here is steadily higher.
7. Incidentally, there are long statistical series of fertility rates in Greenland (http://www.statgreen.gl/).
8. Connected with the improvement of women’s health and the spreading of manufactured baby’s milk products instead of breastfeeding, similar to what was observed among Canadian Indians (A. Romaniuk, “Increase in Natural Fertility During Early Stages of Modernization: Canadian Indians Case Study” Demography 18, 1981).


17. Infant mortality was 101 among the indigenous population compared to 24 for the non-indigenous population, Alaska HSS, 1991.


21. The indicator of life expectancy is for all the indigenous peoples of Russia’s North (over 150,000 in 1979), and not just the Arctic region alone (about 65,000 in 1979).

22. This later indicator of life expectancy is for all indigenous peoples of Russia’s North (about 180,000), and not the Arctic region alone (about 77,000).


24. Data of 1989

“Rapid change” is a common expression in describing contemporary societies of the Arctic, usually followed by mentions of cultural losses and social ills caused by the inability to cope with extraordinary rates of transitions. Indeed, for the past few decades rapid change has been a major trend in the North, and it remains so today. Change does not necessarily lead to cultural extinction, however. By the beginning of the 21st century, the persistence of identities and the re-creation of traditions show that indigenous cultures can thrive in the modern world.

Under the recurring theme of change and persistence, this chapter discusses three major trends in Arctic societies and cultures. The first is the rapid change and its base in the recent colonization of the Arctic and paternalistic policies of welfare states. The second trend focuses on cultural expressions. Although there has been a measurable decline in linguistic and religious knowledge, in certain songs, dances and other art forms, this is only part of the cultural reality of the Arctic. “Culture gain” and “culture creation” have been present as much as “culture loss,” and many aspects of Arctic worldviews have persisted despite processes of change and replacement. The third trend focuses on social reproduction, kinship, and how traditional social relations have been transplanted into new settings with urbanization. Together, these trends indicate that the resistance and resilience of Arctic cultures and societies are as impressive as the changes they have so far managed to successfully negotiate.

**A socially and culturally diverse Arctic**

“Arctic societies” and “Arctic cultures” are not as easy to define as it would appear. Seven of the eight Arctic countries have the majority of their territory and citizens south of the Arctic. If we use the widespread definition of societies as groups of human beings that have the capacity to self-reproduce their collective existence, it becomes almost impossible to speak of “Arctic societies.” No human collective in the Arctic today is able reproduce itself without non-Arctic input. Culture, often defined as sets of rules and values shared by a given society, fares not much better in that respect, since all contemporary Arctic cultures are influenced by southern rules and values.

Arctic societies thus refer to groups ranging from co-residents of a settlement to ethnic groups and nations. Accordingly, Arctic cultures refer to the shared rules and values of these very diverse societies.

Finally, the notion of identity also has come to play a major role in assessing social and cultural developments in the Arctic in recent years. Identity refers to the ways in which individuals and groups perceive and act upon the social and cultural traditions they inhabit.

Within the diversity of cultural and social traditions in the Arctic, one can distinguish two broad types which correspond to two waves of colonization of the Arctic: One by the indigenous peoples, who established themselves in the Arctic millennia ago; The second by peoples from a European background, whose presence in the Arctic is much more recent and who remain closely connected to societies south of them.

Not all peoples residing in the Arctic today fit into one of these two categories. There are also peoples of mixed cultural ancestries, but with distinct identities and cultures, such as the Métis of Canada and the Kamchadals and other “old-settler” groups in Russia. And there are also some relatively recent colonizers of other than European background, such as the Sakha (Yakuts).
In addition, there is a third layer: recent immigrants who were born and educated outside the Arctic and who live by the cultural and social standards of their region of origin. Many return south after a few years, while some stay and integrate into the surrounding societies. In some areas of the Arctic, this recent immigration has come to constitute the majority of the population. This has been a particularly striking feature of the Russian Arctic throughout Soviet times. Even more recently, the countries of origin of these newcomers are becoming increasingly diverse.

Although this chapter will address all Arctic residents, more attention will be devoted to indigenous societies and cultures than to later immigrants. There are two main reasons for this. One is that, except in Europe, the literature describing social and cultural processes in the Arctic from a local perspective has focused on indigenous communities. Although more recent settlers figure prominently in national statistics, qualitative data about their communities are rare. For groups of mixed cultural ancestry, as well as for recent immigrants, data are even less readily available. The other reason is that rapid social and cultural change has affected small-scale indigenous societies much more heavily than other groups.

Rapid cultural and social change: traditions in transition

Although change has been and remains a constant in the Arctic, the nature and the rapidity of the changes vary widely over space and time. Social and cultural change started accelerating around World War II, more so in the Arctic than in many other areas of the world. In its first phase, state encroachment affected the autonomy of indigenous peoples. This was followed by successful struggles to regain control over local affairs but under wholly new circumstances that included not only traditions but also modernity and globalization. This section focuses on how this encroachment has affected Arctic societies.

Change: a constant in the Arctic

Human colonization of the Arctic is comparatively recent. It started at least fifteen millennia ago. Since then, marked fluctuations of the environment, some of which have been at least as rapid as those predicted for current global warming, have regularly forced human populations to adapt. In such an environment, they had to perpetually fine-tune their adaptations, or risk dying out. There are many such examples in the archaeological and historical record.

Other “internal” drivers for social and cultural change were technological innovations, such as dog traction, whale-hunting gear and know-how, and intensive reindeer herding, as well as contacts with other populations.

A major outside source of change was the increased colonization of indigenous lands by people of a European cultural tradition. The wave of colonization started before the end of the first millennium, and despite setbacks such as the demise of the Norse in Greenland around the 15th century, it increased exponentially. In the 20th century, it included all regions of the Arctic that were inhabited by indigenous peoples. By the outbreak of World War II, nations centered outside the Arctic had established sovereignty over most of the Arctic.
Population concentration and loss of autonomy, ca. 1940-1970

The World War II era can be considered a watershed in the history of the Arctic, initiating social and cultural change at an unprecedented rate. The point of departure for this accelerated change was neither a pristine indigenous life in isolation from the rest of the world, since such conditions did not prevail anywhere by that time, nor a long-standing period of stability or slow evolution. But for many peoples, it meant a change to totally new concepts and living habits. Before World War II, many Arctic societies led a relatively autonomous way of life based mostly on hunting, herding, fishing, and gathering, where kinship represented the main and almost sole focus of social organization.
The war itself had consequences everywhere in the Arctic. Greenland, as well as Iceland, were cut off from Denmark and had more contacts with North America, whereas the Faroe Islands were occupied by the British. Vast areas of the Saami homeland in Norway and Finland were burned by the retreating Germans. Later they were rebuilt according to new standards (2). The Skolt Saami left their homeland in Russia to settle in Finland (3). Alaska saw an increase in military activity following the Japanese invasion in the Aleutians. The Canadian Arctic and the Asian part of the Russian Arctic were less directly affected, but in all regions, the war ended the Arctic’s relative isolation from centers further south.

The subsequent Cold War (1948-1988) perpetuated political interest and military presence. In addition to the increased military activity, there were several aspects of encroaching modernity that drove this early phase of rapid transformation. One of them was the rush to exploit the non-renewable resources of the North, generally with little regard for environmental consequences or impacts on indigenous societies. Another major factor of change was the spread of welfare state policies. Directed at indigenous peoples, they came out as paternalistic attempts at “social engineering.” In several countries, the goal was to assimilate the indigenous populations as exemplified by the policies of Norwegianization (4), Russification (5), and Canadianization (6). In the Soviet Arctic, planned social change was based on Marxist-Leninist ideology (5). As described in more detail in Chapter 5. Political Systems, struggles for emancipation and local empowerment were already emerging in some regions before the war, beginning with the islands of the Atlantic.

At ground level, changes were numerous and pervasive. The influx of immigrants from the south accelerated. In indigenous communities, they came to fill the newly opened positions as administrators, teachers, health professionals, construction workers, etc. Most immigrants considered themselves superior to locals, at least implicitly. They enjoyed higher pay and a better standard of living. The influx of immigrants was especially strong in the Russian North, where the ratio of natives to incomers was transposed, going from 10:1 to 1:10 in some regions. In Greenland, the Danish population increased nine-fold between 1950 and 1975, when it amounted to almost 20% of the total population of the island (7).

In all parts of the Arctic, the population became less scattered. This centralization involved relocations of whole groups of peoples, some of which were imposed. Previously nomadic peoples became sedentary, and “unprofitable” settlements were closed down. With a few exceptions (e.g. the Nenets reindeer herders of the Yamal Peninsula in Russia), centralization of nomadic populations was achieved by 1970. In the centralization process, new communities were built where many functions were controlled by incomers. A trend of urbanization was also emerging with people concentrating in a smaller number of larger settlements and towns.

In the Canadian Arctic, it remains a matter of contention whether the process of concentration was imposed or corresponded to the wishes of those involved. In many regions it entailed both aspects to some degree, often in succession (8). Although many individuals felt helpless and behaved passively in the midst of these transformations in and around their lives, local leadership developed, and these new leaders eventually took over responsibilities in the community.

Partly as a consequence of the availability and the form of new housing, household size and composition tended to shift from the extended to the nuclear family (9). In Greenland for instance, the average household size decreased from 7.6 in 1901 to 5.3 in 1955 and 2.6 in 2003 (10 -11). In some communities, there has been a development towards “matri-focal” families, revolving around a woman, rather than a couple, as head of household. Around 1975, 20% of all Asian Yuit (Russian Eskimo) families were headed by women, while about a third of the males aged 25-45 remained single (12).

Mandatory school education was introduced among some indigenous peoples in the 1950s or 1960s. For some children it meant attending boarding schools away from their families, where they were inculcated with foreign languages and cultures. In the process, many lost fluency in their mother tongue and were alienated from their families and communities.

Health care services were vastly improved with life in settled communities. As a result, mortality decreased while life expectancy and fertility increased, causing rapid population growth. At the same time, traditional healers,
Growing up with change in the Canadian Arctic

Alexina Kuble tells of her experience of growing up in Igloolik and in Igluligaarjuk (Chesterfield Inlet), where she attended residential school from 1962 to 1967. She is currently Senior Justice of the Peace in Nunavut and chair of the Akitsiraq Law School Society.

The first part of my childhood was spent close to my parents’ families. As my grandparents didn’t live at the same place we were surrounded either by paternal aunts and uncles or maternal aunts and uncles and their cousins as well as all my cousins wherever we happened to be. As children there was a “blanket” treatment of us yet we were treated as individuals. There were aunts and uncles to dote on affection, others to discipline, others who were childhood friends and others who ordered you around to help out with chores and you felt proud to be considered able to help.

The latter part of my childhood was spent in the residential school in Igluligaarjuk. You all get to do chores as they were assigned and not because someone asked that you do it. You did not feel the pride of accomplishment but felt the wrath of failure to do so. The life you lived at home and the life at the school were so alien to one another you lived them separately and did not incorporate the lifestyle of one with the lifestyle of the other.

From 1960 to 1987, the Inuit population of Igloolik grew from 87 to 806, the White from 4 to 48, tenfold increases. The percentage of extended households decreased from 76% to 10%, to the profit of nuclear households. Many jobs were created. Simultaneously, the importance of hunting decreased. Alcohol and drug consumption increased, as well as criminality and cases of suicides (15).


healing methods, and midwifery were marginalized.

In some regions, wage employment and a cash economy were introduced when people settled into modern communities. This meant that kinship ties ceased to be the exclusive focus for economic cooperation. Moreover, unemployment also became a feature of life in settled communities, exacerbated by the rapid population growth. As it became increasingly possible to make a livelihood from activities other than traditional ones, the share of traditional activities in the local economies decreased. The symbolic value of hunting, fishing, and herding has been maintained or even increased (13), however which is not surprising given that work and subsistence activities are a central aspect of identity (14).

Transport and communications improved at an increased pace from the time of World War II. Television has become available in most Arctic households in recent decades, with its attendant exposure to new lifestyles and role models.

Most of the social and cultural changes in the post-war era were directed by government agencies. Many of them, such as the provision of education, health care, and welfare, had ethical justifications. Even though some of these changes were for the better, the way they were imposed led to a loss of control over local affairs, and over collective as well as individual destinies. In small northern settlements, local people could not escape the impression that they were watching helplessly while things were being done around them and “for” them. As former Greenland Home Rule Premier Jonathan Motzfeldt has put it: “… things were administered by Danes, decisions were taken by Danes, and problems were solved by Danes. […] The common Greenlander had a feeling of standing outside, of being observer of an enormous development, which s/he did not have the necessary background to understand” (16).

Even a seemingly more benign intervention, such as the imposition of a Euro-American system for family names among the Canadian Inuit during the 1960s and 1970s, introduced important departures in representations of selves and social relations (17-19). The feelings of estrangement caused by the loss of control over changes in turn contributed to the rise of social problems, such as suicide, violence, law-breaking, and alcohol abuse.

The decades around the middle of the 20th century were for many northern indigenous peoples the period in their histories when they had the least autonomy, and, simultaneously, were undergoing the farthest-reaching changes they had ever experienced. Some have evoked the notion of a “lost” or “broken generation” to describe the group of people who lived “between two worlds”, not really belonging to either of the two, and who may have felt as little connected to their parents and grandparents as to their own children.
**Regaining autonomy and reaffirming cultures and identities**

In all of the Arctic countries whose governments were willing to negotiate land claims and measures of autonomy, indigenous peoples were quick to present coherent demands that reflected their cultures and aspirations. This demonstrates that indigenous cultures and identities had not been entirely crushed. Even during the “dark years” of directed change, an elite was able to emerge which was conversant with, if not at ease in, “both worlds.” These developments took place within the framework of nation states and in contexts of increasing economic dependency and encroaching globalization.

With the hope of regaining some autonomy came the reaffirmation of identities, cultures, and sometimes also languages. As Nikolai Vakhtin puts it about Soviet and post-Soviet Chukotka, “the horrible totalitarian mincing machine in which the Chukotkan minorities found themselves in the 1950s-1980s could decrease their ability to resist, could decrease the linguistic and cultural differences between them, but was far from what is needed to wipe those differences (and those people) out. As soon as the leveling pressure went down, immediately new groups, new types of individual and group identities, even new languages, began to appear.” (20) Although it does make reference to roots in the past, cultural reaffirmation is not a “return to traditions” in the sense of a simple reactivation of previously existing customs. It is an active re-creation of culture and symbols, whose functions in current contexts differ from the ones they had a few decades earlier.

The context for this cultural reaffirmation is one in which most indigenous peoples have been living since at least the 1970s in settled communities, surrounded by most of the paraphernalia of modern life in the way of household goods, communication technology, modes of transportation, but also community committees, local schools, recreation, etc. Many of the challenges they face are therefore new ones. Social unity has been harder to achieve in communities that bring together groups that had little to do with each other in earlier times. Societies have also become more complex and more differentiated, and are segmented along new lines, such as lifestyle patterns, political parties, and religious denominations. Social stratification has increased. Sharing networks are affected. And, as much as anywhere else, gender roles are in the process of redefinition (see Chapter 11. Gender Issues).

As we discuss later in the chapter, some indigenous languages have disappeared, but others are being revived, and others still are as healthy as ever. Group identities have shifted, but their distinctness has been preserved (21). World views and spiritualities are reaffirmed. The arts are flourishing, often as vehicles as much for collective as for personal identity.

More and more indigenous persons live in urban centers outside the Arctic. More often than not, they expand the borders of their home communities rather than getting “lost in the crowd.” Less trivial than it seems, food tastes have changed (22), which has an impact on the degree of local renewable resources exploitation, on the dependence on imported foods, and on household activities and budgets.

**How much change can cultures and societies take?**

Change is an aspect of all societies and cultures. It is more “normal” and in that sense “healthier” than stagnation. Traditions come, transform themselves, and some eventually pass. Obsolete elements of cultures are discarded and new ones emerge. One must question the tendency to consider change as a threat to some immemorial “tradition” in discussing indigenous societies, when it is called progress in western societies.

How the people affected by changes perceive them (the so-called *emic* perspective) determines how they react to them. Research so far has focused too little on local perceptions of changes. One may strongly suspect that the most damaging aspect of change is the feeling of not being able to control it locally, neither individually, nor collectively as a society. This means that attempts at “planned social change” from the outside are doomed to create as many problems as they solve, even if the planning rests on pertinent scientific knowledge.

The occurrence of massive changes in all aspects of life simultaneously with symptoms of cultural and social distress (e.g. violence, suicide, alcoholism) has made many people suspect a causal association between the two: the symptoms are seen as the consequence of the inability to cope with the changes. Little research has been done so far, however, into what may be considered “overly” rapid transitions and the accumulated effects of different types of changes. Therefore, we still lack convincing explanations of why problems erupt when and
where they do, such as in the traditional and isolated communities rather than in larger centers where the pace of change is more rapid (23). We are even less able to predict the outcomes of change. For example, local empowerment does not in and of itself reduce vulnerabilities. This is illustrated not only by the fact that suicide rates are comparably high in Nunavut and in Greenland, although these two regions have followed quite different historical developments but also by the fact that rates have continued to increase ever after the introduction of self-government (24-25). (This is further explored in Chapter 9, Human Health and Well-being.)

Health specialists tend to explain the symptoms in terms of response to “acculturative stress” (26), i.e. a view of indigenous cultures and identities as bound to erode into those of the mainstream. This does not fit the fact that Arctic indigenous cultures and societies have proven to be resistant and resilient.

Towards a common Arctic culture and identity?

Recently, the spread of information and communication technology has given rise to new blends of traditions and elements of “world culture,” in music and arts, clothing fashions, food, etc. This coexistence of traditions and modernity is currently observed among many indigenous peoples worldwide. It includes renewal and in some cases reinforcement of ethnic identities, as well as an instrumentalization and commoditization of cultures. This trend is probably stronger in the Arctic than in poorer regions of the world because of the generally high incomes and good communications networks.

These new blends illustrate Marshall Sahlins’s assertions, based on recent research in many parts of the Third and Fourth Worlds, that peoples around the world see no opposition between tradition and change, indigenous culture and modernity, towns and tribes. Culture is not disappearing, he concludes: rather, it is modernity that becomes indigenized (27).

In the North, this process includes elements of an emerging Arctic identity. The Arctic is generally considered as a specific geographic and cultural area and within each of the countries that straddle the boundaries of the Arctic, “nordicity” (28) emerges as an element of regional identity. In some cases, indigenous peoples may downplay their local identity and emphasize a common indigenous background. For example, the Inuit Circumpolar Conference and the Saami Council have fostered, respectively, common Inuit and Saami identities. In some regions, indigenous and non-indigenous identities are converging. Increased cooperation across the Arctic may foster the emergence of a feeling of community throughout the region.

Circumpolar synchronicity despite short-term offsets

Within the overall trend of rapid social and cultural change, there is variation across the Arctic as to when these changes occurred. In Fennoscandia, indigenous peoples’ contact with people of European origin started a millennium
ago, whereas this happened only a century ago in remote areas of the Canadian Arctic.

Developments in the Soviet and post-Soviet Russian Arctic have been quite distinct. Wide-scale changes started already a decade before World War II, with massive efforts to exploit non-renewable resources, importing immigrant populations for that purpose. In addition, the state implemented ideologically driven experiments aimed at transforming society, especially with regard to indigenous peoples. It was not until 1990 that Russian indigenous peoples were allowed to create their own independent national organization: the Russian Association of Indigenous Peoples of the North (RAIPON). Small indigenous peoples of the Russian North are now better connected with developments abroad than they were in Soviet times, but the evolution of their situation still remains quite distinct from other circumpolar regions. Except in resource rich regions, this situation is characterized by dis-investment from the state, which previously played a central economic role. This has caused severe impoverishment and social and cultural disruptions. In addition, there has been a massive out-migration of recent immigrants (29-31). Ever since the collapse of the Soviet Union, the Russian state has cut subsidies to its Arctic provinces, which has been very effective in inducing newcomers to leave as in Chukotka. Without such economic (dis-)incentives they tend to stay: Norilsk is a case in point (32).

Another significant area of contrast is that where-as most parts of the Arctic were Christianized before World War II, this process only began a decade ago in Northeastern Russia. During the 20th century, differential access to self-government introduced further divergences in social and cultural change across the Arctic.

**Trend summary**

In spite of some differences in content and the timing of changes across the Arctic, some trends of the past few decades are amazingly similar and synchronous. Arctic cultures and societies are rapidly being transformed. After World War II, the rate of change accelerated and paternalistic welfare state policies were imposed. Such planned change gave rise to hitherto unknown social problems. Later, as the pressure to assimilate decreased, cultures and identities started to reaffirm themselves. This revival of tradition occurs in new forms that accommodate modernity and incipient globalization.

**Cultural trends: languages, religions, world views, and art**

The rapid social changes that have taken place since World War II, coming on top of the fact that many Arctic societies remained isolated from other parts of the world for so long, have had profound effects on cultural expressions such as languages, religions, world views, and
The gradual spread of Icelandic, Swedish, Finnish, and other Russian languages that originated far south of the Arctic. The circumpolar North today is dominated by language shifts of traditions and new influences.

**Languages: losses and reversed language shifts**

The circumpolar North today is dominated by languages that originated far south of the Arctic. Russian is currently the most wide-spread language, followed by English, Norwegian, Icelandic, Swedish, Finnish, and other Scandinavian languages. The gradual spread of these languages, brought to pass by the Euro American colonial expansion of the past millennium, peaked in the 20th century as a result of mandatory schooling for all Arctic residents. Many of the over 40 indigenous languages, which had characterized the linguistic space of the Arctic for centuries or even millennia, became threatened by extinction or insignificance after World War II. Icelandic and Faroese, which despite their southern roots can be said to have developed into their present form in situ, are exceptions. Apart from their ambiguous status as being indigenous to the Arctic, howev-

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<td>Athabaskan branch of Na-Dene</td>
<td>Canada</td>
</tr>
<tr>
<td>Athabaskan branch of Na-Dene</td>
<td>940</td>
<td>210</td>
<td>22</td>
<td>Athabaskan branch of Na-Dene</td>
<td>USA, Canada</td>
</tr>
<tr>
<td>Athabaskan branch of Na-Dene</td>
<td>160</td>
<td>40</td>
<td>25</td>
<td>Athabaskan branch of Na-Dene</td>
<td>USA</td>
</tr>
<tr>
<td>Athabaskan branch of Na-Dene</td>
<td>900</td>
<td>70</td>
<td>8</td>
<td>Athabaskan branch of Na-Dene</td>
<td>Russia</td>
</tr>
</tbody>
</table>

er, these languages are also characterized by a retention rate of almost 100%.

The state of indigenous languages throughout the circumpolar North varies significantly. Many are characterized by a dramatic loss of speakers, including many of the Saami dialects/languages, Yukagir, Aleut, and several Athabaskan languages in Alaska and Canada. Other indigenous languages seem to be in relatively good shape. These include Northern Saami, Tundra Nenets, Sakha, Chukchi, St. Lawrence Island Yupik, central and eastern Canadian and Greenlandic Inuktut (the eastern variants of the Inuit language), Chipewyan, Dogrib, and Slavey. One obvious reason for this difference relates to demographic factors. It is not surprising, for example, that the language of the Sakha, who number over 400,000 (although only a small portion of them live in the Arctic), is in much better shape than the language of the Yukaghir of whom there are only slightly more than 1,000 people. A variety of other factors, including government policies, ethnic prestige, and local leadership, have also played a role in language retention.

Government policies throughout the circumpolar North were generally indifferent, sometimes even hostile to the preservation of indigenous languages well into the second half of the 20th century. The situation in the Soviet Union was different and asynchronous with other parts of the Arctic. On the one hand, indigenous languages of the North were actively supported back in the 1920s. On the other hand, local initiatives to battle language loss had little chance under the authoritarian conditions of pre-perestroika policies. Danish Government policies regarding the Greenlandic language though long based on paternalistic attitudes represent probably the longest history of language preservation, with the result that the Inuit language – particularly as spoken in Greenland – is one of the more positive examples of Arctic language retention today. The box below describes this case in more detail.

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**Hopes and motivations for the Greenlandic Inuit language**

Greenlandic is part of the Inuit language and of the Eskaleut linguistic stock. The Inuit language is spread from the eastern tip of Siberia and Aleutian Archipelago through the whole Arctic coastline of North America, the Labrador Peninsula, and Greenland. The basic grammatical structures, the phonological and cultural base are virtually the same. Regionally different external influences through European contact led to distinct educational policies for each area. The Greenlandic experience was “softer” than those of Inuit in other areas. Not only were the Dano-Norwegian policies of the 18th century “nicer,” but missionaries tried to reach the Inuit in their own language, and trade relations with outside merchants became more influential.

Certain intellectual trends also influenced the policies of Denmark towards the Greenlanders. For example, between the 1840s and the 1860s, progressive administrators and young intellectuals facilitated the development of Greenlandic literacy and educational materials. S. Kleinschmidt developed a standard system of spelling for the Greenlandic Inuit language, issued a Greenlandic dictionary, and provided a full translation of the Bible, while H. Rink published traditional Greenlandic stories and tales. At the same time, the first Greenlandic periodical was published and the principle of political self-government was gradually introduced.

A new era started in the 1950s. Greenland was incorporated into the Danish jurisdictional sphere on Danish terms and Greenlandic was challenged by the massive influx of the Danish language and Danish educational practices. There were cases when Greenlandic parents encouraged their children to speak Danish even though they did not understand Danish themselves. This period lasted until Greenland Home Rule was introduced in 1979. The new political situation fostered the stabilization of the Greenlandic Inuit language. The Home Rule Government was in charge of education in Greenland and the Greenland Home Rule Charter made Greenlandic the main language, while providing for Danish language teaching and permitting the official use of both languages. In the meantime, a new phonemic orthography (a writing system which tries to achieve a close resemblance between spoken sound units and written symbols) had been introduced in 1973, which made it much easier to write in Greenlandic.

Poetry and music are now blossoming and literature is being revitalized. The Greenland Home Rule Government established a Greenland Language Committee, a Greenland Place Names Authority, and a Greenland Committee on Personal Names. Those committees are responsible for tracking language and naming trends and also collaborate with similar authorities in neighboring and Arctic areas.

**Carl-Christian Olsen** (Puju), Greenland Home Rule Language Commission
Contact between indigenous and outside languages in the Arctic has been going on for centuries (33). One result has been the development of a number of pidgin and contact languages (34), as well as of one “mixed language,” namely Copper Island Aleut (35). During the 20th century, however, language contact reached a new level of intensity, leading to one-sided language shifts in favor of southern languages promoted by schools and government agencies (36). Some people became bilingual, but it should be pointed out that most Arctic communities had been bi- or even multilingual long before southern states encroached onto their territories.

Within the general picture of language loss, there are fortunately also examples of reversed language shift, where indigenous languages are regaining ground. This includes the Saami language, where the case study presented in the box below illustrates how political, social, and cultural empowerment enables language revitalization. A similar development occurred in the 19th century when political and romantic nationalism stimulated a revival of standardized and purified Icelandic (37) and Faroese (38). These examples confirm an earlier (39) observation that language shift is not about languages but are a social, political and economic phenomenon.

An important question is how individual speech communities deal with language shift and loss. Does the apparent link of language and identity lead to the disappearance of ethnic and other group identities as a result of language shift processes? Luckily, there are communities and groups, such as the Inuktitut

Saami language shift

Saami is a Finno-Ugric language and belongs to the Uralic family. Recent estimates indicate that there are about 38,000 Saami speakers. There are somewhere between 50,000 – 100,000 Saami individuals, and in many Saami regions, there are more people identifying themselves as Saami than there are Saami speakers (40). This is particularly the case in many coastal and fjord areas of Finnmark and Troms, Norway. The Saami people have been subjected to assimilation policies. For example, “Norwegianization” was an official policy of the Norwegian Government that lasted from the 1880s until the 1970s, which led to a language shift from Saami to Norwegian. However, during the 1970s, a Saami movement gradually managed to influence minority policies in Norway, and reversing the language loss had high priority. The role of language revival in this culture-political process is well illustrated by the following episode.

In one of the coastal Saami villages, where Saami is spoken as the mother tongue mainly by those over 50, a son came to his mother, who was studying Saami at the university, and said: “Do I have to go to the university to learn Saami?” (41). The mother realized that this should not be the case, which became a turning point for providing Saami as a subject in schools in a region where it had never been offered before. The pupils expressed the desire to learn, some of the parents brought the initiative to the school authorities, and the community became the source for teaching materials. There was a shortage of local written material. At the same time, there was a rich oral tradition in the region held by the elders, and the schools developed a program based on the local community, its history, and cultural traditions. The pupils produced their own textbooks on various themes for their excursions and fieldwork in the community. Their work resulted in a collection of traditional oral material that would otherwise have been lost. Open community gatherings were held to discuss the various themes. The information gathered by the pupils in their communities was brought back to the community and the informants, who got the chance to give feedback. Direct contact between school and community was established (42).

The efforts of the Saami movement during the 1970s and 1980s have borne fruit. The revitalization of the Saami culture and reversing of the language shift slowly evolved from the core Saami district to regions were the Saami language for decades seemed to have disappeared from the public spheres.

Gunn-Britt Retter, Arctic Council Indigenous Peoples’ Secretariat
Aleuts and the Russian Orthodox Church

Russian Orthodoxy has been a prominent part of Aleut life since approximately the 1790s, when the first missionaries arrived and established churches in most Aleut communities. While some researchers have highlighted the devastating effects of the first fifty years of Russian-Aleut contact (1741 – 1790s) and the role that the church played in imposing new social forms, religious institutions, and material culture, others have pointed to the similarities between the Aleut pre-contact religion and Orthodoxy as the reason for the acceptance of the new religion.

The Russian Orthodox Church triggered undeniable accomplishments in education and literacy by supporting elements of traditional Aleut culture and by preserving their language. This enabled a peaceful intertwining of both cultures. For the majority of contemporary American Aleuts, the Russian Orthodox Church is woven into the fabric of their lives. They are devoted followers and believe it was embraced by their ancestors over two hundred years ago. Many communities carefully maintain graceful church buildings that are not only places of worship but also symbols of Aleut culture.

The Commander Island Aleuts traveled a different historical path. Their islands were resettled from the islands of Atka and Attu in the western Aleutians in the 1820s. These islands were not included in Russia’s sale of Alaska to the Unites States in 1867, and the people were separated from their original communities. After the Russian Revolution of 1917, they were converted to atheism by the Bolsheviks. When the Orthodox Church began regaining influence in the changing post-Soviet society in 1990s, the Aleuts of Russia came full circle. The Russian Orthodox Church is not the only religion on the Commander Islands today and the impact of religion on the social lives of the Aleuts is still limited. An Orthodox parish was formed in the village of Nikolskoye in 2000 and an apartment converted into a “church.” Occasionally, priests from nearby Petropavlovsk come to perform weddings, baptisms, and other functions.

An Aleut Elder, Vera Timoshenko, recollects how her mother told stories about the closely knit community of Nikolskoye and the role of the Orthodox Church in teaching people how to be humane and compassionate, industrious, and obeying. Vera wishes Nikolskoye would build a real church to revive the Orthodoxy that used to be a spiritual foundation of the Commander Island residents. She believes that the rebirth of the church may solve some of the social problems, such as alcoholism, and may teach people to treat each other with kindness and respect.

Victoria Gofman, Executive Director, Aleut International Association

Religions and world views: merger of traditions and Christianity

At the beginning of the 21st century, the vast majority of all Arctic residents are affiliated with some form of Christianity. Various Protestant churches dominate in northern Fennoscandia, Iceland, the Faroe Islands, Greenland, Alaska, and parts of northern Canada, while the Russian Orthodox Church is prevalent in the Arctic regions of the Russian Federation and in addition has limited presence in Alaska and parts of Finland. Finally, the Roman Catholic Church is particularly strong in parts of Canada and Alaska. There is considerable variation as to when Christianity reached different parts of the Arctic. While it happened almost 1,000 years ago in northernmost Europe, the inhabitants of the Chukchi Peninsula in the Russian Far East had little first-hand experience with Christianity before the 1990s. Generally speaking, the 18th and 19th centuries were the major periods of religious conversion in the Arctic.

There have been various attempts to explain the rapid conversion of Arctic peoples to Christianity (46). Most authors agree that a combination of several factors is responsible. In some cases, such as the Lule Saami, (47) religious change was forced, but in many other cases indigenous agency was much more pronounced (48-49). The adoption of Christianity rarely, if ever, resulted in the simple replacement of one religious system by another. Instead, old and new beliefs were reintegrated within a new system that was both Christian and local (50). In
some cases, a religious tradition that was initially introduced through colonial expansion, not only became part of, but even reinforced the cultural identity of an indigenous people (51). One example of this can be found in the Aleutian Islands, as illustrated in the box on page 56.

Pre-Christian religious beliefs in the Arctic showed an abundance of local and regional variation. Nevertheless, two broad categories of belief systems—shamanism and animism—were characteristic of most of them (53). Shamanism, which is often perceived as the stereotypical “Arctic religion” by outsiders, was never a unified system of beliefs but a variety of localized practices with a limited number of common elements (54). Central was the figure of the shaman, sometimes male, sometimes female. Until recently, most Arctic communities had religious functionaries who were able to communicate with and “control” spirits. These shamans were engaged in healing and other activities aimed at improving communal and individual well-being. In the small-scale societies, these functionaries held extremely important social positions, which sometimes led to an abuse of power.

Animism is the belief that all natural phenomena, including human beings, animals, and plants, but also rocks, lakes, mountains, weather, and so on, share the soul or spirit that energizes them. This notion is at the core of most Arctic belief systems (55), which means that humans are not the only ones capable of independent action. An innocuous-looking pond, for example, is just as capable of rising up to kill an unsuspecting person as is a human enemy. Another fundamental principle of Arctic religious life is the concept of humans being endowed with multiple souls. The notion that at least one soul must be “free” to leave the human body is basic to the shaman’s ability to communicate with the spirits.

Since the killing and consumption of animals provide the basic sustenance of circumpolar communities, ritual care-taking of animal souls is of utmost importance. Throughout the North, rituals in which animal souls are “returned” to their spirit masters are widespread, thus ensuring the spiritual cycle of life. While most animals of prey receive some form of ritual attention, there is significant variation in the elaboration of these ceremonies. One animal particularly revered throughout the North is the bear (56). Religious beliefs and practices in the Arctic have always been tied to the land and other aspects of the visible and invisible landscape and “sacred sites” are of particular importance for many Arctic residents (see box below).

The conservation value of sacred sites: a case study from northern Russia

Sacred sites are frequently located in regions where nature preservation has a high importance for the indigenous peoples: on highly efficient hunting grounds, in regions with rich biodiversity, along migration routes, in areas populated with rare species, as well as in areas with unique landscapes. The Program on Conservation of Arctic Flora and Fauna (CAFF) recently supported a proposal by the Russian Association of Indigenous Peoples of the North (RAIPON) to implement a pilot project in Russia to protect indigenous peoples’ sacred and ritual sites. The aim is to promote the preservation of indigenous cultural and spiritual heritage in the Arctic in sites that have sacred significance and enjoy high biodiversity and nature value, in order to demonstrate the necessity to incorporate sacred sites into the network of protected natural territories.

In addition to literature and archive reviews on topics such as indigenous culture, spiritual and religious representations, traditional knowledge, resource use, and environmental protection, experts from CAFF and the Indigenous Peoples’ Secretariat have developed a questionnaire that regional researchers and local, indigenous assistants have used to identify sacred sites. The results of the field studies were presented after discussions with the communities involved and the idea is to develop detailed recommendations to governmental authorities in Yamal and Kamchatka.

In the Tazovsky district of the Yamal-Nenets Autonomous Okrug, 263 sacred sites were identified, described, and mapped from interviews with indigenous elders. In the Koryak Autonomous Okrug, interviews in villages of the Oloyutonsky district helped describe and map 84 sacred sites. All questionnaires are archived in the RAIPON office and can be used for further research. The project will also identify ways to improve the protection of sacred sites. In conclusion, it seems that modern civilization is finally learning from indigenous peoples, who still worship Nature as a living being and consider contacts with the land to be the primary factor of survival. One of the project participants expressed it as follows: “Sacred sites mean environment, morality and veneration for life.”

Mikhail Todyshev, Tamara Semenova et al., RAIPON
World views are not limited to the religious sphere. In fact, Arctic indigenous worldviews are characterized by their holistic nature, which means that they cannot be easily compartmentalized into religious, economic, social, or other components. Still, those aspects of Arctic worldviews such as “ecological” practices and beliefs that seemed non-religious to outside observers, faced less opposition from missionaries and state agencies than those more obviously directed toward supernatural forces. While it would be naïve to assume that ecological beliefs and practices have not changed over time (57), the persistence of “subsistence ideologies” (58) is noteworthy. Contemporary Gwich’in thinking on “subsistence” illustrates how changing economic and religious conditions become integrated, as is described in detail in the box below.

**Art: functional beauty and commercial commodity**

Art in the Euro-american understanding of the term – objects made solely for aesthetic purposes – did not exist in the Arctic until recently. However, an archaeological record with wonderful sculptures and drawings shows that people in the Arctic have been making objects that were functional and aesthetically pleasing from time immemorial.

The first encounters with outsiders provided new possibilities for artistic expression, for example by the introduction of iron tools. However, Christian missionaries and government officials were often responsible for undermining the religious basis on which most of

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**The worldview of Gwich’in subsistence**

Subsistence, narrowly defined, means to survive. To the Gwich’in, it means far more. Besides our spiritual relationship with God, the Creator of all that is, subsistence is the essence of the Gwich’in Nation. It is how we are sustained physically. It serves to support us economically and spiritually and is a key to our sustainability as a people. We are fed by plants and animals of the water, air, and land. Wood provides warmth and housing and the raw materials for tools and transportation devices, such as boats, snowshoes, and toboggans [runnerless sleds widely used by Native Americans].

The cash component of our economy is a small but important element of our subsistence lifestyle. We harvest wood, fur, and wildlife for barter or sale, mostly locally, but occasionally abroad. While some have assumed the role of full-time workers, many rely mostly on natural resources they catch or cut to meet their economic needs. Our spirituality is tied inextricably to the water, land, air, and resources within them. Our relationship to the spiritual realm has always been conducted through the beauty and awe of nature around us.

We are sustained as individuals and as a people through our subsistence lifestyle. Our resource-dependent culture is sustained by unfettered mobility and access to the resources we depend on. Unfettered mobility means that we pursue resources where they are most abundant and where there is easy access. Unfettered access means that we gather resources when we need them and in the most economical and feasible manner possible. As we continue this lifestyle, we build and maintain our close and interdependent ties to the resources around us.

Gwich’in identity is a picture of integration with the land and resources. We see ourselves as an integral part of the diversity of the landscape. We believe that we would not be whole if we were separated from this land. We also believe that this land would not be whole without our presence. Our well-being is linked closely with our ability to live on and adapt with the land. Our family and land-based bonds are strengthened, restored, and invigorated as we continue our subsistence lifestyle. A tremendous sense of belonging and purpose is experienced as we survive on the land.

Subsistence encompasses all areas of Gwich’in life from the cradle to the grave. Gwich’in youth are trained early on the intricacies of our relationship with the natural environment and the harvesting, processing, and distribution of wild resources. These relationships are strengthened when our youth mature into leaders. The cycle of life continues as they pass what they have learned from their elders and through trial and error to their children and relatives.

Craig L. Fleener, Gwich’in Council International
Arctic artistic production was based. In certain areas, such as Greenland, art came under direct influence of European traditions early on. The Greenlander Aron of Kangeq (1822-1869) became known throughout Greenland and Denmark for his lively watercolors of Inuit village life and tales. In other areas, such as Alaska and many parts of Arctic Canada, handicraft items for trade provided a venue for "native art." For example, delicate Athabascan beadwork on moose and caribou skin was popular throughout the Canadian and Alaskan Arctic and subarctic (59).

The entry of Arctic art into international markets is recent. One of the best-known examples is Canadian Inuit printmaking. In 1948, James Houston, a young non-Inuit Canadian artist, traveled north to the Nunavik village of Inukjuak for a sketching trip. Houston befriended the local Inuit, who coveted imported commodities. In trade, the Inuit brought him small soapstone models of animals. Houston persuaded the Canadian Government to subsidize soapstone carving, which eventually became a multi-million-dollar enterprise for the Inuit. A decade later, Houston had moved to Cape Dorset on Baffin Island and repeated the same success story with printmaking. There, local Inuit artists submitted drawings for print making. The prints were marketed in North America and Europe, and the demand soon outstripped the supply. Thanks to worldwide media coverage, artists such as Kenojuak Ashevak and Pudlo Pudlat became famous with Inuit art collectors. Their works are in museums, art galleries, and private collections around the globe.

In recent years, the development of Arctic arts has gone far beyond the confines of what have been traditionally considered the fine arts. New art forms, such as literature and filmmaking, have become prominent. For example, the critically acclaimed film Atanarjuat ("The Fast Runner") – written by Paul Apak Angilirq and directed by Zacharias Kunuk – is the first feature film made in Inuktitut. Moreover, writers such as the Chukchi novelist Yuriy Rytkheu have successfully transformed oral traditions into books which are read throughout the Arctic and non-Arctic world. Finally, new forms of Arctic music are developing, which incorporate traditional elements, such as the Sami yoik, and elements of western popular music.

**Similarities and differences with non-Arctic areas**

Many of the cultural trends in the Arctic are the result of an unbalanced encounter between the cultural traditions of small-scale, hunter-gatherer societies and large-scale agricultural and industrial states. What is peculiar for the Arctic is that these encounters occurred relatively late, and that agricultural/industrial cultural values were imposed in the 20th century. The similarities to non-Arctic areas are greatest with those of other hunter-gatherers pushed aside by agriculturalists...
relatively recently, as in Australia and Amazonia. However, the indigenous groups in the Arctic are generally less impoverished than in their third-world counterparts. And even more important, they are part of larger societies that have come to support – by and large – a fuller implementation of civil and indigenous rights.

Variations within the Arctic

Various parts of the Arctic came into intense contact with cultural agents from the outside at different points in time, which in turn often determines the extent to which non-Arctic elements have been incorporated into local cultural traditions. An example is the almost complete erasure of shamanistic elements from Saami worldviews as a result of almost 1,000 years of Christian influence. For current cultural processes in the North, government policies are among the most important variables. In the 20th century, the policies implemented by the Soviet Union differed most from other Arctic countries. Moreover, the cultural trajectories of Iceland and the Faroe Islands are noticeably different from the rest of the Arctic, primarily because of their different settlement history. While the cultural background of the ancestors of the contemporary Icelanders and Faroese was undoubtedly non-Arctic and agricultural, their descendants can point to over 1,000 years of cultural development in the Arctic.

Trend summary

Outsiders and Arctic residents have been bemoaning “culture loss” for decades. This kind of judgment fits with the measurable decline in linguistic and religious knowledge, the fact that certain songs, dances and other art forms were pushed out of use, that languages became extinct, and worldviews replaced. However, “culture gain” and “culture creation” are also part of the cultural realities of the Arctic. Vocabularies, dialects, and languages were replaced by others, as were religions and art forms. Also, many aspects of Arctic worldviews have persisted despite processes of change and replacement. In the final analysis, the most important factor is whether the local community in question identifies with the cultural bricolage its residents hold today. Culture is intimately tied to identity and the major question is whether you can consider the language(s) you speak and the spiritual entities you respect as “yours,” no matter where they “originated.”

Socialization, kinship, and new networks

The accelerated change of recent decades has been accompanied by gaps in socialization and knowledge transmission between generations. Despite these difficulties, kinship and family relations, especially for indigenous peoples, have remained a central focus. This is true also in the growing Arctic towns and even in urban settings outside the Arctic homeland. Contemporary social networks also include connections between recent Arctic emigrants to more southerly cities and the Arctic communities they came from, as well as between southern immigrants to the Arctic and their social milieu of origin. This section highlights how current social change is shaped by relations between generations, kinship networks, urbanization, and the extension of local communities through emigration.

Social transmission of knowledge across generations

Among indigenous peoples, recent changes have been so precipitous that they have been interpreted by outsiders as a break from the past, and in some cases even, as a breakdown of societies and cultures. In particular, transformations have been associated with major communication gaps between generations. These gaps were amplified by just as abrupt linguistic shifts, which are described in the previous section of this chapter. In many regions, children were in boarding schools where the only language they spoke was a language different from that of their people. Communication with their grandparents was thus often precluded. Arctic developments confirm the fact that minority languages can be dealt deadly blows in the space of one or two generations.

The break in socialization was accentuated when social changes and the school system disrupted important features of traditional education systems. For example, among many indigenous peoples, a great deal of learning occurs through observation and imitation rather than through the written or spoken word. Transmission of knowledge also takes place through the telling of myths and stories that implicitly teach lessons of life to those who are culturally trained to decode them (62-63). Furthermore, among Inuit for example, children are considered as autonomous beings, embodying the name soul of a deceased relative, whose
own volition should not be interfered with (64). These aspects of traditional culture have clashed with the recently introduced formal education and new role models. The introduction of culturally sensitive curricula should reconcile public education with other modes of socialization.

In some cases, parents thought they were improving their children’s chances by letting them be educated in another culture and language, rather than encumbering them with a cultural heritage they were told was obsolete. Such a break in communication between generations, which was common in the second half of the 20th century and continues today in some regions, has created a bottleneck for social reproduction. Nowadays, parents struggle with the atomization of the household and the competition of television programs when they try to provide role models, while indigenous elders strive to reach out to youngsters. The box below illustrates this modern dilemma.

**Kinship and other social networks**

In the Arctic, kinship has for centuries determined the choice of marriage partners, where you live, and participation in subsistence and ritual activities. The definition of kinship and relatedness, however, does not give the same emphasis to biological relatedness as exists in most Euro-american societies. Notions of kinship are flexible and in many cases, social relations are kinship relations. Kinship structures relations of cooperation and mutual aid, as well as those of avoidance and hierarchy.

The majority of indigenous Arctic societies (e.g., most Inuit and Yup’ik societies, the Saami, and the Chukchi) are characterized by bilateral principles of descent reckoning. This recognition of both the father’s and the mother’s kin provides ample means for including a wide range of people among those considered relatives. Patrilineal descent is found only among the Samoyedic, Tungusic and Turkic groups of northern and central Siberia, probably an influence from Central Asia. Matrilineal descent, on the other hand, is only prevalent in the northwestern part of the North American Arctic, among Athabaskan groups of Alaska and, to a lesser degree, Canada. Since matrilineal systems need fairly large groups of people to function properly, bilaterality among most Canadian Athabaskan groups could be due to resource pressures and population losses triggered by Euro-american expansion (67). Athabaskan kinship terminologies sometimes refer to particular cousins as spouses, thereby implying cultural

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**Parenting and counseling the young: voices from Nunavut**

What child-rearing practices we follow are not that of our parents, as we were too young to have learnt it before we went off to boarding school. We did not learn to be parents from school either, because there was no parenting role model to follow. We have children who have grown up in the TV age. They are learning what families are “supposed to be like” from what they see: mostly TV sitcoms. In addition some of our children are affected by the abuse of alcohol and other substances. We are the only ones in our self-contained nuclear household trying to be mother or father who is supposed to provide affection, discipline, enjoyment time as well as getting them to help around the house [...]. These are the changes that have occurred in one generation. Who is raising the children? What parenting skills have they been given? What parenting skills are they passing along to their children?

Alexina Kablu, Iqaluit (Nunavut) (65)

“We elders are also to blame because we are not talking to young people as much anymore. We are relying on the teachers. Our parents did not have teachers or anyone else to rely on. [...] Some people think that because their children are able to speak English, even though they can’t understand them, they follow them, because they think they are more capable than they are. That is not the way it is. [...] People fluctuate in the amount of time they spend talking to young people. Sometimes they become too preachy and other times they totally neglect them. This, too, is not good for young people.”

Nunavut Inuit elder Ithinnuaq (66)

“We were advised from the time we were children to aim towards being good people. We have not done all that our ancestors did, but we have knowledge that our parents passed on to us. I think that if we were to impart this knowledge, it would really improve our young people’s lives. I agree that we elders have not passed this knowledge on enough to our young people. If we started talking to them about what we know, I think the number of offences would go down. We seem to have been hiding our knowledge. We have based this on our thinking that it conflicted with [Christian] religion. We have a lot of knowledge that we should be passing on.”

Nunavut Inuit elder Angutinnguq (66)
While earlier studies mostly paid attention to formal aspects of kinship systems, more recent investigations have focused on the cultural notions that underlie how kinship and other social relations work in practice. For example, in the everyday lives of Barrow and Kangersuatsiaq residents, the flexibility of Inuit kinship makes relatedness negotiable and almost entirely independent from biological links (69-71), while among contemporary Dolgan and Nganasan residents of the Taimyr Peninsula, relatives still play a major role in food distribution, sharing, and other aspects of everyday life. (72)

The relevance of kinship has not diminished with urbanization. An illustration of this is provided in a case study from Greenland presented in the box below.

**The extension of Arctic rural communities**

Urbanization is a universal and well-studied trend. In the Arctic, where living off the land dictated low population densities and scattered settlements, it is a relatively recent phenomenon, associated with the rise of welfare state policies, industrialization, and the spread of wage employment. The concentration of the population in permanent settlements took place during the twentieth century. Many of the major Arctic towns have been growing at a rapid pace, and they are becoming increasingly multi-cultural (73-76). The figure on the following page provides an illustration of the rapidity of urbanization in Greenland since 1950.

In the past few decades, increasing numbers of indigenous people are also settling down in larger centers away from their home areas. For instance, Oslo, Stockholm and Helsinki are playfully referred to as the largest Saami villages or *siidás* in the Nordic countries (77). According to a recent study (78), about 7,000 Greenlanders live in Denmark, which is equivalent to about 15% of the Greenlanders in Greenland. Two thirds of them are women, and they are spread throughout the country rather than concentrated in the capital. In 2001, about 10% of Canadian Inuit lived outside the Arctic (79-80). Among the recently better-studied Native urban communities are the Yup’ik and Iñupiat in Anchorage, Alaska (81-83). In 2003, about 10% of the 274,000 inhabitants of Anchorage were Native or part Native people, which corresponds to almost 17% of the total Native population of the State (84-85).

According to Fienup-Riordan, outmigration to cities does not mean the severance of ties with home communities: “Yup’ik communities are not disintegrating, their lifeblood gradually seeping away. Many can be seen as actually

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**Kinship in urban Greenland**

In Greenland, family is important also for many people living in towns. For example, in Nuuk where family members have to work many hours during the week, it becomes important for kinsmen to spend time together in their spare time, during holidays, family celebrations, and times of crisis. Also, because people live in a large-scale society, they have a need to stick together to handle outside crises. Voices gathered in research on the role of kinship among families in Upernavik, with 1,218 inhabitants, and Nuuk with 13,884 inhabitants (2003 figures) illustrate this well:

“A family is a person whom you can get support from, I don’t know what I should do without my family, I need my family – it can be my own family or my husband’s family.” (35-year old woman).

“Generally most of the families keep together, but a lot of the time they have to work. Your kinsmen give you strength and help you through crises, it is therefore important that families keep together. If families don’t stick together it will be harder for them to handle crises, because they will have no one to support them.” (67-year old woman)

“I think families are more divided today maybe because they are so busy, but there are still families that are strongly connected. It is very important that families are connected [...] we teach our children to understand how important it is for us to keep together.” (young mother, 35 years old)

Although urban kinship can be utilized in many different ways, the basic ideology is centered around expectations about moral and mutual obligations in the realms of sharing, naming, and adoption, among others. Relatives have many different kinds of mutual obligations in their lives and sharing defines the family. Family members strive to keep relatives together to avoid being isolated and having no one to support and share with. People have a choice as to whether or not to fulfill the mutual obligations of the family, and sharing does not always mean that kinship systems and forms of social organization are harmonic.

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expanding and recreating themselves in unprecedented ways until today, when they are as strong and vital as at any time in their 2,500-year history. [...] Although geographically much farther-reaching than ever before, contemporary Yup’ik community continues to be characterized by wide sharing throughout the extended family, with money from wage labor and commercial fishing used to support a variety of harvesting activities to fulfill extended family needs” (86). Also, Yup’ik identities are not abandoned, but reinforced in Anchorage, albeit in a modified

Rural-urban connections in Alaska

I became interested in urbanization while carrying out a study of the socio-economic dimensions of Yup’ik grass basketry. During the first few years of the study, when Annie Don, my Yup’ik collaborator, and I traveled frequently throughout the Yukon-Kuskokwim Delta villages, we often arrived in communities with no prearranged place to stay. Almost everywhere, there would be an older person living alone who was willing to take us in. Because it is unusual for Yup’ik / Inuit – especially older people – to live by themselves, I began to make inquiries. “Where’s your daughter?” I’d ask. “Moved into Anchorage with the kids,” would come the reply.

At the same time, I realized that Annie, who has lived in Anchorage since 1994, was part of this migration, as were her circle of mainly Yup’ik women friends. Furthermore, at the Alaska Federation of Natives Crafts Fair held in Anchorage each October, roughly 75% of the vendors are female. So I wondered if the migration was evenly distributed between men and women. Surely enough, this demographic reflects the gender breakdown of Anchorage-based Alaska Natives as a whole. In 2000, there were slightly over 7,000 Alaska Native women 18 years and above residing in Anchorage, but only some 5,500 men.

How does urban in-migration affect Alaska Native women? For one thing, they confront a daily basis political issues that would be at greater remove from them in the village. Some 50-75% of the urban-dwelling women support themselves through the sale of arts and crafts. These commodities in turn depend for their appeal on exotic raw materials such as seal hide, walrus stomach, and basket grass only obtainable in rural areas. The question of whether urban Native people will have continued access to these products on public land is at present hotly debated and since their very livelihood depends on such access, they are beginning to participate more actively in the political process than would normally be the case. In 1998, the Alaska Federation of Natives, its collective patience worn thin by the absence of resolution, called for a public protest, summoning Alaska Natives to a march and rally in downtown Anchorage. For Alaska Natives generally – and Alaska Native women in particular – direct confrontation such as a protest march, represented a lapse from culturally approved styles of conflict-resolution, which tend to favor settling disputes by negotiation. Among her circle of friends, the question of whether to participate was hotly debated. So as I circled by Annie’s house to pick her up, I wondered if she would act. But there she was on the doorstep. “It’s for my grandkids,” she commented as she climbed into the car, “Anyway if I can’t go home and pick grass, how will I make my baskets?” Her remark illustrates the urban and rural connectedness that characterizes so much about life for Alaska Natives today.

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form emphasizing the common Yup’ik heritage rather than the local origin (87). Thus, outmigration extends the social network of homeland villages and gives rise to “translocal communities” – at least for a time (88). A similar case has been made for the Inuit in Montreal, where it appears that urban Inuit are using ethnic identity as an adaptive tool in a multi-ethnic city (89).

Due to the original vocation of anthropology as a “western” discipline striving to study “exotic others,” corresponding studies of southern immigrant communities in the Arctic are much less abundant. For instance, Danish identities in Greenland are only recently attracting the attention of researchers, one of them a Greenlander (90).

The persistence of kinship and community network among Arctic emigrants to urban areas is similar to recent observations in urban Southeast Asia, Latin America, and Africa. So far, the pattern is quite different from the developments that took place in Europe and in North America in connection with industrialization and urbanization.

**Trend summary**

Most Arctic communities have experienced relentless and pervasive changes over the past decades. The disruption of communication between generations is as much a consequence as a cause of difficulties in social reproduction. Kinship ties and networks have not died out with urbanization but remain a focus for meaning and identity in the growing Arctic towns, and even in urban settings outside the Arctic homeland.

**Key conclusions of policy relevance**

Arctic societies and cultures are highly adaptable and resilient and thus well-equipped for integrating change. The fact that they integrate modernity should be viewed positively rather than with nostalgia for traditions lost. The concept of traditions should be seen as a dynamic one: traditions do not and should not hinder development.

If there is a political lesson to be learned, it is that paternalistic attitudes, top down approaches, and change imposed from the outside are counter-productive, even if they seem to foster social and cultural perseverance in the short run. In the long run, the transfer of decision-making powers from central to local authorities might be the most important factor in helping reduce social and cultural problems associated with rapid change. To reverse negative trends that have their origins decades or centuries ago, however, requires a lengthy “normalization” period. Thus, one cannot expect things to improve immediately.

In each Arctic region, there is a feeling of being distinct from regions further south, even where those regions are adjacent. Globalization increases worldwide connections, but the information and communication technology that fosters it is also used to intensify circumpolar connections. The emergence of a pan-Arctic identity can be further encouraged.

Finally, decision makers should not overestimate the predictive power of social science data. The inherent complexity of social and cultural systems makes predictions that rest upon the extrapolation of particular factors or trends tentative at best. “Social planning” approaches of the past testify to these dangers. Only through further investments into the development of better datasets and methodological tool kits can these limitations be overcome.

**Gaps in knowledge**

Most Arctic states do not keep separate statistics for their Arctic regions regarding key indicators of social and cultural change. For example, it is virtually impossible to determine numbers of speakers of particular languages spoken in the Arctic or to find reliable data about the religious affiliation of Arctic residents. We therefore encourage the Arctic states and Permanent Participants to actively assist in the compilation and distribution of Arctic social science data.

The study of social and cultural processes in the Arctic has been dominated by the discipline of anthropology. While this has led to a number of excellent studies on the local level, regional and national data are much rarer.

The anthropological heritage of Arctic social science research has led to a particular emphasis on indigenous groups and peoples, at the expense of “mixed” and “newcomer” groups. Anthropological research in the former Soviet Union focused more strongly on processes of the past than in other Arctic countries. Thus, there is a lack of studies regarding contemporary trends in the Russian North, especially for the period between World War II and 1990.
The former Soviet Union is not alone in putting more emphasis on certain kinds of research than on others. Most Arctic regions have excellent data on one or another aspect of social and cultural processes at the expense of others. A circumpolar research agenda would overcome the limitations of these “national” research agendas and result in increased comparability of the acquired data.

While there is ample documentation of the effects of individual aspects of social and cultural change, there is little understanding of the cumulative effects of rapid change. This gap in knowledge adds to the weak predictive potential of current knowledge.

Chapter summary

Arctic societies and cultures have been undergoing changes since time immemorial, but the 20th century resulted in an unprecedented amount and speed of social and cultural change. Still, even periods of rapid change have not eradicated traditional Arctic social and cultural systems. Rather, the contemporary Arctic is characterized by various combinations of “indigenous” and “western” elements. Alternatively perceived as “loss” or “innovation,” these social and cultural processes inevitably lead to new forms of mixing “old” and “new.” It will be up to Arctic residents to determine which kind of mix will best serve their future needs.

The Arctic has “grown” considerably during recent decades. Not only have contacts and levels of cooperation increased within the circumpolar North – especially since the opening of the former Soviet North – but the interconnectedness of Arctic and non-Arctic communities has become more apparent. While the impact of southern power centers on Arctic communities has long been noticed, Arctic communities are gradually expanding their reach south and thereby carrying Arctic social and cultural traditions into regions far removed from tundras and northern forests.

References

1. Definition provided by Jens Dahl, Director of the International Work Group for Indigenous Affairs, Copenhagen.
66 Arctic Human Development Report

Eds. (University of Leiden, Leiden, 1999), pp. 56-78.

Quote from page 170 in Vakhtin, 1998 (21).

36. For the Russian North, see N. B. Vakhtin, Ýazyki narodov Severa v XX veke. Ocherki yazykovogo sfiiga (Dmitry Bulanin, St. Petersburg, 2001).


52. Vera Timoshenko was interviewed by Tatiana Grigorieva, IA coordinator in Nikolskoye.


64. E.g. Nuttall 1992:69 (70).

65. For further context, see box “Growing up with change in the Canadian Arctic” also by Alexina Kublu, earlier in the chapter.


74. J. Honigmann, “Five northern towns” *Anthropological Papers of the University of Alaska* 17(1), 1 (1975).


78. N. Fogel-Chance, “Living in both worlds: ‘modernity’ and ‘tradition’ among North Slope...
Iñupiaq women in Anchorage” Arctic Anthropology 30(1), 94 (1993).
86. P. 152 in Fienup-Riordan 2000 (81).
87. Fienup-Riordan 2000: 161, 166-7 (81).
89. Kishigami 2002:197 (80).
95. This chapter follows the AMAP boundaries of the Arctic, because they fit better with cultural and linguistic units than the AHDR boundaries. The table of Arctic languages and the related map of Arctic peoples try to capture a circumpolar perspective and, thus, cannot aspire to do justice to local and regional variations in dialects and identities. For example, Meänkieli - which has the status of a minority language in Sweden since 1996 - is linguistically a dialect of Finnish and therefore not listed separately, and the Kvens who speak it are not distinguished on the map. We acknowledge, however, that even minor linguistic differences can be of major importance for local identities.

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Economic activities create and distribute wealth that individuals, households, and societies can use in reaching different social and material goals. Therefore, economics is a fundamental dimension of human development. In the Arctic, subsistence activities have been important to local economies, but the region is also incorporated in the economies of the Arctic nations and in the global economy. These connections are becoming increasingly important. Examples include exploitation of oil, gas, and mineral resources but also harvesting of the vast biological resources in the region. Government or state supported public service illustrates the close connection to national economies. Taken as a whole, the Arctic economy is large enough to be geopolitically important.

The first part of this chapter looks at the Arctic as a whole and describes its economy by exploring three major characteristics: the large-scale resource exploitation, the lack of manufacturing, and the prominent role of public service and transfer payments. The second part identifies the principal similarities and differences amongst different parts of the Arctic, while the third part discusses the most striking recent trends that will affect the future of the Arctic economy.

The industrial distribution of the Arctic economy

Three characteristics set the economic situation of the Arctic apart from that of other regions of the world (4, 5). First, the formal economy is mainly based on large-scale resource exploitation. Second, family-based commercial fishing or customary hunting, fishing, breeding, and gathering activities continue to be important. Third, much consumption, in particular public services, is supported by transfer payments to regional governments and individuals from cen-
After placing the Arctic economy in a global context, this section describes the different sectors of the Arctic economy.

**A global view**

Considered as a whole, the production created in the formal Arctic economy amounts to over $US-PPP 230,000 million. This would be the gross domestic product of the circumpolar Arctic. The following comparisons make it possible to assess the Arctic’s significance in the world economy.

This production is equivalent to one-quarter of the entire Canadian economy and 80% of the entire economy of Saudi Arabia, the world’s leading oil producer and exporter. It approaches the value of Belgium’s entire economy, and it equals the entire economy of the Russian Federation. It surpasses that of Sweden, a country whose demographic weight is similar to that of the entire Arctic area and is among the most industrialized countries in the world.

What does this result mean? First and foremost, it means that the Arctic production is of significant scale. It is based in large part on the intensive exploitation of the vast natural resources in the Arctic, and the formal economy of the Arctic revolves around these large-scale, capital-intensive activities.

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**SUS-PPP – a definition**

The data used to describe and analyze the formal economy come in different currencies and concern different years. To allow for comparability, two conversions must be made: the first one converts the national currencies into a common currency and the second one has the data refer to a common year. In other words, the data must first undergo a conversion in space, followed by a conversion in time. The PPP makes it possible to obtain conversion rates between currencies that eliminate differences in price levels between countries. The method for calculating the PPP basically consists of collecting data on the price of a representative basket of goods and services for a specific country and to compare it with a reference basket. If, for example, the reference basket costs 100 US$ in the United States in 2000 and 947 Swedish kronor in Sweden, the PPP conversion rate is then 9.47 Kronors per US dollar PPP. By convention, published data are expressed in $ US PPP. After “moving” all of the data to the United States, a common year is obtained by using the GDP Deflator, which measures the price variations for all of the goods and services that are produced and used in the economy of a region or a country.

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**Large-scale resource exploitation is central to the Arctic economy**

Arctic regions have long been considered vast reservoirs of natural resources by the countries that encompass them. First exploited for fish, whales, and furs, these regions revealed substantial diversity and enormous quantities of other resources, such as minerals and fossil fuels. Today, the economic activity of Arctic countries is characterized by the large-scale exploitation of metallic minerals, precious metals, hydrocarbons, and precious and semi-pre-
cious stones, as well as fish from the coastal seas. Primary extraction represents $US-PPP 60,000 million. This is equivalent to the value of almost all of Saudi Arabia’s exports, or the total value of Brazilian exports.

The large-scale exploitation of minerals and hydrocarbons is central to the national economy of several Arctic countries. This is especially true for Russia, where the Arctic regions have vast reserves of gold (Magadan, Chukotka), nickel (Murmansk, Krasnoyarsk), tin (Sakha, Chukotka), and diamonds (Sakha). Also, petroleum and gas exploration is massive, especially in the Yamalo-Nenets and Khanty-Mansi Autonomous Okrugs (7,8).

In Canada, there is major exploitation of mineral resources and hydrocarbons in the Northwest Territories, Nunavut, and Nunavik. Mineral exploitation is also a central economic activity in Finnmark in Norway, and Norrbotten and Västerbotten in Sweden. Alaska extracts considerable quantities of oil from the Beaufort Sea and has one of the world’s biggest zinc mines.

While the industrial-scale natural resource exploitation creates considerable wealth, these activities are carried out to supply markets outside the Arctic regions. Moreover, the resources generally belong to sources of capital outside the Arctic, which control the activities and profits. A few large corporations dominate the extraction activities, and some of them are present in several Arctic countries. This fits well with the concept of “Resource frontier regions,” (9,10) where the massive riches are destined for export and only a fraction of the income and profits remains.

Sometimes, the resource exploitation generates economic spin-off effects in local areas and regions (see also Chapter 8. Community Viability). In such cases, these large-scale activities represent the very core of local and regional economies, around which a vast set of subsidiary activities gravitate, including the construction and operation of infrastructure (roads, ports, and airports) and the organization of services (transportation, retailing, and housing). Thus, even under these conditions when neither the direct income from sales of the extracted resources nor the profits remain in the affected region, there are still significant economic consequences.

In other cases, these large-scale activities are totally separated from the regional socio-economic environment. They are carried out on an autonomous basis and have practically no economic impact on the permanent communities in the vicinity. In this situation, the entire economic activity, as well as the extractive and subsidiary activities, brings benefits exclusively to the rest of the world. The phenomenon of economic decoupling, also characteristic of ‘resource frontier regions,’ represents the extreme case but is nonetheless not unusual in the Arctic.

Large-scale resource exploitation has considerable impact on the local natural and human environment. Examples are toxic discharges from gold and nickel mining operations, which have caused problems that have yet to be solved. In those cases where the residents inhabit or use land that borders on exploitation areas, which is common in Alaska, the Canadian North and northern Russia, the effects on the human environment are multiple and often poorly documented (11, 12, 13). These include poor health related to industrial discharges, as well as the subordination of local governments and authorities of civil society (unions, associations). They can also entail forced changes in how people move over land in fishing, hunting or trapping areas and can diminish the productivity of such traditional activities when the land is disturbed (14, 15, 16, 17). Socially, there are often disparities in standard of living and social status between employees of the industrial sector and the rest of the population, often correlated with ethnicity.

In summary, the way in which large-scale resource exploitation is currently organized in the Arctic is characterized by outside control and resources moving out of the region. Generally, there is not much overlap with local economic systems.
and regional economies, and it appears unlikely that these activities will create economic alternatives that can enable the local communities to survive after the extractive activity is finished. It is thus difficult to see how they can contribute to sustainable development in the region.

**Fisheries remain a backbone of the economy**

In almost all coastal and island areas of the Arctic, fisheries form one of the backbones of the economy. In the Faroe Islands, this is the most important industry, comprising more than a fifth of the gross national product. The catch is diversified and includes a substantial whale harvest. Fisheries are likewise very important and equally diversified in Greenland, whose shrimp catch makes Greenland the second largest exporter of shrimp in the world. Around Iceland, warm and cold currents come together creating particularly rich fishing opportunities, and fisheries have long been important to the national economy of Iceland. In Greenland and Iceland, the production of the primary sector is largely based on fisheries.

Coastal fisheries assume considerable economic significance in Alaska, northern Norway, and all of northern Russia. For example, practically every coastal Norwegian town or village has its own fishing port. Furthermore, lake and river fishing is practiced everywhere in the Arctic, and is significant to local economies. For instance, both commercial and customary freshwater fisheries have been and still are important among the Dene nation in the Canadian Northwest Territories.

Fisheries may be organized according to many distinct systems of exploitation. Industrial fisheries, based on factory ships, demonstrate many similarities with large-scale extraction of mineral and hydrocarbon resources and can involve importing both the capital and workforce from abroad, and taking both resources and revenue out of the region. In such cases, the generation of local economic wealth can be tenuous at best. In several Arctic regions, regional authorities or entrepreneurs do own the factory ships themselves, and consequently can retain the benefits (or what is called the “rent”) within the region, and hence favor the regional workforce as well.

Fisheries can also be organized in a way where the captain-owner of a ship hires a small crew or takes care of all the work himself, sometimes with family members. This labor-intensive approach is one of the first benefit-sharing agreements known in the Arctic and illustrates an increasingly common way to maximize benefits of resource development for Arctic residents rather than continuing with the “decoupling” model of development. Under the agreement, Cominco financed, constructed and now operates the mine and the mill, in addition to marketing the concentrates produced. NANA receives an annual royalty in the form of a payment, which is equivalent to 4.5% of the annual production value. This rate will remain in effect until Cominco recovers its capital investment with interest. Thereafter, NANA will receive a share of the mine’s net profits; this share will be 25% and will increase by 5% per five-year period, up to 50%. Moreover, the agreement includes provisions for training and hiring NANA members, and first preference on all Red Dog jobs goes to qualified Natives in the NANA region. As a result, more than 50% of the 365 jobs are held by NANA members. The agreement also includes provisions for contract and purchasing preferences, subsistence resources protection as well as various consulting and approval mechanisms. This is one of the first benefit-sharing agreements known in the Arctic and illustrates an increasingly common way to maximize benefits of resource development for Arctic residents rather than continuing with the “decoupling” model of development. It is also used to attenuate negative impacts of resource development, including making provisions for the bust cycle at the end of the mine’s life. Among other tools, such as environment and social impact assessments, this is one way to improve resource development from the perspective of increasing benefits for Arctic residents (16).
system, widespread in the circumpolar North, is of the utmost importance not only economically but also from a social and political point of view. It involves a significant number of jobs (more than 20% in Greenland, around 5% in Iceland and northern Norway). It entails making arrangements, negotiations and compromises between actors, such as commercial discussions with local suppliers, local buyers and processing plants, participation with municipal, regional and national governments, concerning regulations etc. And in contrast to industrial fisheries with factory boats, these fisheries contribute to local food supplies. Moreover, as long as fish stocks are not over-harvested, they provide a guaranteed long-term activity. However, the depletion of fish stocks is beyond the control of the local fishermen and this activity, established for generations, is also subject to external influences that may even threaten its survival (19, 20, 21, 22). For further discussion of fisheries, see Chapter 7. Resource Governance and Chapter 11. Gender Issues.

Manufacturing is very limited

Aside from customary harvesting and food from commercial fisheries and reindeer herding, most food and other products consumed in the Arctic are imported. Manufacturing activity is limited. This sector has atrophied in some areas and was never established in others. In places where it remains important, it is usually not very diversified. For example, in Iceland and Greenland, it is primarily concentrated in fish processing, most of which is exported. In some areas in northern Russia, mining activities have lead to a primary refining of the minerals.

One of the few manufacturing activities in the Arctic area is the electronics industry around Oulu in northern Finland. This sector is very dynamic in development and production, and includes companies such as Nokia that provides more than 3,000 jobs in the region. This is more than 5,000 jobs in the electronics industry, which represents some 10% of jobs in the secondary sector (31, 32, 33). This situation is exceptional. The Oulu region is one of the few that has managed to overcome the difficulties of creating a manufacturing industry in the Arctic. Due to the geographical isolation of most Arctic regions, production costs are high. While specific raw materials can be found within the region, technology, qualified labor, and capital have to be imported most of the time. Transportation costs not only impact production itself; they also affect costs for getting products to their markets which tend to be
located outside the Arctic. As a result, costs are often too high to successfully compete with non-Arctic manufacturers who have more access to resources (including cheaper transportation systems). It is therefore difficult to generate sufficient economic benefits to sustain commercial activities.

In general, the role of the circumpolar North in the global economy is asymmetrical: it exports raw materials on a large scale to developed regions and imports most finished products for its own domestic consumption. Only a part of the food supply is locally produced.

**The service sector is dominated by public service**

The service sector is strongly developed in many parts of the Arctic. This includes activities in fields such as retail, transport, and tourism as well as education, health care, and administration in the public sector. This so-called tertiary sector represents almost three-quarters of the economy of northern Sweden and Norway and approximately two-thirds of the economy of other regions, excluding northern Russia, where it constitutes slightly more than half of the gross domestic product.

Retail and transport activities account for about 12 to 25% of the service sector. Within the service sector, transport has an important place in the Arctic economy. It creates from 5 to 12% of the production value, depending on the region. Facilitating long distance mobility, the transport sector is important in exporting local products and for importing goods on which northern consumers depend. It also encourages northern tourism.

Tourism is well developed in a number of regions and is of growing importance in the Arctic economy. It is almost impossible however, at the present stage of economic statistics, to put a number figure on this service industry. A decade ago, and excluding Russia, the number of visitors was estimated at 1.9 million, of whom half were in Alaska and 500,000 were in northern Scandinavia (34). There is no indication that this industry has decreased in the last decade. On the contrary, some regions are giving high priority to tourism development. This is the case in Iceland and Finland for instance, and in almost all regions where it is less developed, efforts are being made to build up the industry.

Nonetheless, public services account for the majority of the service sector. This includes public administration, health care, and education. Altogether, public services comprise the second largest industry in all the Arctic regions, and they represent a share of the gross domestic product that ranges from 20 to 25% (in regions such as Alaska), up to 40% in Canada and Fennoscandia (35) (see box next page).

**Tourists**

<table>
<thead>
<tr>
<th>Country or Region</th>
<th>Number of Tourists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alaska</td>
<td>1,074,800</td>
</tr>
<tr>
<td>Greenland</td>
<td>4,000</td>
</tr>
<tr>
<td>Iceland</td>
<td>129,000</td>
</tr>
<tr>
<td>Northern Canada</td>
<td>224,820</td>
</tr>
<tr>
<td>Northern Scandinavia</td>
<td>529,000</td>
</tr>
</tbody>
</table>

Source: Margaret E. Johnston. Patterns and issues in Arctic and Sub-Arctic Tourism. In Hal, C.M. and M.E. Johnston. Polar Tourism. Chichester, Wiley, 1985, p. 31

**Theme summary**

Three characteristics set the economic situation of the Arctic apart from other regions of the world. First, the Arctic has been used as a large reservoir of resources to meet the energy needs of
of developed countries. Its formal economy is mainly based on large-scale exploitation and export of minerals, hydrocarbons, and marine resources. Much of the remaining part of the formal economy revolves around these activities. In contrast to the Arctic countries, there is little manufacturing industry in the northern regions.

Secondly, much consumption, in particular public services, is supported by transfer payments to regional governments and individuals from central governments. However, the transfers are small in comparison to revenues from regional production, and if the Arctic regions had the political power to collect taxes from the large-scale exploitation of the Arctic’s natural resources, the level of dependence on transfers would likely be different.

Thirdly, family-based commercial fishing or customary hunting, fishing, breeding, and gathering activities continue to be important, both for the economy and for the identity of those involved. These activities are inextricably linked to the monetary economy. Therefore, the means used to carry them out, their efficiency, and their distribution methods are important for people's income and their standard of living.

The spatial distribution of the Arctic economy

Overall economic characteristics differ across the Arctic, with significant variations in both size and structure of the economy from one region to another. This section makes some international and internal comparisons between regions. It tries to assess the regions’ contribution to the circumpolar economy as a whole, and the difference between each northern region and the countries they belong to. It suggests ways for analysis of flows between the Arctic and the rest of the world.

Regional variation in total production

The Russian Federation produces about two-thirds of the total wealth created in the circumpolar Arctic. This share exceeds by far the contribution of all other countries and regions. The Russian North is the widest area in the circumpolar world, and the most populated one. The industrial exploitation of large non-renewable resource reserves has been carried out on a very large scale throughout the area for decades, and is a backbone of the Russian overall economy.

Iceland, northern Norway, Sweden, and

Public administration as an industry

The tertiary sector accounts for between one-half and three-quarters of the total economic production in the Arctic, and dominating this sector is public administration. In several regions for which the data is available, public administration services account for more than one fifth of the formal economy. In some regions, the majority of all paid jobs belong to this sector, which can legitimately be called an industry.

This “over-development” of public administration compared to other sectors has a history that goes back at least 50 years. In Alaska, northern Canada, and Greenland, it can be explained by the policies of nation states to move the Inuit population into permanent settlements. These policies were especially prominent during two different time periods. The first was with the militarization of the Arctic during World War II and the following Cold War period which brought to the world’s attention the material distress afflicting the Inuit, which followed the sharp decline in the fur trade after 1929. States took responsibility for building permanent villages and for assuming the recurrent operating costs. The second time period coincides with the frantic growth in consumption in the 1960s, and the oil crisis of 1973. These developments fueled North America’s appetite for the Arctic’s fossil fuel resources. However, at that time, the indigenous peoples opposed other’s claims to these resources. They wanted guaranteed access both to the territory and to the use of the resources, as well as compensation for the losses resulting from the exploitation. They called for a significant place in political decision-making as it concerned their own affairs. The restructuring and growth of the public administration ensued from subsequent agreements: the Alaska Native Claims Settlement Act (ANCSA-1971), James Bay and Northern Québec Agreement (JBNQA-1975), Northeastern Québec Agreement (NEQA-1978), Greenland Home Rule Agreement (1979), Inuvialuit Final Agreement (IFA-1984).

The story is not altogether different in northwest Russia. Geological exploration carried out at the start of the 20th century revealed the abundance of the region’s ore deposits (36). The building of mining towns between 1900 and 1930 within the context of the centralized Soviet system led to major public expenditures. However, the indigenous peoples did not have the same influence as in North America. Saami and Komi reindeer breeders gradually saw some of their pasturelands transformed, either by the building of mines, cities and roads, or by the pollution affecting the natural environment, forcing them to change areas and, in some cases, economic activity. The Komi were constituted in a district in 1921, then in a Soviet socialist republic in 1936. Since the fall of the Soviet Union in 1990, this jurisdiction has taken on the name of the Republic of Komi. As for the Saami, they are spread out across the northern countries (Norway, Sweden, Finland), as well as in the Russian Barents region.

In summary, the size of the public administration within the Arctic economy is linked to the development of resources and to concerns raised by their exploitation.
Finland are the most densely populated regions in the Arctic. Together, they represent three quarters of the Arctic population outside of the Russian Federation. They display a number of common characteristics. For example, their communication networks, transportation infrastructures (including extensive road systems), commercial and personal services, and public services are remarkably advanced. Indeed, their tertiary sectors are among the most developed in the polar world and globally, with economic diversification being the most advanced in these areas. On the whole, these regions make an important contribution to the entire economy of the circumpolar North, amounting to almost one fifth of the total.

In North America, the contribution to the total Arctic economy varies considerably across the regions. Alaska has the second most important contribution on the circumpolar scale. This is due to the massive oil extraction and transportation from Prudhoe Bay south through the Alaska pipeline, and to a diversified economy, particularly in the southern and urban part of the state. By contrast, the contribution of the Canadian North to global circumpolar wealth creation is much more modest, with its population widely dispersed through vast territories, and with regional economies much less diversified than those in northernmost Europe.

**Disparities among and within countries**

When looking at GDP relative to the per capita GDP in the different regions, some significant contrasts do appear. While northern Russia makes up more than 66% of the total GDP of the circumpolar Arctic economy, the per capita GDP in Russia is very low, in fact, uniquely so. At the other end of the spectrum, the Alaska per capita GDP is the highest among the Arctic regions, and far above the circumpolar average. Canada, whose contribution to the global Arctic economy is modest, has the second highest...
GDP per capita. These differences are the result of multiple factors, including the scale of the Alaskan resource exploitation relative to population. In Russia, the large population and the generally poor economic situation, including low prices are largely responsible.

More interesting are the internal differences that may be extracted from these statistics. The economy of Northern Russia represents a substantial proportion of the economy of the Russian Federation. This proportion greatly exceeds the Arctic part of the economy for other Arctic nation states (except Iceland, which is the only country which falls entirely within the Arctic region). This supports the conclusion previously drawn about the importance of the Russian economy in the circumpolar and global economies, and importantly, highlights the great role of the North in the overall Russian economy.

The economy of the northern regions of Fennoscandia also represents a substantial proportion of the economies of each of these countries. This may be seen as evidence of the key role of some specific industries to the respective national economies (e.g. minerals and fisheries in northern Norway, manufacturing and commerce in northern Finland, etc.). It is also a sign of economic diversification and the fact that the service sector is comparatively well developed. Moreover, the northern parts of these countries are much more integrated in their national economies. In other parts of the Arctic world, the contribution to the country’s national economy is much more humble, even though it may be strategically very important, for instance as part of the nation’s resource supplies.

When calculated on a per capita basis, the differences between countries reveal another aspect of the Arctic economic reality, namely the high value of production in large-scale resource development relative to population size. Specifically, the per capita GDP is higher in northern Russia than in the federation as a whole, and the situation is similar in northern Canada and in Alaska. Northern territories can be seen as wealthy places relative to the national situation, and in fact, some of them with large-scale resource exploitation are often perceived as such.

What the statistics do not reveal are the significant disparities that exist between regions of the same country. Within Russia for instance, massive economic activities are highly concentrated in certain regions: the Tyumen Oblast creates as much wealth as the seven other Arctic regions of the Russian Federation combined, and the Krasnoyarsk Krai creates as much wealth as the State of Alaska. Within Canada the economic indicators vary widely between regions with substantial large-scale mineral exploitation, such as the Northwest Territories, and regions where this sort of development is more limited, as in Labrador. This suggests severe regional disparities that should be properly analyzed with more disaggregated data.

**Import and export**

The balance between imports and exports is poorly documented. However, it is still worth examining from an explorative point of view.

As discussed earlier, the Arctic is exporting raw materials, such as minerals, gas and oil, fish, and seafood, in order to satisfy the energy needs of industrial development and mass consumption. The presence of extractive industries on a large scale in several Arctic regions generates considerable wealth. It also increases geographical differentiation: regions where it operates are generally wealthier, and regions without such resources (due to insufficient quantities or exhaustion from previous exploitation) are generally poorer. Finally, it increases social strat-
The gaps between standards of living are significant throughout the Arctic

The standard of living is uneven throughout the circumpolar Arctic. In the following paragraphs, the formal incomes of individuals are compared, whether from paid jobs, transfer payments, or investments.

**Personal Income and Personal Disposable Income Circumpolar Arctic, regions and countries, 2001**

<table>
<thead>
<tr>
<th>Country or Region</th>
<th>Personal income ($US-PPP per capita)</th>
<th>Disposable Income ($US-PPP per capita)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circumpolar Arctic</td>
<td>n.a</td>
<td>n.a</td>
</tr>
<tr>
<td>Alaska</td>
<td>31,027</td>
<td>27,099</td>
</tr>
<tr>
<td>Faroe Islands</td>
<td>n.a</td>
<td>n.a</td>
</tr>
<tr>
<td>Greenland</td>
<td>14,802</td>
<td>10,547</td>
</tr>
<tr>
<td>Iceland</td>
<td>18,068</td>
<td>n.a</td>
</tr>
<tr>
<td>Northern Canada</td>
<td>26,166</td>
<td>21,253</td>
</tr>
<tr>
<td>Northern Finland</td>
<td>n.a</td>
<td>n.a</td>
</tr>
<tr>
<td>Northern Norway</td>
<td>22,171</td>
<td>14,608</td>
</tr>
<tr>
<td>Northern Sweden</td>
<td>n.a</td>
<td>11,448</td>
</tr>
<tr>
<td>Northern Russian Federation</td>
<td>5,843</td>
<td>n.a</td>
</tr>
</tbody>
</table>

Note: n.a.: Original data not available

The Russian standard of living is the weakest in the Arctic. Moreover, some regions of northern Russia have much lower personal incomes than the national average, and dramatically lower than the circumpolar average. This is the case for the Republic of Karelia, and the region of Arkhangelsk, the Taimyr Autonomous Okrug, as well as the regions of the Far East: Kamchatka and Magadan, and the districts of Koryak and Chukchi Autonomous Okrug. Even in regions that are relatively rich in mineral resources, such as the Republic of Sakha, the average personal income may fall below the average for the rest of the Arctic. Although salaries are generally high in the extractive industry, these are only enjoyed by a small segment of the population. In the Republic of Sakha for instance, about 16% of the workforce is employed in the mining industry where the salaries are higher. For the vast majority of workers in other industries, salaries are lower when compared to the mining industries, and most of the time, lower when compared to other Arctic regions. According to Syrovatski (37), a reindeer herder’s salary is usually less than 600 US$ a year. In other words, the gaps between incomes in different economic domains are especially significant, and the majority of the population have lower incomes than the national or the Arctic average elsewhere. The economy of a few other regions, such as the Yamal-Nenets and Khanty-Mansi Autonomous Okrug, is driven by mega-scale oil and gas exploitation. In these regions, personal incomes are about four times the average personal incomes in the poorest regions of Russia.

The situation is somewhat different in Fennoscandia, in Iceland and in Greenland. In a circumpolar comparison, the personal incomes fall in the middle range. The standards of living in Iceland and in Greenland are higher than in Russia. Generally in these regions, the standard of living is also indirectly supplemented by considerable contributions from public services. This is however less the case in the Russian North nowadays, which may help explain the widening gap between the different regions of the Arctic. However, regional disparities do exist in Fennoscandia as well. Some central areas provide highly paid jobs, while salaries in the northern periphery are generally lower (38). Differences between urban centers and rural areas are also important, both there and in Greenland, with large contrasts between the big municipal centers and the small settlements (39).

The standard of living is the highest in the North American Arctic with Alaska ranked top. Here again, significant differences internally do exist. For instance, in the Canadian Northwest Territories workers get high salaries from the mining industry, and, as a result, the income per capita is quite high. In Nunavut, the best paid jobs are in the government sector, and the average is lower than elsewhere in the Canadian Arctic. In Nunavik, recent work from Chabot (40) shows that more than 55% of the Inuit households, representing 68% of the total population, were living below the low-income threshold. Longitudinal studies have shown that the Nunavik Inuit earn less than the non-Inuit workers in this region, but the gap is very slowly narrowing (41).
investments in the Arctic result in spin-offs further south, since they generally generate new imports.

This disequilibrium between exports (of raw materials, as well as economic rents) and imports, is a new element of the asymmetrical relations between the Arctic and the rest of the world. One of the main implications is that it is almost impossible for the regions themselves to cover the costs of public services given the limitations of their fiscal capacity. Most of the time, they cannot benefit from large corporate profits, because the corporations are outside of their jurisdiction. Also, in Arctic regions with limited or no large-scale resource exploitation, costs of public services must be covered by the capital regions.

Transfer payments are another kind of import, which in many cases are an indispensable source of funding needed in order to maintain a minimal level of public services. This is the case in the Russian Far East for instance. In certain cases, however, this is the price to be paid for maintaining the capacity for exploitation of resources of a given territory. This is the situation in certain areas where large scale resource exploitation has generated substantial profits, and where the central powers wish to maintain jurisdiction over the territories. Transfer payments also exist in places where the democratic setting allows the residents to assert their rights to be part of the deal. Negotiations of so-called “benefit-sharing agreements” would fall under this category.

**Theme summary**

Overall, economic characteristics differ across the Arctic with significant variations in both size and structure of the economy from one region to another. While the Russian contribution to the circumpolar economy is the highest, the population’s standard of living there is the lowest. In Fennoscandia, the economy is generally more diversified than in other parts of the Arctic. Across North America, the contribution to the circumpolar economy is highly variable. The greatest concentration of relative wealth is in Alaska. The gaps between wealthy and poor regions appear everywhere but are most extreme in Russia and North America. Finally, the asymmetrical relations between Arctic regions and the rest of the world should be statistically documented, in order to support definite conclusions.

**Trends and forecasts**

With increasing connections between the Arctic and the rest of the world, the future of the Arctic economy is highly dependent on global economic and political trends. These include the continued importance of mineral and hydrocarbon resources, as well as the increasing influence of private ownership.

**Continued role as reservoir of resources**

Most of the economic characteristics of today’s Arctic were already apparent in 1978 when Armstrong, Rogers and Rowley (42) published their work on the geography, politics and economics of the circumpolar region. For example, there was resource exploitation and export on a large scale, and this had been the case for a long time in many regions. Sugden’s historic model of development in successive waves based on one key product (43, 44) also continues to be pertinent. The two major types of regions he described, “Resource Frontier Regions” and “Downward Transitional Areas,” are still visible today (45). These economic phenomena constitute basic trends in the Arctic and are inseparable from the role of the region and its resources in the global economy. Therefore one can confidently predict that they will persist.

Furs and whales are still used in customary economy to a great extend, but they are no longer the most sought-after resources. For more than a century, the vast quantities of mineral resources, especially hydrocarbons, have taken over that role in the Arctic. This exploitation is likely to continue in years to come, subject to the conjunction of three principal factors. Firstly, the exploitation would be contingent on the rising prices of metals that are abundant in the Arctic, such as nickel and gold, which would render exploitation of distant deposits profitable, notwithstanding generally high costs of production and transportation (46). This presupposes that, in the long run, the demand for these metals should remain strong.

Secondly, despite the weak increase in demand for petroleum over the past few years, economic and geopolitical factors have given non-OPEC countries a new role in production. In particular, supply is rising in Russia (which has become the second largest exporter in the world), in Canada, and in the United States (47). A considerable portion of the reserves under development is situated in the northern parts of
these countries: in Western Siberia, in the Northwest Territories and the Mackenzie River Delta, in Alaska, and in the Beaufort Sea.

Thirdly, world gas consumption has been growing. In the coming decades, more new gas pipeline projects transporting this fuel from the Arctic to markets, including southern Canada, the United States, Western Europe, and the very fast growing market of China, would intensify this type of exploitation. Taken together, these trends, if realized, will perpetuate the Arctic’s global economic role as a vast reservoir of resources.

Privatization will affect the form of economic development

Privatization is a general trend that also applies to the Arctic. This trend in itself will not alter the Arctic’s economic structure. Nonetheless, it will affect the forms of economic development taking place, including those in the metal and energy sectors. This is especially true for Russia but it also applies to other parts of the Arctic.

Since the break-up of the Soviet Union in 1991, northern Russia has undergone profound changes. From a political perspective, territorial restructuring and the pushing by republics and regions have led to an evolution of the union towards a confederate system (48). The increased power in the regions and republics has laid the groundwork for dynamically developing regional economies. Yet, at the same time privatization of the economy has led to significant economic declines in northern regions. For example, in less industrialized cities, the sale of state enterprises to private interests was used as an opportunity to shed social responsibilities inherited from the former regime. This led to privatization expanding even further to also include services, such as healthcare and daycare. These services were seriously affected, if not completely abandoned. These phenomena imposed new burdens on the citizens and harmed their quality of life.

Many cities in northern Russia experienced waves of emigration, an exodus of hundreds of thousands of people (49) (see also Chapter 2. Arctic Demography). Such was the case in Murmansk, for example. Some of the richest cities were affected. This emigration was partly supported by the central government, whose new political framework favored freedom of movement and was no longer aimed at preventing such emigration. In the midst of the economic turmoil of the 1990s, especially in the Far East, many villages, abandoned by public authorities, were deserted and became ghost towns (50).

The implementation of privatization policies has had a profound effect on the economic practices of many communities, in particular in the northeastern regions, including Yakutia, Chukotka, Magadan, and Kamchatka. These communities specialize in breeding reindeer. As a result of the central government’s disinvestment, the domestic reindeer population fell by more than one-third between 1991 and 1999, from 2.2 million head to 1.4 million (51). One result of the reduction of this economic activity has been a more settled way of life, instead of following the reindeer.

When the supply networks that supported production and ensured distribution were cut off or became intermittent, people also had to make greater investment in hunting, fishing and trapping activities. (52, 53). Among the Dolgan and the Nganasan, more isolated now than in the past thirty years, the main source of protein comes from subsistence hunting, fishing and harvesting (54). Prior to the dismantling of the Soviet Union, reindeer and fish were obtained through local markets, state businesses, and stores in urban centers. Nowadays the importance of the domestic and community informal sectors has increased, and non-market distribution of food products has developed. As local residents no longer have money for modern technology, the diversity of prey has increased while the distance covered has declined (55). In short, activities that comprised the major exploitation of biological resources amongst indigenous peoples in the past have reemerged.

Privatization does not only affect northern Russia. Greenland has proceeded with a restructuring of its state company in the food distribution sector, for instance. The operations of the Greenland state company formerly called KNI, Kalaallit Niuerfiat or Greenland Trade, were dismantled, and two distinct enterprises were created in which private interests will be heavily involved from now on. One is expected to supply key market centers. The other, which is responsible for supplying less populous communities, will receive financial subsidies. The government-supported policy of uniform pricing throughout Greenland, aimed at diminishing regional disparities due mainly to distance, has been modified (56).
Other aspects of neo-liberal policies have affected northern regions across the Arctic. For example in the Canadian North, restrictions have been imposed on employment insurance and social assistance. There have also been cuts in governmental services such as healthcare, education and subsidized housing. As a result, places such as Nunavut and Nunavik have been, and still are, experiencing a severe shortage of proper housing. In coastal regions where seasonal fishing provides the bulk of monetary income, the tightening of admissibility criteria for social benefits is having significant consequences. In other words, forces that promote globalization by means of privatization and neo-liberal policies are affecting the Arctic today and will influence future development.

**Partnerships and competition**

The North is experiencing diversification of the economy, particularly in Iceland, Fennoscandia, and in parts of Alaska, where the economies are not as centered on large-scale exploitation of a single resource. Examples include tourist development, especially ecotourism or “green tourism,” where the north of Finland and Iceland serve as models.

A significant diversification is taking place among agents involved in the northern economy, where privatization has opened up resources to new investors. International partnerships, for example between Russian and Norwegian enterprises in the energy sector, are more numerous than ever.

In certain regions residents have concerned themselves in development and are receiving a portion of the accrued profits, or at least some of the benefits. This is particularly true in regions that are rich in resources and have enough political power to enable residents to defend their demands with respect to planned development. This phenomenon can be observed in the region of Yamal-Nenets and Khanty-Mansii, where political reforms and the abundance of strategic energy resources have allowed for the emergence of regional power. Similarly, this has been witnessed in regions where large companies have reached agreements with local and regional authorities, usually in terms of a benefit-sharing agreement. In some cases, the local authorities or residents’ associations themselves become investors or entrepreneurs. This active local participation limits the most adverse effects of exploitation, because residents’ concerns are taken into account.

Social stratification can increase both within a community and between communities and regions, however, depending on who benefits from development and who does not (see *Chapter 8. Community Viability* for further discussion). Also, the economic activity encouraged by this apparent convergence increases competition for resources. In regions lacking independent political power, local vulnerable populations will feel the effects of competition more keenly. Examples of such situations may be the Saami reindeer breeders, faced with severe competition from the forest industry in Finland, and the mining industry in Murmansk. Another is the Nenets reindeer breeders facing competition from the petroleum and gas industry in Arkhangelsk.

**Conclusion**

Considered as a whole, the formal economy of the Arctic is of fundamental geo-political importance. Indeed, it permits the production of raw materials that contribute to meeting the needs of the industrialized world. However, the natural resources are distributed unevenly in the circumpolar area and the conditions of their exploitation vary greatly. In regions that are rich in mineral resources and where civil society exerts a real influence in the public arena, exploitation activities are supervised. For example, big companies must guarantee through tangible measures that the environmental impacts will be minimized or that the economic spin-offs for the local populations will be maximized.

However, this type of supervision is recent and does not exist everywhere. On the contrary, there are numerous large-scale mineral and hydrocarbon production operations that have been carried out – and that continue to be carried out – with little concern shown for the natural and human environment. These situations are most common in regions where local residents have little say vis-à-vis central governments or big industry, for example in one-industry towns where the dominant industry’s considerable power allows for the virtual imposition of conditions on employees, their families, and other residents.

Another conclusion from reviewing the economic systems of the Arctic is the central role played by the state. Accounting for the greatest number of jobs in several regions, the state is a very important economic agent. The state also
plays an important mediation role between private interests and civil society, for example to ensure that the expectations of civil society are reflected in the practices of enterprises. State intervention has occasionally been decisive in allowing Arctic residents to play a larger role in the market economy, not only as employees, but also as entrepreneurs.

A global trend reflected also in the Arctic is state withdrawal and privatization. In can be drastic as in Russia after the fall of the Soviet Union or partial as in Greenland. In many cases, the withdrawal has divided residents and contributed to making the Arctic’s economic future more uncertain. Social policies may need to be a priority in order to counterbalance this uncertainty.

Gaps in knowledge

Resource developments in the Arctic are based on a wide variety of practices. Some are based on a pure market ideology, while others make room for social and environmental concerns. The scope of this chapter did not allow for an in-depth analysis of different practices of their importance in the Arctic world. This should be one of the topics for a follow-up of the AHDR.

In most regions of the Arctic, economic development is viewed as the best way to promote social advancement. However, relationships between economic and social development are not a given, nor automatic or unidirectional. In some regions for instance, the domination of a market ideology has created major social problems, be it in decreasing social programs, or be it in harming the social and natural environment of the Arctic residents. There is a clear need to deepen the relationships between economic development and human development in the Arctic, rather than to assume that what is good for companies is good for societies. This model should be challenged empirically within the context of the Arctic, and by jointly analyzing data sets on both economic and social development.

In some regions, economic rents from resource exploitation are so important that they could cover the costs of public services, if only regional authorities could control the rent. In other regions, economic rents have been redirected toward regional authorities, but few assessments have been made of the results of such arrangements. Research initiatives should be launched to analyze this, and to study the regional government arrangements and their results. Such an initiative could be beneficial to Arctic regions that are experiencing economic and social changes, where few models exist for comparison. A major research initiative should be launched to help shed light on the wide range of practices available. This could be a specific focus for a follow up AHDR. One complication in undertaking such an endeavor is the difficulty of acquiring the appropriate data sets.

Indeed, difficulties in acquiring statistical data sets for the Arctic region that would allow for rigorous comparisons have been experienced in creating this report. The AHDR would have benefited significantly from a proper access to circumpolar statistics. Our capacity to deepen our understanding of the economic and social situation in the different regions of the Arctic is highly limited by the non-availability of statistics.

Chapter summary

The formal economy of the Arctic is mainly based on large-scale exploitation of natural resources (e.g. mineral, oil and gas, and fish), most of which are exported. The service sector is well developed in many parts of the Arctic, whereas manufacturing plays a relatively minor role. Public services are often supported by transfer payments from central governments but overall, more money is flowing out of the Arctic than into the region.

The large-scale exploitation of Arctic resources is important to the national economies of several Arctic countries, as well as in the global economy. This is especially true for the Russian Arctic.

The size and structure of the economy differ between and within countries. The gaps between wealthy and poor regions appear everywhere but are most extreme in Russia and North America.

The Arctic is likely to continue to play a role as a reservoir of resources for the rest of the world. New trends are privatization of resources and new forms of economic partnerships.

References and notes

4. In such a geographic area, where varying political systems and diversified economic practices can be found, it is necessary to employ a number of sources and complementary methods. The system of national accounts measures transactions in the formal economy, namely legal currency transactions subject to taxation. The system is useful for it enables us to describe very meticulously the size and structure of transactions and economic flows, as well as compare the standard of living that may differ considerably amongst countries. The application of the system of national accounts to the Circumpolar Arctic has never been done before and constitutes a major component of this chapter. The data dealing with the formal economy have been taken from national statistical organizations. They were processed to make them rigorously comparable: they were converted into 2001 US$, and modified to reflect purchasing power differences (which is referred to as PPP, Purchasing Power Parity).

5. The informal economy represents all of the economic activities that are not encompassed in the national accounts. It includes four activity sectors. The domestic and community sector produces, distributes and consumes goods and services, in the home or in the community, without resorting to monetary transactions. It is characterized by a limited number of intermediaries and a set of tacit rules based on the underlying motivation and ties that unite people involved in a transaction. The actual informal sector, is often associated with traditional activities, (C. Godfroy, Thesis, Université Montesquieu-Bordeaux (1997)), the activity of a single producer, or of micro-enterprises involved in the production of goods or services, commerce, transportation or procurement. This sector’s transactions are not included in the national accounts; nevertheless, they all employ currency, and hence are legal or simply tolerated (C. Michaud, Thesis (MBA), Laval University (1994)), or encouraged (A. Portes, M. Castells, L. A. Benton, Eds. The Informal Economy (Hopkins Univ. Press, Baltimore, 1989)). The irregular sector and the criminal sector are characterized by the failure to comply with existing state regulations. Because this study is based on available data and is attempting to achieve a systematic analysis, it does not refer to the irregular and criminal sectors of the informal economy. Moreover, it does not focus on all of the activities of the actual informal sector, or the domestic and community sector. Indeed, available data concerning the informal sector and the domestic and community sector generally deal with food-producing activities, the production, distribution and consumption of food associated with hunting, fishing, trapping, breeding and gathering; they only exceptionally concern activities such as women’s domestic work, including their role in this food chain. The informal economy data come from a broad range of scientific literature and monographs, since the transactions of the informal economy have not given rise to any systematization on the circumpolar scale.


10. D. E. Sugden, Arctic and Antarctic (Barnes, Tottawa, 1982).


Acknowledgements

Statistics on the formal economy and data on the informal sector have been extracted from ArcticStat, the core infrastructure of the Canada Research Chair on Comparative Aboriginal Conditions, Gérard Duhaime chair holder. Their compilation and processing were made possible thanks to the financial support of the Canada Research Chairs Secretariat, the Louis-Edmond-Hamelin Chair and the core infrastructure of the Canada Research Chair in Local Economic Development. The authors are grateful to Pierre Fréchette of Laval University, Eric Guimond of the Department of Indian and Northern Affairs Canada, Finn Christensen of Statistics Greenland, Rein Billström and Eva Lundström of Statistics Sweden, Ulla-Maari Saarinen of Statistics Finland, Heidi Ryan of the Newfoundland Statistics Agency, and Heather Tait, Marc Pagé and Robert Aubé of Statistics Canada.
The political systems of the Arctic are the results of an historical development that was initiated by the expansive colonial policies of the European and Euro-American states. The subsequent claims for self-government by indigenous peoples have given rise to a number of new self-governing autonomous regions. The timing of this historical trend has not been the same in all parts of the Arctic. One region may have been colonized several hundred years ago, while other regions were only incorporated after World War II. One of the main trends identified in this chapter is nation building in the Arctic followed by decolonization and the growth of regional autonomy.

Today, most of the Arctic falls within states where a majority of the inhabitants live outside the Arctic region, with a range of political structures to govern the relationships between the nation states and their northern regions. This remarkable variation in the types of government arrangements reflects demographic, geographic, and political variations. But a common theme is an increasing integration of indigenous affairs into mainstream local, national, and regional government arrangements. This development is the second major trend discussed in this chapter.

Despite differences in political systems, a common feature of Arctic politics is increased indigenous participation in political processes. The main focus of this chapter is thus on the development of indigenous influence in the political systems of the Arctic.

**Nation building and decolonization**

Today’s political structures in the Arctic are the result in part, of the historical formation of the states and the building of new nations. The Arctic was seen as a frontier, and colonialism and assimilation became the main strategies of the states bordering on the Arctic in their nation-building processes. This section describes the concept of nation building, and provides an historical context for nation building in the Arctic.

**The concept of nation building**

Nation building denotes a process in which central claims on behalf of the state for economic and cultural standardization within its territory are met with counterclaims for political participation and economic redistribution. The general development in the Arctic has followed the phases of nation building described by Stein Rokkan, with state formation and territorial consolidation followed by standardization and cultural integration (1). Strengthening of human rights and general democratization have forced the states to change this policy, but the responses have differed depending on history and state system. Arctic nation building was a process by which dispersed communities were unified under new autonomous political entities. Some of these efforts led to the creation of new states, while others were based upon the quest of indigenous peoples for self-rule.

Nation-building processes lead to the closer integration of a state and its population. It should no longer be possible to take decisions affecting the lives of the population of a country entirely without regular channels of communication between decision makers and those affected by their decisions. One relevant conflict dimension in these processes involves the center versus the periphery. Examples from the contemporary debate about the Arctic include discussions about democratic legitimacy and the strengthening of political citizenship, redistribution of resources, and the growth of public welfare.
Nation building is a long-term process and includes much more than the last and ultimate spurt of the state formation process. Also, nation building may be followed by integrations on a higher post-national level, similar to what can be seen, for example, within the European Union.

The aim of nation building is to secure political stability and affiliation of political institutions across, among other things, ethnic loyalties. But this process can also create problems that relate to the understanding of the concept of a nation as homogenous. In the nation-building process, the state has several alternatives in its relationship with national minorities and indigenous peoples. The common characteristic of official minority policy in the North has been assimilation.

As an answer to assimilation policies, national minorities and indigenous peoples have taken the concept of nation building for their own use. Nation building then refers to the efforts of indigenous peoples to increase their capacities for self-rule and for self-determined sustainable community and economic development. It also involves building institutions of self-government.

**Lingering influence of colonial history**

The Arctic was colonized during different time periods. While the indigenous peoples of the European and Asian North came under the control of traders, missionaries, and state representatives in the 16th and 17th centuries, some areas of the Canadian North remained as almost independent communities far into the 20th century. This asymmetric development is an important factor explaining differences in political activities in the circumpolar North.

Using rivers or traveling along the coast, some parts of the North were easily accessible to miners, missionaries, and traders. As they settled, they appropriated indigenous lands and territories and subjugated indigenous languages and cultures. Other areas were difficult to reach and were only controlled through trading stations or scattered representatives of state authorities. It was in these latter regions that the indigenous peoples remained the majority of the population. Such demographic factors later played a key role in the building of Arctic nations and the different political structures.

In addition, nation building and political structures in the Arctic have been determined by the fact that colonization imposed national borders where there had been none before or where the borderlines were unsettled. For example, the Saami people inhabit an area divided by borders of what are today four countries: Norway, Sweden, Finland, and Russia.

During the colonization of Arctic North America, Inuit became incorporated in different political hegemonies: Newfoundland, Quebec, the Northwest Territories, and Alaska (United States). Each of these territories had powerful agencies that ruled over the Inuit, including the Hudson Bay Company, the Royal Canadian Mounted Police, and the church in the Northwest Territories. By and large, it was not until after World War II that the Canadian state made its political entrée in the Arctic.

In some areas, missionaries following in the wake of colonization created divisions based on religion or systems of writing. This was the case among Inuit and Indians in North America. Not only did they come to belong to different denominations, but those Inuit living in the western Canadian Arctic used the Roman alphabet when the Inuit language was put in writing, while the eastern North American Inuit used a specially designed syllabic alphabet. The significance of this cannot be underestimated. For example, while Greenland began developing as a political reality with one vernacular as early as in the middle of the 19th century, in Canada, where neither religion nor written language unified the Inuit, the process of creating Nunavut was not initiated until the 1970s. Also, while the first newspaper in the Greenlandic language was published in 1861, the first newspaper using the Inuit language (Nunavut) came out more than 100 years later.

In the Russian North, dozens of distinct indigenous groups were brought under Tsarist Rule from the 16th century onward. The Tsarist administrative system encouraged identity formation at the clan level. Later under Soviet rule, larger territorial-linguistic groups were identified as important organizational units and began to self-identify as cohesive nations. This was encouraged by the creation of a standardized written language for some northern groups under the establishment of ethno-territorial units in the 1930s. These ethno-territorial units, however, only encompassed a portion of the peoples for whom they were established. For example, the Evenki Autonomous District only embraced within its bounds less than one-half the Evenki, and the Nenets people were divided between three different Autonomous Districts,
as well as regions outside of these. Such bound-
aries hindered the development of national
movements among the indigenous peoples, as
did state policies strongly repressive of what
was termed “bourgeois nationalism.” However,
the Soviet creation of a special legal classifica-
tion, “the small peoples of the North,” encour-
aged the formation of a pan-aboriginal identity.
This facilitated the indigenous people’s coordi-
nation of their common concerns, and eventually,
toward the end of the Soviet period, active
resistance to ethnical state policies (2-3).

Assimilation and recognition

World War II and its aftermaths, particularly the
Cold War, were a turning point for all regions of
the circumpolar North. This was also the case in
the Soviet Union, although concerted expansion
into the Arctic took place prior to World War II.
Had the central governments not been interest-
ed in these areas before, the military signifi-
cance of the polar seas changed that situation.
In the Nordic countries (including Greenland
and the Faroe Islands), the social welfare ideol-
gy with its objectives of comprehensive social
welfare, formal equality, and economic restruc-
turing provided further reasons for paying
attention to the North.

Another component of the post-World War II
development was the continuation of the poli-
cies of assimilation. Indigenous peoples were to
be integrated into mainstream society. As
described in Chapter 3. Societies and Cultures. Change and Persistence, indigenous languages
were suppressed and children were forced into
boarding schools. Over a longer time-period,
however, examples exist showing that the pen-
dulum has swung between assimilation and
recognition of the unique position of indigenous
peoples. Details vary across the North, however,
and are connected to not only the asymmetric
colonization but also the internal policies of the
Arctic states.

Fennoscandia: In Fennoscandia, the historical
relationship between the Saami and the nation
states has taken several distinct forms during dif-
f erent historical periods. The first period, from the
Middle Ages to the middle of the 19th century,
was marked by state expansionism and attempts
to establish hegemony in the northern areas. The
attitude towards the Saami people was accom-
mmodating (4), and both the Swedish-Finnish and
the Danish-Norwegian states acknowledged
Saami rights. When the borders between
Denmark/Norway and Sweden/Finland were
settled in 1751, the so-called Lapp codicil was
drawn up as an appendix to the treaty. A basic
emphasis in this law document concerning
Saami rights is “the conservation of the Saami
nation.”

In the second period, which runs roughly
from 1850 to 1950, a different relationship
emerged. Several efforts at colonization were
carried out. Local rights were removed and a
new management system was established that
encouraged settlement in the Saami areas (5).
Assimilation became official state policy. The
geographical position and security concerns in
the border areas of the North are one explana-
tion for the harsh assimilationist policy (6). This
policy also affected a minority group in Norway
called Kvens, who are descendants of Finnish
immigrants.

After World War II, the development of the
Nordic welfare states introduced the principle of
equality through individual rights. In the
process of assigning rights to the individual, cul-
tural or ethnic identity was not considered rele-
vant. The post-war recognition of the Saami as
equal members of the state was thus that of
individual members, not that of members of a
separate ethnic group or nation. However, the
post-war period ushered in an attitudinal
change in terms of how the nation state con-
ceived of the Saami. Finland was the first to
inquire into aspects of Saami affairs and devise
some institutional channels for managing
Saami demands (7). In Norway, the Norwegian
Parliament agreed that the previous policy of
assimilation belonged to the past. At that time,
such a change was not obvious in Sweden and
not until the beginning of the 1970s did some
readjustments in the state’s policy appear (9).

Russia: Shortly after the revolution in 1917,
Soviet authorities created a legal category, “the
Small Peoples of the North,” who because of
their alleged backwardness would need special
assistance to reach the stage of socialism. Some
26 peoples were identified in this category,
though this number shifted over time, as the
state occasionally demoted groups and merged
them with others, or reversed such decisions
and considered them as distinct. The Soviet
government founded ethno-territorial adminis-
trative units for some of these peoples in the
1930s (though with little real power), supported
the development of writing systems in some of
the indigenous languages, and initially estab-
lished schooling in these languages. Medical
services and trading cooperatives were built
throughout the North. The state also collectivized the reindeer herds and hunting equipment of the northerners, persecuted richer indigenous persons and religious leaders (shamans), attempted to settle the nomadic reindeer herding and hunting populations as much as possible, and instituted a boarding school system. The latter two policies resulted in the rupture of indigenous families. Consolidation of initial, predominantly indigenous settlements into larger multi-ethnic villages increased assimilation pressures.

Starting in the 1930s, and increasing after World War II, a strong policy of Soviet autarky led to the state encouraging massive in-migration to its northern regions, both to develop resources and to assert its sovereignty over its peripheries. By the mid-20th century, indigenous peoples had become minority populations in most areas of the Soviet North. National censuses showed poor growth and even absolute decline among a number of the indigenous peoples in the 1960s and 1970s, which was the result of both high mortality and russification (3).

Alaska: Originally colonized by Russia, Alaska was sold to the United States in 1867. The heavy-handed policy of Russia towards the indigenous peoples had mainly affected the southern and south-western part of what became Alaska, but under US rule education and religion were used to assimilate all indigenous Alaskan peoples. It was not until the 1930s that Alaska Natives were included in general US policy towards indigenous peoples. Moreover, the Indian Reorganization Act of 1934, which ended the assimilation policy towards indigenous peoples in other parts in the United States, did not apply here. By then most Alaska Native villages had self-government, often combining traditional governmental forms with western influences. In 1936, the Indian Reorganization Act was amended to provide Alaska Native villages with the authority to “reorganize themselves for governmental and business purposes based on a common bond of occupation, association or residence within a well-defined neighborhood, community or rural district.” The most important effect of post-World War II development was that Alaska became a state in 1959.

Canada: The Royal Commission on Aboriginal Peoples, in a report issued in 1996, states that Canadian policies for 150 years have promoted assimilation. Despite differences in treatment between Indians with a distinct legal status and Inuit and Métis, the goal was assimilation (10-11). The government’s proposal in the so-called White Paper of 1969, which suggested that the Indian Act should be repealed and reserve lands transferred from federal to provincial control, was seen as an accelerated policy of assimilation (10). The seeming contradiction between segregation on reserves and assimilation was bridged by the premise that territorial separation was a preparation for assimilation (11). In 1970, the government abandoned these proposals. The constitution was amended in 1982 to recognize and affirm existing aboriginal and treaty rights. The constitutional recognition of “Aboriginal Peoples” includes Indians, Inuit, and Métis.

Greenland: In Greenland, the first Danish colonial settlement was established in 1721. In religion, language and administrative procedures, assimilation has always been part of Danish colonial policy. Decolonization, which started earlier than in other parts of the Arctic, was also used in this respect. It was initiated from the top and the political attitude of the Danes toward the colonized people can be characterized as “benign paternalism.” Most likely inspired by the political developments in Europe in the middle of the 19th century, decolonization and indirect rule became important in governing Greenland. The first step was taken in the early 1860s with the introduction of district councils that were quasi-democratic structures made up of elected Greenlanders (male only) and members of the colonial administration. These councils had a number of social and legal functions, but the most important was to distribute part of the profit from the colonial trade back to the skilled hunters. They were also important because it was the first time during the colonial period that Greenlanders were involved in political and legal decisions. In 1911, elected municipal councils had replaced these district councils and two indirectly elected provincial councils were established. Franchise for women was given in 1948.

Decolonization and negotiations

The attempts to decentralize but to keep control were a logical concomitant to the assimilationist policies of the Arctic states. Greenland was an early example, and since the end of World War II some transfer of political authority has taken place all across the Arctic. However, the early attempts at state-controlled decolonization
have not checked local and indigenous demands for inherent rights and attempts to build new political units in the Arctic. In North America and Greenland, decolonization has to a large extent been characterized by negotiations between indigenous peoples and central governments. This is not the case in the relationship between the Saami and their state counterparts, as the principle of negotiations between an indigenous party and the state has not been accepted. Rather, the establishment of the Saami parliaments was formally a result of the work of public committees in Finland, Norway and Sweden, to clarify political and territorial rights. These investigations to review the rights of the Saami still continue.

Greenland and the Faroe Islands: An early example of negotiating for self-governance is Iceland, which was the first territory within the Arctic to become completely independent. It was a de facto self-governing state within the Danish realm from 1918, but became completely independent in 1944. During World War II, the Icelandic parties worked together to create a new constitution, which was put to a referendum in 1944. As a result of the referendum, Iceland claimed itself to be an independent republic. In the Faroe Islands, a majority voted for Faroese independence in a referendum after World War II, but the outcome was rejected by the Danish Government. Instead, the election of a new provincial council was followed by negotiations that resulted in an arrangement for Home Rule to be established in 1948.

Although the heavy-handed Danish policy against Faroese claims for Home Rule in 1948 postponed the process, it was not able to stop it. The situation in Greenland was no different. With the new Danish constitution of 1953, Greenland and the Faroe Islands became distinct regions within the Danish realm. The Faroe Islands had had representation in the Danish Parliament since 1849. Greenland was now divided in two electoral districts, each sending a representative to the Danish Parliament. Initially, only West Greenland was included, and the Provincial Council chaired by the Danish governor. In 1962, East Greenland and North Greenland were included, and from 1967 the Council elected its own chair. In 1975, modern municipalities were established with wide executive functions and economies based on income taxes. This was also when Greenlanders took over the political initiative and claimed decolonization.

Decolonization was initiated a few years earlier when a new generation of young politicians entered the scene. One of them was Moses Olsen, who was elected to the Danish Parliament in 1971. It soon became obvious that Greenlandic and Danish members of the parliament were not considered equal and this feeling of discrimination was further enhanced in the referendum concerning Danish membership in the European Community (later the European Union) in October 1972. Although there was a substantial majority in Greenland against joining the European Community, it nevertheless became a member because of the majority in Denmark. Voices were raised in the advisory Provincial Council in Greenland in favor of setting up a committee to look into the possibilities for self-government for Greenland. Only a few months later, the minister for Greenland, a Greenlander himself, established the Home Rule Committee composed of the Greenlandic members of the Danish Parliament and members of the Provincial Council.

The report produced by the committee recommended the establishment of a Home Rule Commission with an equal number of Danish and Greenlandic members. The commission’s report was adopted by the Danish Parliament and endorsed in a referendum held in Greenland in January 1979. The result was that Home Rule was introduced in Greenland May 1, 1979. The Home Rule process diverged from all earlier decolonization initiatives in Greenland in that unlike the reforms in the 19th and early 20th centuries which were instigated and controlled by the Danish authorities, the Home Rule process had its roots in Greenland, and was initiated and promoted by Greenlanders who formulated a position from which they could negotiate with the Danish state.

Alaska: Two events have been decisive in shaping Alaska’s recent political history. The first was Alaskan Statehood in 1959, the initiative and push for which came from Alaska. Statehood created a new urgency for negotiating a settlement of indigenous land claims, which in turn formed the basis for today’s political organization, in particular the Alaska Native Claims Settlement Act (ANCSA) passed in the US Congress in 1971.

The process leading to ANCSA started in the beginning of the 1960s when a series of Alaska Native associations were formed. In 1966, the Alaska Native leaders established the first
There is a proliferation of formal organizations in Alaska that are usually referred to as “Alaska Native Organizations.” They are controlled by Alaska Natives, but in most cases they are based on a western model and do not have any traditional Native structure or way of operating. A few were established in the early twentieth century but most came much later. One of the first Alaska Native Organizations was the Alaska Native Brotherhood, founded in Sitka in 1912 by a group of nine Tlingits and one Thimshian Indian. The primary goal was to secure the right to vote for Alaska Natives, which was granted in 1924 when the US Congress passed the Citizenship Act making all Natives citizens.

The majority of Alaska Native organizations that are active today stem from the non-profit regional associations established in the 1960s. These associations formed regional profit corporations under the Alaska Native Claims Settlement Act (ANCsA), which in turn helped to form over two hundred village corporations within their respective regions.

Statewide Alaska Native organization: the Alaska Federation of Natives. There were no formal negotiations between government authorities and these indigenous representatives. All influence took place through lobbying activities. The first bill to settle land claims, introduced in the US Congress in 1967 and passed by the Congress in 1971, was therefore never formally presented to indigenous representative bodies and neither confirmed nor ratified by the people concerned. A new group of Native statewide leaders emerged from this effort. Superseding the tribal governments which did not actively participate in the movement. After 1971, the political power of the Alaska Federation of Natives increased even further. In particular, the newly formed Alaska Native regional corporations that are the members of Alaska Federation of Natives became significant participants in the Alaskan economy.

**Canada:** The Canadian Arctic remained a colonial territory long after democracy had entered the scene in other areas of the Arctic. In most communities, municipal governments were not established before the 1950s and 1960s. The Inuit were not allowed to vote in federal elections before 1962 and territorial elections until 1966. A strong indigenous movement in the Northwest Territories in the late 1960s and the 1970s became the starting point for a series of negotiations between indigenous peoples and the federal and territorial governments.

The indigenous peoples of the Canadian Arctic opted for land claims agreements, inspired by ANCsA. But they went further than the Alaska Natives and, from the outset of negotiations, they demanded that economic, social, cultural, and political rights be included. To a large extent, this reflected the fact that the indigenous peoples of the Arctic make up the majority of the population in these regions (in contrast to Alaska). The first of these agreements was the James Bay and Northern Quebec Agreement affecting Inuit and Cree. In several cases, initial agreements were rejected because they did not allow enough self-government. The Canadian North is home to a large number of indigenous peoples, each with their own priorities and, as it looks today, their own agreement, (see box page 91).

**Fennoscandia:** In contrast to North America and Greenland, the Fennoscandian central governments have not transferred any political authority to new self-governing units but have only delegated management authority and defined tasks. However, there are indications that negotiations as a strategy of dividing management between the state and its indigenous people may also be relevant in Fennoscandia, as illustrated by the discussions following a proposed land management act for Finnmark County in Norway. This act was supposed to close a process that started in the 1970s and ‘80s following controversies over Saami land rights in relation to the establishment of a hydroelectric power plan in Alta. (see also Chapter 6. Legal Systems).

The Finnmark Act has received extensive criticism from the Saami Parliament and from legal experts appointed by the Norwegian Government. The main critique concerns the lack of proper identification and recognition of Saami rights to their lands, both on the individual, and on the community and collective level. The Saami Parliament has stated that the bill is neither in conformity with the internal and international rules by which the state is bound, nor with the state’s moral and political obligations vis-à-vis its indigenous peoples. The importance of the international standard, ILO Convention 169, is stressed, especially in relation to Articles 14 and 15, concerning the need to gain consent from the indigenous peoples concerned, and the recognition of rights to ownership and identification of land in question. During the second half of 2003, an initial
The Inuit of the Northwest Territories initiated their claim for self-government in the early 1970s and the strong quest for self-government led already in 1976 to a claim for the establishment of Nunavut. Although the Inuvialuit (the westernmost Inuit) soon left the process, the basic claims remained intact until Nunavut was enacted by law in 1994. The process that followed from 1976 was long and complicated. In 1982 all the inhabitants of the Northwest Territories voted on the division of the territory. In the Nunavut region, 82% voted in favor of the division and outnumbered the majority against in the west part of the territory. In 1991 the Inuit negotiating team and the government entered an agreement in principle and in 1992 the exact border was decided in a referendum among all the indigenous peoples. With an overwhelming majority, the Inuit of Nunavut ratified the agreement in a separate referendum later the same year. The Canadian Parliament adopted the Nunavut Laws in 1993 and Nunavut became a reality in 1999. Although the Inuit initially had no elected representatives, the Canadian Government accepted to negotiate with the Inuit organizations that had taken the lead. The first Inuit became members of the parliament in Ottawa in 1979, the same year as the indigenous peoples obtained a key position in the newly elected legislative assembly of the Northwest Territories. It was only later that the Government of the Northwest Territories became involved in the negotiations, further confirming the legitimacy of those negotiating on behalf of the Inuit. In the 1980s, the Inuit Tapirisat of Canada succeeded in lobbying for a separate federal constituency, Nunatsiaq, that ensured Inuit representation in the parliament in Ottawa.

Referenda and negotiations were also prominent features in the relationship between the central government and indigenous peoples in other parts of Canada, even if the conditions have differed. In Nunavut, the process has been complicated by a land claims agreement from 1975. The governments of Canada and Quebec and industrial corporations wanted to use indigenous land to develop hydroelectric power, and the Inuit and Cree of Northern Quebec entered the James Bay and Northern Quebec agreement after enormous pressure. Although the agreement was accepted by referendum as a negotiated legal framework for dealing with indigenous rights, land claims, and ownership, as well as education, health and economy, the Inuit of Nunavut have never been at ease with it. There was also a wish for political autonomy under a regional government. This concept has gradually been accepted as another level of public government within the confederative framework of Canada (cf. Nunavut Territory). There have been several initiatives to that effect, including a referendum, an election focusing on constitutional issues, and a constitutional committee set up by the Inuit. On November 5, 1999, the Nunavut Political Accord was signed by the Nunavut Party, representing the Inuit, the Government of Quebec, and the Government of Canada. This was a step towards creating public government for all residents of Nunavut within the political framework of Quebec and Canada, but there are still many problems and a final agreement has still not been reached as of September 2004.

In 1969, the Indian Brotherhood was formed to represent about 7,000 treaty and status Indians who were descendants of leaders who had signed two historical treaties between the Dene and the Crown in 1899 and 1921. The Dene published the “Dene Declaration” in 1975, which stated their right to traditional lands, self-determination, and special status under the Canadian constitution.

The Dene peoples of the Northwest Territories presented a land claim to the Canadian Government in 1976. This initiated negotiations and in 1988, an “agreement in principle” was signed by the Dene-Métis Association and the federal government, which was finalized in 1990. However, many Dene disagreed with the agreement as they had to give up their Native title in exchange for land and financial compensation. Requests for re-negotiation were made at the Dene Assembly and as a result negotiations started for individual land claims and self-government. The Gwich’in and the Sahtu Dene and Metis soon reached agreement with the federal government. Since then, other peoples have followed or are in the process of negotiations. Several of the agreements that have been reached so far all include some provision for negotiating self-government. In one case, the agreement includes establishing a reserve through a process called Treaty Land Entitlement.

The Council of Yukon Indians was formed in 1973, and two tentative land claims agreements were reached in 1976 and 1984. However, both were rejected at the Council of Yukon Indians’ General Assembly. A major reason was the absence of self-government powers and authorities for the Yukon First Nations. Talks resumed in 1985, this time with greater emphasis on community involvement and input from the individual First Nations. The Yukon First Nations and federal and territorial governments signed an umbrella agreement in 1993, and subsequently individual Yukon First Nations finalized self-government agreements. These agreements went into effect on February 14, 1995, with the proclamation of the Yukon First Nation Land Claims Settlement Act (Canada) and Yukon First Nation Self-Government Act (Canada). Eight of the fourteen Yukon First Nations presently have self-government agreements in legal effect (12).
dialogue was begun between the Norwegian Parliament, its Judicial Committee, and the Saami Parliament to find a procedure that would move the issue forward. But with the lack of proper identification and recognition of Saami rights, it is still an open question whether there is a basis for negotiations.

According to the Finnish Saami Act, the national authorities have an obligation to negotiate with the Saami Parliament in all extensive and important cases that directly or especially relate to the Saami as an indigenous people. This obligation includes more than just simple consultation, since it also includes the obligation to seek a solution through negotiations with the Saami Parliament (13). In reality however this comes down to little more than the right to be heard and consulted.

**Russia:** Devolution in the Russian North is less advanced than in other Arctic areas. During the early 1990s, some of the “ethnic” territorial-administrative units were able to assert more power vis-à-vis Moscow by establishing and implementing legislation that governed control over resources, cultural development, and other facets of life. However, these “ethnic” units are basically public governments, and indigenous populations constitute but a small minority in them (1-15%), even after the vast out-migration of Russians and other in-migrants from the North in the past decade (14). Thus, indigenous peoples’ ability to influence decisions made by such regional governments has remained negligible across the North. In numerous places, regional governments established laws and practices that were less favorable to indigenous rights than central legislation demanded.

In the latter 1990s, President Putin attempted to stem devolutionary trends and bring regional practices into adherence with federal stipulations. Indigenous groups in Russia have frequently sought protection of the federal government against regional governmental practices that threaten to erode their ability to practice their traditional activities, especially land-intensive industrial development schemes. A quasi-political organization, the Russian Association of Indigenous Peoples of the North (RAIPON), established in 1990, and its associated regional branches, have achieved some level of input into drafting federal and regional legislation that establish procedures for increased rights to land and self-government (15-16).

An important development since the 1990s is the ability of communities of individuals who view themselves as distinct ethnic groups within the category the “indigenous numerically small peoples of the North” to petition the government for recognition as such. During the Soviet period, the state identified groups “deserving” of such recognition and regularly erased groups from its list of recognized “northern peoples.” Self-definition (with state sanction) has resulted in a significant increase in the number of northern peoples, from 26 to approximately 40, including several groups who were earlier recognized by the state, then eliminated from the records.

**Boom and bust activities**

Boom and bust activities have had long-term impacts upon political developments in that they made it necessary for indigenous peoples to come together. This was the case with the plan in the 1970s to build a pipeline from the Beaufort Sea down the Mackenzie Valley, which directly gave impetus to the indigenous movement in Canada and the claim for land-rights. Similarly, the Saami quest for self-determination was provoked by the construction of the Alta dam in the early 1980s, though the history of Saami land claims goes further back in time.

**Trend summary**

The past decades have witnessed a trend of major restructuring of the political systems in the Arctic in response to decolonization. This trend can be seen as a part of a nation-building process where the state historically was the dominant part, the homogenous nation state was the ideal, and the strategy of assimilation was the official policy. In North America this was often followed by devolution, i.e. transference of authority from central to regional level. As a response, indigenous nation-building processes inspired by international human rights development managed to build a bridge between indigenous political efforts and the modern Arctic nation-building. In Canada and Greenland, indigenous peoples pushed for decolonization, by negotiating with the central governments. Meanwhile, in Fennoscandia, the central governments have only delegated management authority, while in Russia, decentralization following the fall of the Soviet Union was soon replaced by recentralization. In many parts of the Arctic, quests for indigenous self-governance have been a major driving force for decentralization.
Arctic governance systems

A major trend in Arctic political systems is the proliferation of governance structures that recognize the unique position of indigenous peoples. Within this trend, there is a diversity of new agreements and institutions. Public government and ethnic self-government are two major categories.

Asymmetry and territoriality are key axes in an analytical frame

Most political systems encompass a plurality of cultures. These cultures may produce identities that can become politicized (17-19). The likelihood that a cultural or ethnic identity becomes politicized has increased with the spread of the principle of political autonomy through global communication. We can therefore expect a growing number of claims by groups of unique identity. The situation in the Canadian North described in the box on page 91 is a good illustration of this trend.

At the same time, state responses in dealing with such claims are likely to become more and more similar for the reason that the historical state responses, such as genocide, deportation, oppression, assimilation, or even agreeing to secession, are considered illegitimate in today’s democratic systems. States thus increasingly resort to some sort of decentralization of decision-making power to meet these claims (20).

Decentralization of decision making to groups with unique identities is not as straightforward as one might assume at first glance. A brief assessment of the post-World-War-II period reveals two dimensions of this multifaceted issue as particularly important: the degree of territoriality and the degree of asymmetry.

A purely territorial response would typically entail some sort of regionalization or federalization of the state structure. If this is done in a symmetric fashion, decision-making rights will be decentralized to territorial regions in strict compliance with the principle that all individuals living in the various territorial entities possess the same rights regardless of their membership in identity groups (the *jus solis* principle). If the decentralization is instead conducted in an asymmetric fashion, individuals living in some regions will possess more rights to autonomy than individuals living in other regions because of their unique identities (the *jus sanguinis* principle).

In dealing with indigenous claims, Canada has created an asymmetric federal state in which some regions enjoy more autonomy than others, i.e. it entails both territoriality and asymmetry. The Soviet Union also created an asymmetrical federalism. During the Soviet period, it was operationally fictive but it is now manifest in numerous ways, which depend on the “status” of the territory and its human and natural resources.

We also find processes of decentralization that entail no notion of territoriality at all. The electoral census for Saami parliamentary elections is a case in point. Anyone who meets certain criteria of identity (subjective self-identification and objective language criteria) is entitled to vote in the elections, regardless of where in the respective country they live, whereas those who do not meet these criteria do not possess this right. This means that some individuals in a state, as members of a particular identity group, possess more rights to autonomy than others, regardless of territorial location.

Decentralization of decision making power from the modern state apparatus can thus mean that individuals obtain political, cultural, and/or economic autonomy according to their membership in a territorial entity, in an identity group, or in a combination of the two. This yields a two-dimensional grid which can be used to analyze both the claims put forward on behalf of identity groups and the state responses.

Self-determination

In an Arctic context, state responses along the lines of asymmetry and territoriality cannot be discussed without giving attention to the special status of indigenous peoples and their rights to self-determination. As described in more detail in Chapter 6, *Legal Systems*, the principle of self-determination is a fundamental principle in international law. In recent discussions, it has also come to include indigenous peoples, even if it was traditionally understood as the right of a nation state in relation to other nation states. However, the concept is dynamic, and the content of self-determination and the question of what constitutes a people have changed over time, especially within the United Nations.

There are various models for how the self-determination of peoples should be organized and institutionalized, and the principle of peoples’ self-determination does not define either who the peoples are or what the subject or unit of self-determination can be. The tendency
towards developing indigenous self-govern-ment arrangements seems particularly appro-priate where a group of indigenous peoples forms a permanent minority. Examples can be found in the traditional homelands of the Saami in northern Scandinavia and the First Nations in the Yukon. In these indigenous areas, settlers have over time become the majority. These can be contrasted with areas where indigenous peo-ple are in the majority, such as Greenland and Nunavut, which are ruled by public govern-ments. Overall, state responses to calls for indigenous self-determination have become more and more similar. In areas where indige-nous peoples constitute permanent minorities, dual systems of governance arrangements are being established.

In the circumpolar North, we find different types of government. A particular challenge has been to find ways that take the particular histo-ry of indigenous peoples and their present legal status into account. Most self-govern ment structures and institutions in the Arctic are established under western laws and regulations. By and large, none of the Arctic models of self-governance are based upon traditional govern-ance, although local cultures are reflected in the performance and proceedings of the politi-cal bodies. Two types of structures can be iden-tified: public governments and self-government arrangements.

Public government

The creation of Home Rule arrangements and new territories involve public governments, which entail that all persons above a certain age are eligible to vote and to be elected to a legisla-tive assembly. This is the case for both the Greenland Home Rule government with its parli-ament, and the Nunavut Government with its legislative assembly. Officially, ethnicity is not a relevant factor in any part of the political sys-tem, including not only the national and munic-ipal systems, but also the political parties. Home rule arrangements are a territorial response where decision-making rights are decentralized.

Greenland Home Rule and Nunavut

Home Rule in Greenland was introduced May 1, 1979. All persons above the age of 18 who are Danish citizens and who have resided at least six months in Greenland can vote for and be elected to the Home Rule Parliament. There are specific rules for Greenlanders living tempora-rily outside Greenland. Danes have never played any role in the Greenland Home Rule Parliament. Currently, there is one Danish member out of 31 (Danes make up 12% of the population). In recent years, there have been several moves to get more Greenlanders into the political and administrative system, and compared to the situation 20 years ago, the number of Greenlanders in managerial posi-tions has increased significantly.

In Nunavut, all adult Canadian citizens have the right to vote and can be elected to the legis-lative assembly. Inuit who temporarily live outside Nunavut have no specific rights in Nunavut. Rights and responsibilities vested in the Nunavut Government follow the general Canadian federal regulations, although an ongoing devolution will transfer more and more authority from Ottawa to Nunavut and the other territories. This will make them more and more equal to the Canadian provinces.
In these newly created political units, indigenous peoples constitute majorities.

In Russia, special variants of public governments are the autonomous districts (okruga) and the national regions (naryomy) and townships (sel'ksie administratsii). National regions and townships, originally established in the 1920s and 1930s but liquidated in the late 1930s, have been revived in the 1990s in several areas of the North. Although governments in such districts, regions and townships are public governments, recent legislation provides that indigenous peoples can be given preferential treatment, as for example a guaranteed number of seats in the governing bodies (21). It is mainly only at the township level where indigenous populations dominate numerically.

**Self-governance and dual structures**

Across the Arctic, a number of legal and political arrangements have also been established to promote a greater degree of autonomy for indigenous peoples in areas where they are in the minority. This development has created dual systems of governance where indigenous political arrangements operate simultaneously with public governments in the same geographical area. There are several examples.

In Canada, the self-government agreements of the Yukon First Nations include law-making powers as well as the power and authority to make decisions in a manner consistent with indigenous cultural values and institutions. In addition, they establish a broad and flexible framework for self-government that will evolve at a pace determined by the Yukon First Nations. So far, the Yukon First Nations have exclusive authority to enact laws with respect to the administration of their affairs and their internal operation and management. They also have the authority to enact certain laws that apply to their citizens throughout the Yukon and other laws that apply to all persons on settlement land. According to the self-government agreement, Yukon First Nations and the federal government are to identify the areas in which Yukon First Nation laws will prevail over federal laws, should there be any conflict between them.

Native tribal governments in Alaska are also self-government systems set up in parallel with the public government system. The tribal governments are organized in two tiers. In the communities, the Native population can use tribal councils to exert its influence on a number of matters relating to daily life. At a higher level, there are twelve regional non-profit Native Associations. Together with the tribal councils, they are specifically influential in social and cultural affairs. In parallel with these indigenous self-government structures, towns and villages have city councils elected by all inhabitants. Even in the rural communities where Alaska Natives make up the majority, there will usually be a city council operating in parallel with tribal councils. The public government system also exists on the state level and in the regions that have been organized as boroughs, which operate on the level between the city councils and the state. In two of the Alaska boroughs, the North Slope Borough and the Northwest Arctic Borough, the Inupiat majorities have been able to use the exploitation of oil and mineral resources for local self-government initiatives, see Chapter 7. Resource Governance for further details.

Further examples of indigenous self-government parallel to public governments are the Saami Parliaments in Norway, Sweden, and Finland, established by the Saami Acts of the respective states. These are ethnic governments, and only Saami have the right to register, vote, be elected, and present proposals in connection with elections. With regard to the electoral roll, the Nordic Saami Acts use both objective and subjective criteria. The fundamental subjective element is the self-identification as Saami, while the objective criteria are related to the Saami language. The most important warrant for the Saami Parliaments is the very fact that they are bodies elected by Saami, for the Saami. These parliaments have a continuing dialogue with the Nordic governments regarding the question of authority, and some authority in administrative matters has been transferred. Formally, the Saami Parliaments only have advisory status. Actually, however, they play a central political role within the national constitutional systems in relation to Saami political issues, and they function as governmental bodies and as instruments for realizing the principal policies of the respective states. The political rights achieved by the Saami as a people, may be understood in the context of a stronger Saami relation to the national constitutions (22).

The process of strengthening the political autonomy of the Saami Parliament has been most significant in Norway. Here, recent agreements between the Norwegian Saami
Parliament and the county municipalities could create a base for cooperation also on a regional level. So far, agreements of cooperation between the Saami Parliament and the two northernmost county municipalities have been settled. They involve a coordination and cooperation of efforts concerning matters of political importance to the Saami and preparations for a division of duties and responsibilities.

The question of Saami influence is not only a matter between an individual state and its Saami indigenous minority but is also independent of national borders. International cooperation between the Saami Parliaments is formalized in the Saami Parliamentary Council. Its work has been directed towards the European Union.

A comparison between the Canadian and Scandinavian systems with regard to self-determination arrangements shows the potential of federal systems compared to unitary state systems. The principle of division of executive and legislative power in federal systems where the authority to make laws within the federation is distributed between the national government

**The Saami Parliaments**

The Saami Parliament in Finland was empowered in January 1996 and has 21 elected members. The Norwegian Saami Parliament was established in 1989 and consists of 39 representatives elected from 13 electoral districts in Norway. The Swedish Saami Parliament, established in 1993, consists of 31 members with the whole of Sweden as one electoral district. The three Saami Parliaments do not have identical functions and tasks but share the ability to raise questions and issue statements on all questions within their area of activity. In Finland, a constitutionally protected cultural autonomy, the obligation of the authorities to negotiate, and the Saami Parliament’s right and obligation of representation are important elements in the strengthening of this self-government. In comparison, the Norwegian Saami Parliament has a somewhat weak formal political authority, but has still developed into a central political actor. The Saami Parliament in Norway also has a far better economic framework than do the Saami Parliaments in Finland and Sweden (13).
and the sub-units, creates space for expanding the competence of both the self-government arrangements and the regional public governments. In unitary states, delegation or transfer of authority is more common, as in the case of the Saami. But such devolution does not remove the power of the central government to legislate in relation to devolved matters. Regarding Greenland, however, it is generally recognized that Home Rule cannot be revoked by the Danish Parliament.

**Suktul – Yukagir Self-Government**

One of the numerically smallest peoples of the Russian North is the Yukagir people, whose homelands stretch across the northeast of Russia including areas of the Sakha Republic (Yakutia) and the Magadan Province. The Yukagir of the Sakha Republic successfully fought for the adoption of a special law guaranteeing Yukagir self-government in the two townships where much of their population is concentrated, Nelemnoe and Andrushkino. In 1998 the Sakha Republic government passed legislation to this effect, known by the Yukagir term for self-government, suktil. Other indigenous peoples of the Sakha Republic have discussed whether to pursue similar legislation for self-government rights.

**Land claim settlements**

A third type of response of state governments to indigenous claims has been to negotiate land claim agreements. The political structures which they have given rise to can operate in parallel with both public governments and self-government structures. In Alaska’s rather complex governance structure, the Native corporations established by the Alaska Native Claims Settlement Act (ANCSA) of 1971 represent this third alternative. ANCSA was the first modern land claims agreement in the circumpolar North and its principles and limitations have played an important role for later models as developed in the Canadian North. These corporations often play a key role for the indigenous peoples and control many aspects of their lives. Even if they are in fact for-profit corporations, they should be treated as a kind of governance structure.

The basic idea behind a land claims agreement is that the indigenous peoples give up territorial rights that are based on aboriginal rights. These rights are extinguished in exchange for title to specified tracts of lands and for a once-and-for-all monetary compensation. In Alaska, Native peoples received 11% of the lands they claimed. The lands and the financial compensation were to be administered by 13 regional and more than 200 village corporations that work under corporate law with registered Natives as shareholders. The most important criterion for being an Alaska Native is biological. When ANCSA was passed in 1971, any person who could prove one-quarter blood quantum was eligible to enroll and become a shareholder in a Native corporation. Only those born by December 1971 have shares under ANCSA, but shares can be inherited.

The Canadian land claims agreements, such as the James Bay and Northern Quebec Agreement (1975), the Inuvialuit Final Agreement (1984), and the Nunavut Land Claims Agreement (1993) basically follow the Alaskan model. A very important difference is that these are comprehensive agreements that provide, in addition to the land and money compensation, a number of benefits in relation to the use of land and resources, employment, environmental management, etc. The Nunavut agreement also contains a political accord to establish the Nunavut public government. Management and control of land is more restrictive in Canada than in Alaska but also more democratic and more similar to a public management institution. In Nunavut, the lands and financial compensation are monitored by an organization elected by Inuit, Nunavut Tunngavik Inc. This organization exerts a significant political power and the issue is sometimes raised who is the real power-holder in Nunavut: Tunngavik Inc or the Nunavut Government.

A comparison between Nunavut and the Alaska Native Claims Settlement Act (ANCSA)

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<tr>
<th></th>
<th>Nunavut</th>
<th>ANCSA</th>
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<tr>
<td>Land compensation to lands claimed</td>
<td>18%</td>
<td>11%</td>
</tr>
<tr>
<td>Sub-surface rights to lands claimed</td>
<td>1.80%</td>
<td>11%</td>
</tr>
<tr>
<td>Surface priority rights to lands given up</td>
<td>82%</td>
<td>0%</td>
</tr>
<tr>
<td>Benefits agreements</td>
<td>+</td>
<td>–</td>
</tr>
<tr>
<td>Royalty of extraction of non-renewable resources on non-owned lands</td>
<td>+</td>
<td>–</td>
</tr>
<tr>
<td>Political accord</td>
<td>+</td>
<td>–</td>
</tr>
<tr>
<td>All indigenous have equal rights</td>
<td>+</td>
<td>–</td>
</tr>
<tr>
<td>Shares and benefits can be transferred to non-indigenous</td>
<td>–</td>
<td>+</td>
</tr>
<tr>
<td>Lands can be sold</td>
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So far, land claim agreements have mostly played a role in the North American Arctic.

“Land claims” in Russia have followed a different pattern of development (23). Indigenous groups who wish to pursue “traditional” activi-
ties, such as hunting and reindeer herding, can petition for a land allocation. These lands then theoretically become inalienable and closed to industrial development unless the holders of this tenure agree to such development. Hundreds of such native territorialized groups (obshchiny) have been established across the Russian North, although the ease of doing so differs substantially across the region. A federal law regarding the establishment of obshchiny, adopted in 2000, superseded regional decrees (or the lack thereof) (24). Poor capitalization and the collapse of state subsidies in the post-Soviet era led to the demise of many of these shortly after their formation, while industrial interests have stymied the ability of other groups to attain such lands (25-26).

A parallel development is the establishment of much larger “territories of traditional nature use”, which are areas set aside from industrial development (obshchina lands may overlap or be completely encompassed within these) (27-28). Federal legislation to establish such “territories of traditional nature use” was passed in 2001 (29). Indigenous groups are now working to establish several such “model territories” in order to identify challenges to the operationalization of the law.

**Theme summary**

Claims for more regional autonomy and indigenous self-determination have given rise to both new regional public governments and different forms of indigenous self-government in the Arctic. On the one hand, there is a general trend of decentralization of decision-making powers. On the other hand, the degree of territoriality and asymmetry vary to a great extent among self-governing arrangements. Indeed, in some areas, there are dual structures where these government types exist in parallel, and sometimes also include corporations created in the process of land claim settlements. In a larger perspective, this process can be described as one where ethnic and cultural identities are also becoming political identities. Thus the individual in the Arctic will have to relate to varying degrees of multiple political identity: One, say, related to his or her ethnic group, another to the local or regional government, another to the state, and - in some cases – yet another to supra-state bodies like the European Union. As people learn to live with asymmetric arrangements, we expect to see a general increase in the legitimacy of the political systems of the Arctic and a transition from single and exclusive political identities to multiple and compatible identities, along the trends identified by Martínez-Herrera (20). Furthermore, in the process of accommodating indigenous claims, we expect that the democratic states of the Arctic will have to embark upon a transformation towards some sort of plurinational democracy, as described and discussed by Michael Keating (30).

**Key conclusions**

Historically, nation-building processes in the Arctic follow the theoretical framework of state formation, standardization, and integration. The historical relationship towards indigenous peoples can be characterized as paternalistic, and the state’s understanding of integration was equal to the rhetoric and practices of assimilation.

The states’ need and desire for utilizing the resources of the Arctic are closely linked to their colonial histories. At the same time, there is and has been acknowledgement of the special status of indigenous peoples, illustrated by the historical treaties in North America, the former Soviets’ legal classification of the “small people of the North”, Greenland Home Rule, and the historical acknowledgement of Saami rights in Fennoscandia. A particular feature in the Arctic states is the involvement of indigenous peoples as independent political actors in modern nation-building processes.

The contemporary formal policies and ideal with regard to increased indigenous influence seems to be widely shared in the Arctic states, even if political and administrative solutions vary from state to state. One answer, which is closely linked to the growth of regional autonomy, is the establishment of public governments. This solution has been most prominent in areas where indigenous peoples are in the majority. Another solution has been self-government, which may operate as a part of dual systems where indigenous arrangements operate simultaneously with public governments in the same area. Self-government institutions can even have functions as state government bodies as in the case of the Saami Parliaments.

The level of participation becomes crucial with regard to both the decentralization of decision-making powers and the degree of territoriality and asymmetry of self-governing arrangements. Negotiations show a high level
of indigenous participation. This has been the case when land claims have been negotiated in Canada, and it also characterized the introduction of self-governing arrangements in Greenland. In none of the other Arctic regions have indigenous peoples been involved as equal negotiating partners in the process of establishing special arrangements for indigenous peoples.

Gaps in knowledge

Modern self-governing arrangements in the Arctic are still of comparatively recent date, and future comparative studies will obviously be able to provide us with an increased understanding of the significance of the various political arrangements for the human development.

Information about human participation in political systems and in activities and institutions such as the media, important for political participation, must be further investigated.

References

8. I. Roung, Sannerna (Bonniers, Stockholm, 1982).
15. R. S. Moiseev, Nekotorye voprosy upravleniya nazvaniem severnykh rayonov Rossi v kontse XX veka (Kamchatskiy pechatnyy dvor, Petropavlovsk-Kamchatskiy, 1999).


Law provides a necessary framework for the social, economic, and ecological goals of sustainable development. We cannot manage natural systems, but we can try to manage the human element of interactions between social systems and natural systems. Law is a key tool in managing those interactions. Law helps us define such fundamental concepts as property and ownership. It serves to allocate rights and responsibilities and to define and protect the human rights of individuals and peoples.

Following some brief comments on global trends and basic characteristics of the legal systems of the Arctic states, this chapter pursues three basic themes. The first is an increased recognition of indigenous peoples’ rights. The second discusses resource ownership. The third is the increased transfer of legal authority to regional governments. Each addresses how Arctic regions can reassert control over land and resources. A separate short article offers a critique of the submissions of two Arctic states, Canada and the United States, as part of  efforts to elaborate the United Nations Draft Declaration on the Rights of Indigenous Peoples.

Legal trends and traditions

This chapter concentrates on the domestic laws of the Arctic states rather than international law. But the legal systems of the Arctic states and current development are part of a global context. This section therefore provides a brief overview of global trends and legal traditions as they relate to the Arctic.

Global trend of closer integration of legal systems

Scholars of comparative law have identified a number of global trends. One such trend is a shift towards democracy and human rights, as well as an increased emphasis on the rule of law (1). Numerous authors from a range of disciplines also emphasize a trend towards globalization (2) and closer integration of legal systems.

The trend to globalization is reflected in the development of international trade rules through the World Trade Organization and regional trading and political initiatives (3). It is also reflected in the development of universal human rights norms (4) and in a growing number of multilateral environmental agreements. They include the Framework Convention on Climate Change and its Kyoto Protocol, the Stockholm Convention on Persistent Organic Pollutants, and the Vienna Convention and Montreal Protocol on Ozone Depleting Substances (5-6), all of which are relevant to the Arctic.

Along with these global developments, analysts are paying increasing attention to the relationship between international law and domestic law (7-8). As international law demands deeper commitments (9) from national governments, questions of the legitimacy of the international legal order and law-making processes become more pressing (10).

The trend to integration and convergence of legal systems is most apparent within the member states of the European Union. This can be seen as the voluntary reception of the laws of another system to distinguish it from the coercive imposition of new norms that characterized the period of European colonization (11). While there is increasing integration of legal systems across national borders, there is also increasing specialization within the legal system, in areas such as environmental law, trade law, indigenous peoples’ law, and health law.
The implications of these trends for Arctic legal systems are three-fold. First, the development of international human rights law confirms a set of standards against which to measure the domestic laws of Arctic states. Second, the convergence of legal systems creates opportunities to transplant ideas from other jurisdictions to help solve common problems. Third, our growing appreciation of an interconnected world requires a legal response at national and international levels and across a range of subject areas from trade to the environment.

Diversity of legal systems

National legal systems reflect differences in history, tradition, and socio-cultural values. Within these traditions, the emergence of an Arctic consciousness is a very recent development. Therefore it is not surprising that the legal systems of Arctic states are heterogeneous.

The United States has a common law system characterized by a strong emphasis on judicial decisions as an independent source of law. Canada combines this common law system with civil law Quebec and considers itself bi-jural. Civil law systems trace their origins to Roman law and traditionally rely on comprehensive codes for ordering their legal materials. Nordic legal systems belong to the civil law tradition but with some qualifications since Roman law has played only a small part in their development. More important is the shared history of the Nordic states, which has ensured the close interrelationship of their legal systems. The distinctive Marxist theory of law required a separate category for the former Soviet Union, but commentators now group Russia within the civil law family. While the distinction between civil and common law systems remains fundamental, global integration has the potential to break it down. There is also evidence of a common approach in more recent areas of legislative activity such as environmental assessment, endangered species, and rules on resource disposition.

An equally fundamental distinction between legal systems is that between federal states and unitary states. In a federation, the national government has exclusive competence over international affairs (and alone has international personality), but the authority to make laws within the federation is distributed between the national government and the sub-units of the federation. In unitary states, all law-making authority lies with the national government, while regions and municipalities have only delegated law-making powers. Denmark, Finland, Sweden, Norway, and Iceland are all unitary states. Canada, the Russian Federation, and the United States of America are federal states, but this broad category requires some qualification. For example, the three territories of the Canadian North lack the status of provinces as sub-units of the federation. The Russian federal system is distinctive because the federal government has broad concurrent powers to make laws, and because of the large number and diversity of sub-units of the federation. There are 89 “subjects” of the federation including republics, oblasts, okrugs, and autonomous regions.

Unitary states may permit some transfer of law-making authority to local or regional governments but generally this does not remove the power of the central government to legislate in these matters. Denmark in its relationships with Greenland and the Faroe Islands suggests an exception to this general rule. Under the respective Home Rule arrangements with the two jurisdictions (since 1948 for the Faroe Islands and 1979 for Greenland), the Danish Parliament has effectively waived its right to legislate in local matters. Matters of a more general nature, such as defense, citizenship, and banking, continue to be the responsibility of the central administration in Denmark. While foreign policy and treaty making are vested exclusively in the Danish Government, both the Faroese and Greenland Home Rule governments have assumed the right to conduct bilateral negotiations with the European Union and others, for example with respect to fishery matters.

Denmark, Sweden, and Finland are members of the European Union. The language of federalism remains controversial in Europe, but the European Union requires that members renounce some degree of sovereignty to its institutions. It is thus not unfair to characterize the European Union as a form of functional federalism or as a federation of member states in all but name. From its early days, it has expanded its membership and dramatically deepened the degree of integration between member states.

Denmark’s accession to the forerunner of the European Union, the European Community, included Greenland, but Greenland negotiated its withdrawal from the European Community.
in 1985. Greenland now has status as one of the overseas countries and territories attached to the European Union. A key element of their economic relationship is based upon the continuing fisheries agreements (14) under which Greenland allows EU fisheries access to Greenlandic waters in return for significant fiscal transfers. The Faroe Islands has never been part of the European Union.

As a result of deepening integration within the European Union, many matters traditionally falling within the competence of nation states are now subject to directly binding EU regulations or to directives that are binding as to result but allow some national autonomy on how to achieve that result. Not only may the European Union engage in rule making on such “domestic” issues as agricultural and environmental policy, but it also has exclusive or shared competence in relation to many international matters. This includes global environmental issues that affect Arctic states, such as climate change, ozone depletion, and persistent organic pollutants. Member states are obliged to formulate and follow a common position on matters of security and foreign policy. Consequently, EU rules and policies will be important drivers for the Arctic EU members across a broad spectrum of areas.

In addition to the formal differences between different legal systems, there is another distinction that is perhaps of greater practical importance: the fault-line between those Arctic states with a long commitment to participatory democracy, mixed economies, and the rule of law and the one Arctic state, Russia, with a long tradition of totalitarian government and a centrally directed economy only recently interrupted by the collapse of the Soviet Union. This dramatically different traditions permeate the ways in which citizens conceive of rights in relation to the state. They also affect the way in which citizens use courts and demand justice. They influence ideas of property and the way in which we think about the very idea of the rule of law and legal argumentation. While the collapse of the Soviet Union has brought about massive institutional and legal changes at the formal level, traditions do not change overnight. The rule of law is a work in progress rather than a completed project (2, 15-17).

In sum, and notwithstanding global trends towards convergence, Arctic legal systems continue to exhibit considerable diversity.

Rights of indigenous peoples

A main trend in both international and domestic law is the enhanced recognition and protection of the rights of indigenous peoples. This section examines the degree of legal recognition and protection afforded to the indigenous peoples of the Arctic. It begins by looking at the protections under international law and then examines the position of indigenous peoples under the domestic laws of the Arctic states. The focus is on the legal process of decolonization through the vehicle of human rights law.

International law accords increased recognition to peoples’ rights

Since World War II, there has been a tremendous expansion in the reach of international law. Historically, international law had little to say about the manner in which a state treated its own citizens, but the growing field of international human rights law now sets minimum standards. Much of this body of law is concerned with the human rights of individuals (e.g. basic civil and political rights) but the main instruments also recognize a collective right: the right of self-determination of peoples. This is a

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<tr>
<td>European Convention on Human Rights</td>
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<td>European Charter for Regional or Minority Languages</td>
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<td>International Covenant on Civil and Political Rights (ICCPR)</td>
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<td>Optional Protocol to the ICCPR</td>
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<td>Convention on Elimination of all forms of Racial Discrimination (CERD)</td>
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<td>ILO Convention 107</td>
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<td>American Declaration of the Rights &amp; Duties of Man</td>
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<td>✓ = a party to the treaty by accession or ratification</td>
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human right that is interdependent and interrelated with and indivisible from all other human rights. This right of peoples is also a prerequisite to the enjoyment and exercise of all other human rights.

International human rights law has also shown an increasing concern for other collective rights, including the language and cultural rights of minorities, and for the distinctive rights of indigenous peoples. The standards established by international human rights instruments are of universal significance, but the relevant international treaties include not only global instruments sponsored by the United Nations but also regional instruments that apply within Europe or to the Americas.

There are two basic approaches to ensuring the rights of indigenous peoples within international human rights law. One approach locates indigenous peoples’ rights in general principles of equality and non-discrimination (18). It emphasizes that special measures may be required to rectify historical discrimination. It also emphasizes that indigenous peoples are “peoples” for the purposes of the right of self-determination. This includes the right not to be deprived of their natural resources and their own means of subsistence, as articulated in the opening article of the Covenant on Civil and Political Rights and the Covenant on Economic and Social Rights. See box below for examples.

A failure of mainstream international human rights instruments to deal adequately with the situation of indigenous peoples has led to a second approach: to create international instruments that specifically protect indigenous peoples. This approach has led to Convention 169 concerning Indigenous and Tribal Peoples in Independent Countries of the International Labour Organization (ILO). There are also continuing efforts to adopt a Declaration on the Rights of Indigenous Peoples under the auspices of the United Nations Commission on Human Rights. Of the eight Arctic states, only Denmark and Norway have ratified ILO 169. Sweden has signed the instrument and both Sweden and Finland continue to study ratification. Russia has indicated that it has commenced preparatory work related to ratification. Article 14 of Convention 169 deals with land rights and is particularly important in the context of this chapter.

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**Can general international law on human rights be used to protect indigenous peoples’ rights?**

Arctic indigenous peoples have tried to use the right of individual petition to the Human Rights Committee for alleged violations of the provisions of the International Covenant on Civil and Political Rights (especially its Article 27 protection of the rights of minorities) pursuant to the terms of the Optional Protocol to that Covenant. One such case is Länsman et al. v. Finland in 1992 (19). The petitioners, Saami reindeer herders, contended that the state, by authorizing a quarrying operation within a traditional and sacred territory, was breaching their Article 27 rights:

“In those States in which ethnic, religious or linguistic minorities exist, persons belonging to such minorities shall not be denied the right, in community with the other members of their group, to enjoy their own culture, to profess and practise their own religion, or to use their own language.”

The Human Rights Committee held that reindeer husbandry, whether pursued using traditional or modern means, was an essential element of Saami culture falling within the protection of Article 27, but that not all state-sanctioned activities will amount to a denial of Article 27 rights.

“The question … is whether the impact is so substantial that it does effectively deny the [petitioners] the right to enjoy their cultural rights in that region.” The Human Rights Committee noted that in making its assessment it would consider the effective participation of minorities in decisions that affect them. In the end, the Human Rights Committee concluded that the small-scale nature of the operation did not constitute a denial of Article 27 rights but warned that large scale and expanded operations might.

The Human Rights Committee has emphasized that a state may need to take positive measures for the benefit of minorities (20). While a petitioner may use the Human Rights Committee to vindicate individual rights under the Covenant, the Optional Protocol procedure cannot be used to vindicate the rights of peoples, including the right of self-determination under Article 1 (20). However, the Human Rights Committee does take the view that the country reports of state parties to the International Covenant on Civil and Political Rights should cover Article 1 rights.

Similarly, the Committee on the Elimination of Racial Discrimination (21) requires state party reports to address the position of indigenous peoples and further “calls upon States parties to recognize and protect the rights of indigenous peoples to own, develop, control and use their communal lands, territories and resources …” (22).
The approach that specifically highlights indigenous peoples’ rights is also evident in multilateral environmental agreements. A case in point is the ongoing efforts to elaborate Article 8(j) of the Convention on Biological Diversity dealing with the ecological knowledge of indigenous and local communities. Institutionally, the approach has led to the creation of a United Nations Permanent Forum on Indigenous Issues (22). Arctic indigenous peoples play a key role in that forum. The chair is a prominent Saami: Ole Henrik Magga. The two approaches are not incompatible. For example, one of the objectives of the Draft Declaration on the Rights of Indigenous Peoples is to make it clear that fundamental norms of international human rights law are equally applicable to indigenous peoples.

In summary, the widespread adoption of international human rights instruments in the decades following World War II has transformed the nature and scope of international law and established standards against which to measure domestic laws and practice that affect indigenous peoples. This work is part of the larger process of decolonization and has yet to be concluded. Many fundamental aspects remain contentious. Some Arctic states appear reluctant to accept the non-discriminatory application of fundamental human rights to indigenous peoples.

This chapter does not assess the extent to which the Arctic states conform to international standards for the protection of the rights of indigenous peoples. The remainder of this section will instead look at the domestic laws of the Arctic states in light of four questions:

ILO Convention (No. 169) concerning Indigenous and Tribal Peoples in Independent Countries: Article 14

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

2. Governments shall take steps as necessary to identify the lands which the peoples concerned traditionally occupy, and to guarantee effective protection of their rights of ownership and possession.

3. Adequate procedures shall be established within the national legal system to resolve land claims by the peoples concerned.

Draft United Nations Declaration on the Rights of Indigenous Peoples

The Draft Declaration on the Rights of Indigenous Peoples comprises 45 articles. Some deal with fundamental human rights, including the right of self-determination of indigenous peoples and the right of indigenous peoples not to be subject to ethnocide and cultural genocide. Other articles deal with the ownership and control of lands and resources and the right to withhold consent to proposed developments within traditional territories. There are also articles that deal with language rights and other social and cultural rights.

The Draft Declaration was originally adopted in 1993 by the Working Group on Indigenous Populations. This working group was established in 1982 by a sub-commission of the Commission on Human Rights. It consists of independent experts and members of the sub-commission but is open to all representatives of indigenous peoples and their communities and organizations. Once the Working Group on Indigenous Populations had adopted the Draft Declaration, the Commission on Human Rights established a working group to elaborate the declaration intending to have it adopted by the United Nations General Assembly within the International Decade of the World’s Indigenous Peoples (1993-2004). Since then, this working group has met annually. The representatives of indigenous peoples are actively involved in its work but only member governments of the Commission on Human Rights are entitled to vote. The current process is thus more state-centered than the early work.

Progress is painfully slow and there remain disagreements on foundational articles. For example, some governments remain opposed to the use of the word “peoples” in the Draft Declaration, precisely because it is “peoples” to whom the right of self-determination applies. Others emphasise the principle of territorial integrity and argue that while indigenous peoples may have a right of self-determination, such a right should be limited to internal self-determination (23). Similarly, there is no consensus on the articles dealing with land and resource ownership by indigenous peoples.
1. To what extent does each state provide explicit constitutional protection to the rights of indigenous peoples?
2. How does each state protect the language rights of indigenous peoples?
3. How does each state protect the land rights of indigenous peoples?
4. How does each state protect the governance rights of indigenous peoples?

Four Arctic states accord explicit constitutional protection to the rights of indigenous peoples

Four of the eight Arctic states – Canada, Finland, Norway, and Russia – provide explicit constitutional protection for the rights of indigenous peoples. Specific protection is not an issue in Iceland. The Swedish constitution refers to the Saami interest in reindeer herding but does not provide formal constitutional protection to Saami rights and interests. Federal states (e.g. the United States) may indirectly protect indigenous rights, for example by insulating indigenous peoples from the application of the state laws of sub-units of the federation.

Language rights

Indigenous languages are an important aspect of practicing, maintaining and revitalizing indigenous culture. One measure of the recognition of language rights is the extent to which indigenous languages are accorded “official” status. A language has “official” status if the government has a duty to communicate in that language and if it is a permissible language in at least some official fora such as the legislature or the courts. The general trend is an increased recognition and protection of indigenous languages in most parts of the Arctic.

In Greenland, Greenlandic and Danish are official languages and the Home Rule Act provides that “Greenlandic shall be the principal language” (24). The Faroese Home Rule Act has similar language (25).

For the Saami, both the Finnish and Norwegian constitutions affirm some aspects of indigenous language rights. In Finland, the Saami language may be used in the courts and with a variety of state offices and agencies within the Saami areas. This is confirmed by the terms of a new Saami Language Act that came into force January 1, 2004 (26). Chapter 3 of the Norwegian Saami Act is devoted to Saami language rights and recognizes a right to use Saami in communications with government bodies and local governments and within the court system within the Saami language administrative region. This includes the municipalities of Karasjok, Kautokeino, Nesseby, Porsanger, Kåfjord, and Tana. The Swedish Saami language legislation is similar to the Finnish and Norwegian models. Under the 1999 Saami Language Act, Saami in the municipalities of Kiruna, Jokkmokk, Gällivare, and Arjeplog have the right to communicate in Saami orally and in writing with local and regional governments and the courts.

In Russia, article 68 of the constitution establishes Russian as the official language. It does not provide official status to indigenous languages although the same article does guarantee all peoples (i.e. indigenous and non-indigenous) the right to preserve their native language. Republics of the federation may accord official status to other languages but in practice

Constitutional provisions protecting indigenous peoples

Canada: section 35. “The existing aboriginal and treaty rights of the aboriginal peoples of Canada are hereby recognized and affirmed.”

Finland: section 17. “The Sami, as an indigenous people, as well as the Roma and other groups, have the right to maintain and develop their own language and culture. Provisions on the right of the Sami to use the Sami language before the authorities are laid down by an Act.”

section 121. “In their native region, the Sami have linguistic and cultural self-government, as provided by an Act.”

Norway: Article 110a. “It is the responsibility of the authorities of the State to create conditions enabling the Saami people to preserve and develop its language, culture and way of life.”

Russia: Article 68(3). “The Russian Federation shall guarantee all its peoples the right to preserve their native language and to create the conditions for its study and development.”

Article 69. “The Russian Federation guarantees the rights of small indigenous peoples in accordance with the generally accepted principles and standards of international law and international treaties of the Russian Federation.”

Sweden: chapter 2, article 20. “The right of the Saami population to practise reindeer husbandry is regulated in law.”
this authority has not been used to privilege the languages of indigenous peoples.

In Canada, there is no constitutional protection of indigenous language rights but in the past 10-15 years all three Arctic territories have taken statutory measures to give some official recognition of indigenous languages. For example, the Northwest Territories Official Languages Act provides that “Chipewyan, Cree, Dogrib, English, French, Gwich’in, Inuktitut and Slavey are the Official Languages of the Territories.” This allows any person to use any of these languages in the debates and other proceedings of the legislative assembly. However, many other rights typically associated with official status (e.g. the language of statutes and the right to use the language in a court) are confined to French and English. The government of the new territory of Nunavut is attempting to go beyond language rights to incorporate Inuit knowledge and values into the very process of government (27).

“Official” status is merely part of the picture of language rights. A more complete assessment would also look at the support offered to indigenous languages in popular media and to the language of education in schools. For example, while indigenous languages have no official status in Alaska, in 2000 the state legislature did enact the Native Language Education Act, which both documents the impending loss of Alaskan Native languages and allows for, and in some cases requires, the creation of language curriculum advisory boards for school boards. (See Chapter 10. Education).

**Land and resource rights**

Indigenous ownership rights merit distinctive treatment because of the cultural importance of connection to land and because of the potential economic benefits associated with land and resource ownership. Two general trends emerge. The first is a more vocal critique of the assumption that states gained title to lands occupied by indigenous peoples upon settlement or the acquisition of sovereignty (28). A second less developed trend suggests that Arctic states may be progressing from the minimalist position of recognizing indigenous rights to use land and resources towards a recognition of exclusive ownership rights or land title (29-30). In fact, the United States and Canada have taken steps to recognize exclusive indigenous title for selected and agreed tracts of land. In other Arctic states, including Norway, Sweden, Finland, and Russia, indigenous ownership rights continue to be the subject of debate. In at least Norway, Sweden and Finland, this debate is very much framed in terms of compliance with international instruments and especially International Labour Organization Convention 169, which is not the case in Canada and the United States.

In the Nordic countries, the courts have played an important role in raising issues around ownership and resource rights. For example, the Swedish Supreme Court decision in Skattefjällsmålet (the Tax Mountain case) in 1981 rejected Saami claims of ownership in the County of Jämtland near the Norwegian border. But that court also suggested that Saami might have a stronger claim in areas further north where Saami use of land and resources was more intensive (29). In Norway, the controversy surrounding the development of a dam on the Alta River in the Saami area led to the creation of the Saami Rights Commission, which presented reports in 1984 and 1997 dealing with the rights of Saami under both Norwegian and international law (28). The Norwegian Supreme Court has recognized Saami ownership rights in its Selbu and Svartskogen decisions (31). Moreover, the Norwegian Parliament, Stortinget, is currently (2003) considering a new law, the Finnmark Land Act. This Act recognizes the distinct entitlements of both Saami and non-Saami Norwegians (32) within the Finnmark area, see box on page 108. The Norwegian Government also appointed a Saami Rights Commission in 2001 to look at the Saami land rights question in the area south of Finnmark.

As part of its decision-making on whether or not to ratify International Labour Organization Convention 169, Finland has been actively studying the question of Saami land rights since 1999. To that end, the government commissioned a series of expert reports studying questions of land ownership within the Saami homeland (34).

At present the Finnish Ministry of Justice has nominated a four-person research group to examine the situation. This project should be finished by the end of 2004. The situation is similar in Sweden where the implications of International Labour Organization Convention 169 are also under study (35). Sweden takes the view that it cannot ratify until it can define the outer boundaries of the reindeer husbandry area and has thus appointed (36) a boundary com-
The proposed Finnmark Land Act

In April 2003 the Norwegian Government presented a new law, the Finnmarksloven or Finnmark Land Act to the Storting for its approval. Its objective is the management of the land and resources of Finnmark “in a balanced and ecologically sustainable manner in the best interests of Saami culture, reindeer husbandry, economic activity and social life, the inhabitants of the county and the public in general.”

The main vehicle to reach this objective is the proposed Finnmark Management Commission, which will have equal numbers of members elected by the Finnmark County Council and the Sàmediggi (the Saami Parliament), and a seventh member appointed by the King in Council. The commission’s responsibilities include the right to withhold approval for proposed changes in the use of uncultivated lands, and proposals to sell or lease such lands. Some matters can be referred to the Sàmediggi. The commission is also supposed to take account of guidelines developed by the Sàmediggi in making its decisions. These guidelines may deal with the evaluation of how changes in the use of uncultivated land will impact Saami culture, reindeer husbandry, economic activity, and social life. In some cases the final decision will rest with the King in Council. Other provisions of the Finnmark Act protect the harvesting rights of other residents of the Finnmark County and in some cases the rights of other Norwegians.

The Sàmediggi has voiced serious criticism of the proposed act on the grounds that it disregards the work of the Saami Rights Committee established after the Alta River dam controversy (1980). In particular, the Sàmediggi argues that the act does not comply with Norway’s obligations under International Labour Organization Convention 169 and under the International Covenant on Civil and Political Rights. Two law professors commissioned by the Judiciary Committee of the Storting have expressed similar doubts and the Committee on the Elimination of Racial Discrimination has signaled its concerns that the act “will significantly limit the control and decision-making powers of the Saami population over the right to own and use land and natural resources in Finnmark County” (33). Accordingly, the fate of this legislative initiative is not clear.

mission to formulate proposals for the definition of the boundaries for Saami reindeer breeding areas.

In Canada, the Delgamuukw decision (37) of the Supreme Court of Canada represents a clear basis for recognizing the concept of indigenous title in Canadian law. While the full implications of that decision are still being worked through in lower courts (38–39), Delgamuukw suggests that an indigenous title may include significant resource rights, including oil and gas rights. In the Arctic area of Canada, most title claims have been settled through negotiated land claim agreements. The US Government took a similar approach with the passage of the Alaska Native Claims Settlement Act (ANCSA) in 1971. In addition to conferring ownership rights to land and resources on Native regional and village corporations, ANCSA contained a clause purporting to extinguish any remaining indigenous rights and title within Alaska. Clauses with similar effects are included in most modern Canadian land claim agreements. The existence of indigenous offshore rights and title remains contentious.

Within the Russian North there are more than 30 numerically small peoples and a complex interaction of federal laws relating to indigenous peoples and the laws of the sub-units, or subjects, of the Russian Federation (40). Since 1990, there have been various efforts to recognize the land and resource use rights of indigenous peoples.

An early federal step, the Presidential Ukase No. 397 of 1992, urged the subjects of the federation to establish “territories of traditional use,” which would not be available for industrial activities without the consent of the indigenous people (16, 41). Implementation of this and other related initiatives has been “spatially irregular” and many governments did nothing (41–42). More recently, the federal government has passed a number of special laws to supplement the ukase. These laws include the laws “On guarantees of Indigenous Minority Peoples of the Russian Federation Rights” (1999), “On General Principles of Organizing Communities of Indigenous Minority Peoples [obshchinas] of the North, Siberia and the Far East of the Russian Federation” (2000), and “On Territories of Traditional Use of Natural Resources by Indigenous Minority Peoples of the North, Siberia and the Far East of the Russian Federation” (2001).

Efforts to territorialize indigenous rights have been based on the (re)construction of obshchinas (family clans or communes) (16, 43). An obshchina may petition the okrug or oblast for the allocation of land in order to
continue such traditional activities as hunting and reindeer herding. Title remains with the state. The actual practice has varied. While both the original ukase and the federal law of 2000 are explicitly directed at indigenous peoples, the territorial laws (e.g. Sakha Republic) in some cases refer more generally to those engaged in traditional activities (43). There is also considerable diversity in the form of tenure. The ukase contemplated lands being granted in perpetuity, but in many cases the tenure has been much more limited (44). Title to these lands has not been transferred and there remains considerable opposition in Russia to the privatization of land and resources (16). While the recognition of territories of traditional use and the allocation of land to obshchinas offer protection to numerically small peoples, there are also cases in which indigenous peoples have lost land and resource rights. This includes the decision of the Murmansk administration to lease parts of the Ponoi River to private fishing interests without regard to the interests of the Saami and Nenets peoples of the Kola Peninsula. In other cases (e.g. in the Khanti-Mansiisk region of Siberia), family and clan lands have been acquired by oil and gas interests either with no regard for the traditional owners or for purely nominal consideration (16).

**Governance rights**

The authority to govern oneself as a person is an important aspect of self-determination. To what extent and how do the legal systems of the Arctic states recognize the self-governing capacity of indigenous peoples? As described in Chapter 5, Political Systems, there are two models for self-governance in the Arctic: territorial or regional public governments that may afford a significant degree of self-government to all residents of a region, and self-government based on indigenous membership. It is difficult to identify a trend towards one approach or the other.

The Greenland Home Rule Government and Nunavut provide two well-known examples of public governments. The position is more complex in Alaska. In the United States, the “most basic principle” of federal Indian law is the recognition of an inherent right of tribal self-government (45) but it has proven difficult to work through the implications of this in light of the Alaska Native Claims Settlement Act (ANCSA). The position seems to be that Native villages continue as self-governing entities but that they lack a territorial basis (46). According to the US Supreme Court, the decision to transfer lands to Native-owned corporations rather than to tribal governments was inconsistent

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**Home Rule in Greenland and the Faroe Islands**

In 1999/2000, the Greenland Home Rule Government established the Commission on Self-Governance with the mandate to explore Greenland’s status and place in the Danish realm in light of the evolution of international law.

The Commission was comprised of nine members appointed by the Landsstyre and undertook to gain the perspectives of other indigenous peoples as well as academics and scholars with a background in the area of international law and self-determination. The Commission’s Executive Summary identified and addressed the areas of self-governance and resources; economic strategy and industrial development; public administration and human resources; self-sufficiency; language; increasing capacity and political development; the possible formation of a Joint Commission with Denmark through a Partnership Treaty on foreign and security policy; and a plebiscite in 2006. Under the coalition government between the Inuit Ataqatigiit and Siumut parties (1999), the Ministry of Self-Governance, Mineral Resources and Justice will further the process for the exercise of indigenous self-determination.

Home Rule in the Faroe Islands has developed in a different direction, and may come to follow the precedent of Iceland. The Icelandic Althing was dissolved in 1800 and Iceland came under direct Danish control. Following a struggle for independence that began in 1830, Iceland had a home rule government with legislative and executive powers by 1904. By 1918 a treaty between Iceland and Denmark stipulated that Iceland was a sovereign country that continued to recognize the Danish king. In 1944 Iceland annulled the treaty in accordance with its terms and declared itself a republic. In the general election to the Faroese Lagting in April 1998, the parties favoring autonomy or severance from Denmark gained the majority, and in September 1999 the Faroese Government published a white paper about Faroese sovereignty. From amongst several other options, the white paper proposed a model of free association between the Faroes and Denmark based upon the Denmark-Iceland treaty of 1918 (47).
Equality and Self-Determination in the Arctic
An Advocate Speaks
Dalee Sambo Dorough, Inuit Circumpolar Conference

Historical and contemporary social, political, and economic forces have resulted in far-reaching adverse consequences on virtually every aspect of the lives and traditional territories of the Inuit, Saami and other Arctic indigenous peoples. To redress these impacts, new levels of international cooperation, along with commitments to human rights are essential. This is consistent with a new phase of democracy that we are currently witnessing, which fosters the “international hearing” of indigenous voices, languages, and worldviews.

Peoples’ right to self determination
Since 1982, the United Nations has been engaged in human rights standard setting to address the rights of indigenous peoples (1). Specifically, according to the UN Charter, the United Nations and its member states have a solemn responsibility to promote universal respect for, and observance of human rights for all. Indigenous peoples in the Arctic must be assured the full enjoyment and exercise of their human rights without discrimination. A human rights approach is the optimal way to effectively address the debilitating and ongoing legacy of colonialism and dispossession.

A key aspect of human rights is the principle of equality. For indigenous peoples in the Arctic and other regions of the globe, this has yet to be realized. The failure of many states to fully respect this principle is especially evident in the ongoing dialogue between indigenous peoples and nation states concerning land and resource rights and self-determination.

Article 1(1) of the International Covenant on Civil and Political Rights and the Covenant of Economic, Social and Cultural Rights provides that “[a]ll peoples have the right of self-determination.” States have an affirmative obligation to fully apply this article equally to indigenous and non-indigenous peoples. In relation to indigenous peoples, States have no authority to impose new qualifications, limitations, or any other discriminatory double standards. Though the eight States in the Arctic Council have been directly involved at the United Nations and relatively engaged with indigenous peoples throughout the standard-setting process, indigenous land and resource rights and the right to self-determination are still being treated as extremely contentious matters.

The right to self-determination is inherent or pre-existing. It is not subject to the whims or discretion of any government. Consistent with principles of equality and justice, it is expressed, exercised, and manifested in different ways by different peoples.

At the 1997 session of the UN Commission on Human Rights Intersessional Working Group, which addresses norms for indigenous peoples’ human rights, a troubling discussion was prompted by nation States introducing a notion of “internal” and “external” self-determination. This false dichotomy is used to confine indigenous peoples’ right to self-determination, making it dependent on domestic policies on internal autonomy or self-government. Such positions are incompatible with international law. It is also not in line with the role that indigenous peoples already play as international actors by participating at the United Nations, the Arctic Council, and other international fora, and thereby exercising their right to self-determination external to the nation states.

Ongoing discrimination
Some of the most troubling positions have been expressed by the United States. In regard to self-determination and territorial integrity, the recent statements made by the United States rely on the false dichotomy of “internal” and “external” dimensions of self-determination and the idea that we must “create” a new right or a different right of self-determination for indigenous peoples than what currently exists for “all peoples” under international law. These positions have been met with strong opposition by the Inuit, Cree, and numerous other indigenous peoples and organizations.

In regard to land and resource rights, both the government of Canada and the United States have taken positions that are inconsistent with their commitments under the international human rights covenants relating to self-determination and in the context of the Arctic Council. Here Canada claims to be committed to sustainable development, improved health conditions and cultural well-being, and the protection of the Arctic environment in partnership with indigenous peoples. If the U.S. and Canada continue to undermine our exercise of self-determination, and especially our rights to lands, territories and resources, then their idea of “partnership” appears to be one of continuing paternalistic control and diminution of our most fundamental rights.

A number of other States have also claimed that the draft UN Declaration on the Rights of Indigenous Peoples Must be altered in a way that entrenches the principle of territorial integrity of States. Most indigenous peoples vehemently oppose such proposals since they are unnecessary. In addition, some States are already invoking territorial integrity in abusive and illegitimate ways. This has the potential of stifling the natural evolution of the right to self-determination under international law.

The principle of territorial integrity is already incorporated in a balanced manner as an integral part of international law. States are well aware that not only this but also other existing principles and rules in international law will still be applied in any given situation, to the extent they may be applicable, in determining the meaning...
and scope of the right of peoples to self-determination. Like self-determination, the principle of territorial integrity is evolving. The principle is no longer tied solely to nation States. Rather, the integrity of indigenous peoples’ territories and other basic interests are also intimately linked to this principle (2).

**Benefit rather than threat**

The right of peoples to self-determination is not an absolute right without limitations (3). It is a relative right that does not confer on any one people the right to deny other peoples the same right on an equal footing. It does not include any right to oppress other peoples.

The international community is well aware that few, if any, indigenous peoples seek full independence as nation-states. Yet certain states, suggest or at least imply that the explicit recognition of indigenous peoples’ right to self-determination is a threat to territorial integrity. Current developments in Canada, for example, where the self-determining actions of indigenous peoples have effectively contributed to safeguarding territorial integrity over the past two decades, demonstrate the reverse. Specifically, in the context of Québec secession, the democratic actions of James Bay Cree people have far exceeded what the Government of Canada itself had done to secure its borders as an existing State (4). Furthermore, the political, demographic, and economic realities do not point to indigenous peoples as a major threat in terms of State dismemberment, impairment or disruption.

Ironically, the most powerful and affluent nation in the world, the United States, also starts from the false premise that indigenous peoples globally are a genuine threat in a national security context and has attempted to build upon this unfounded fear (5). The United States is of the view that self-determination must be addressed within the context of “management and control over international affairs”, declaring that international law does not “accord indigenous groups everywhere the right to self-determination.” In many instances, the United States has thus evaded affirming the collective or group rights of indigenous peoples, repeatedly calling for reference to “persons belonging to minorities” and the exercise of individual rights “in community with other members of their group.”

In large part, the United States in effect controls whether the principle of territorial integrity applies or not in any given situation relating to the U.S. Under international law States are required to respect the principles of equal rights and self-determination of all peoples and to refrain from forcible actions that deprive peoples of the right to self-determination. States must also have a democratic government that is representative of the whole people belonging to a territory, without distinction as to race, creed, or color. Should these conditions be met, then such States can invoke the principle of territorial integrity.

**Rights are necessary for effective action**

The essential message from Arctic indigenous peoples has been consistent and clear: there is a need to deal with the growing and urgent issues that pose a threat to our Arctic homelands. In this wide-ranging context, States must be prepared to abide by peremptory norms, such as the prohibition against racial discrimination. It is only through the full realization of our basic human rights that we can take effective action through the Arctic Council and other fora of the global community to respond to these objectives. If Arctic indigenous peoples are to ensure our collective security in cultural, social, economic, political, and environmental terms, States must thus affirm and respect our basic rights, values, customs, practices and perspectives. This is especially crucial, so that we may continue our stewardship of the environment and contribute to the security and integrity of our territories for the benefit of present and future generations.

**References**

2. U. Umozurike, Self-Determination in International Law (Arkon Books, Hamden, 1972), p. 234: “... the ultimate purpose of territorial integrity is to safeguard the interests of the peoples of a territory. The concept of territorial integrity is therefore meaningful so long as it continues to fulfill that purpose to all the sections of the people.”

* Editors note: This article presents the personal views of the author.
with the application of tribal taxing laws to those lands. That said, tribal governments still have jurisdiction over their members and other internal affairs with respect to such matters as adoption, tribal courts and internal governance (45). In addition, indigenous peoples in Alaska have also been able to take advantage of their demographic dominance in some areas and have used public government models to exercise effective law-making powers, including property taxation and planning powers, over large territories.

The position in Canada is not uniform either. Nunavut represents a public government model, as does Nunavik in Northern Quebec. There are counter examples in Yukon and Northwest Territories, where land claim agreements recognize an ethnically based law-making capacity. This is the case, for example, with the self-government agreements in Yukon (46). There are on-going negotiations in the Northwest Territories to recognize a similar capacity for self-government.

In Russia, the settler population vastly outnumbers the indigenous population in all of the autonomous regions, and public government models are not able to provide for indigenous self-government (49). Instead, the obshchina has come to serve as a territorial base for self-government. Another possibility would involve using native counties (rayony) and native village administratsii (first established during the Soviet era), but relatively few counties have a majority native population. In some cases, villages have combined the powers of an obshchina and a native village. Overall, the geography of self-government in Russia is best described as archipelagic (50).

Three Nordic states have established Saami parliaments: Finland in 1973, Norway in 1989, and Sweden in 1993. While these parliaments do not have law-making authority, they have important consultative and advisory roles. For example, in Finland, the state is obliged to negotiate with the Saami Parliament on all far-reaching and important measures that may affect the status of Saami as an indigenous people, including decisions with respect to the use of state lands and mineral interests. The Saami Parliament in Norway may, on its own initiative, raise any matters and issues of concern to the Saami people (51). There is no Saami parliament in Russia.

**Theme summary**

Developments in the international law of human rights since World War II offer significant protections for indigenous peoples. The domestic laws of Arctic states illustrate a range of responses. While there is an increased recognition of the language rights of indigenous peoples, there is greater reluctance to recognize land ownership rights. Where there is increased recognition of land rights, courts have often played the catalytic role. There is a debate about the role of public governments and indigenous governments in fulfilling the self-government aspirations of indigenous peoples. Where indigenous peoples are in a clear majority (e.g. Nunavut, Greenland), they embrace public government as a possible vehicle for self-government. Where indigenous peoples are in a minority, and the discussion centers on residency, subsistence, and traditional practices rather than on indigenous heritage and emphasizes the form rather than the substance of non-discrimination, public forms of government fail to protect indigenous interests from majoritarianism.

**Property rights and rights to develop natural resources**

The Arctic is rich in natural resources, but who owns these resources? This section covers the forms of ownership within the Arctic states, distribution of ownership and control within federal states, and the schemes for allowing private parties to acquire public resources. In addition to this overview, further detail is presented in Chapter 7, Resource Governance.

**Public or private ownership**

While subject to increasingly vocal claims of indigenous ownership, there is a remarkably consistent policy of public ownership of the surface estate of land throughout the Arctic. To take but one example, the state claims ownership of approximately 90% of the lands of the Saami homeland area of Finland. Similar figures apply in Sweden. Public ownership dominates even in those states in which private ownership tends to be more significant in the non-Arctic parts of the country, such as the United States. In some cases continued public ownership of resources is legally mandated. For example, the Alaska
Statehood Act requires the state to reserve mineral rights on any sale of the surface. In other cases, public ownership is simply a presumption, or is required by policy (e.g. Finland, Greenland, Canada, Russia, Sweden, and Norway). In Iceland and the other Nordic countries, lands may be owned publicly or privately, and public lands may be subject to limited private ownership rights especially for summer pasture for livestock. Where lands are privately owned in the Nordic countries, the title generally includes ownership of natural resources, although the right to develop those resources will be highly regulated. The offshore oil and gas and mineral resources of Arctic states are universally owned by the state, subject to the potential title claims of indigenous peoples.

**Public ownership of resources within federal systems**

Within the unitary states of the Arctic, title to the publicly owned non-renewable natural resources is vested in central governments rather than local or regional governments. In Canada all publicly owned resources were owned by the federal government until fairly recently. This is still the case in the Northwest Territories and Nunavut but not Yukon. Canada transferred administration and control of oil and gas rights to Yukon in 1998 and all other resources (with the exception of water) in 2003. Over time, the Northwest Territories and Nunavut are likely to follow this trend. The marine areas adjacent to these territories will be jointly managed by the territories and the federal governments.

In Alaska, the federal government owns significant blocks of lands including national forests, large national parks, and national wildlife refuges. It also owns strategic natural petroleum reserves. The rest largely belongs to the state or Native corporations. There is no immediate or long-term prospect of the further transfer of federal resources to the state.

Russia offers a very different federal model. The constitution provides that the federal government and the sub-units of the federation both have powers over mineral resources, creating the so-called “two-key principle.” The federal government has enacted a law according to which all subsoil resources are vested in the federal state. The joint jurisdiction has been implemented through agreements that transfer the authority to license subsoil use for all or a portion of the deposits to the regions (e.g. the Komi Republic and the Sakhalin Oblast) (52). As a result, there is a considerable transfer of authority to the regions.

Greenland has another version of a two-key principle. According to the Home Rule Act, the residents of Greenland have fundamental rights to the natural resources. At the same time, the Mineral Resources Act provides that any permission to prospect or exploit natural resources requires the approval of both the Danish Government and the Home Rule Government. Joint management of the resources (minerals and oil and gas) is facilitated through a Joint Committee consisting of equal numbers of Home Rule and Danish representatives. Revenues from mineral activities are to be split 50:50 between the two governments with a further revenue sharing arrangement to be worked out in the event that revenues exceed DKK 500 million a year. At present there is only limited production.

In the Faroe Islands, Denmark has recognized since 1992 that the Faroese Government has executive and legislative responsibility for subsoil resources including resources in the territorial sea and continental shelf.

**Disposition systems**

The way in which a state transfers the right to develop natural resources to private interests is referred to as a disposition system. While there is some variation in resource disposition schemes for different non-renewable resources, it is possible to make one general observation. In all cases the interest owners, i.e. the mining and petroleum companies, must also comply with relevant land use planning, conservation and environmental rules.

Hard rock minerals are generally disposed of under one of three types of schemes: free-entry, some form of competitive leasing (as is typical for oil and gas resources where the rights are sold to the highest bidder), or negotiated concession. Under a free entry scheme, anyone may prospect for mineral resources on publicly owned lands and “stake” minerals that they discover (53-54). The three Canadian territories, Alaska, and Finland all use a free entry system or a free-entry-like scheme. The other Arctic states (e.g. Greenland, Sweden, Russia) use a negotiated concession or leasing scheme. If there is a trend, it is a movement from ground staking to map staking and then to leasing schemes. However, free-entry schemes have proven to be remarkably resilient notwith-
standing the power they accord to mining interests to determine the use to which public lands will be put.

Arctic oil and gas disposition regimes are predominantly work or bonus-bid leasing schemes. In a bonus bid scheme, the rights are awarded to the highest bidder and in a work bid scheme the rights go to the party committing to the most work (e.g. seismic and drilling activity). This is the case for Alaska, Greenland, and Canada (federal and Yukon). It is also the main scheme in Russia, which has also used production sharing agreements in a few cases. Leasing schemes have much in common, but there can still be great differences in how much governments must consult with indigenous peoples and others, including non-governmental organizations, about the planning and environmental effects before deciding to lease lands. Alaskan law imposes very strict and formal requirements, but the procedure is less demanding in other jurisdictions such as Canada.

Local ownership of resources may deliver significant benefits to local and sub-federal government. The benefits flowing from the Prudhoe Bay development to the state of Alaska and more indirectly to the North Slope Borough provide a dramatic illustration of this proposition. See Chapter 7, Resource Governance for further detail.

State participation in developing natural resources has, for the most part, declined in recent years. For example, state participation rights created in Canada in the early 1980s had disappeared by the early 1990s. Also, the Faroe Islands concluded that international market conditions would not support a state carried interest (i.e. share) for its first petroleum leasing round in 2000. Continuing state participation seems most widespread in the hydro-electricity sector (e.g. northern Canada, the Kemijoki River development in Finland, and Greenland where the state-owned company has a monopoly). In some states (e.g. Denmark/Greenland, Norway, and Russia), state participation continues in the oil and gas sector.

**Theme summary**

Three points emerge from the discussion on property rights and rights to develop natural resources. First, public ownership of land and resources dominate in the Arctic regions of Arctic states. Second, within the federal states, there is an important continuing federal role in Arctic non-renewable resource ownership and management but also evidence of the transfer of control of resources to Arctic territories and some experimentation with joint management regimes. Third, the non-renewable resource regimes follow fairly standard models, especially in the oil and gas sector.

**More legal authority to Arctic regions**

Devolution is the transfer of law-making authority to local or regional governments. Over the past decades, there is strong evidence of the devolution of legislative power and control over resources from the metropolitan cen-

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**Significant devolution events in the Arctic**

<table>
<thead>
<tr>
<th>Region</th>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>Alaska</td>
<td>1958</td>
<td>Alaska Statehood Act: Alaska ceased to be a federal territory and became a state</td>
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<tr>
<td></td>
<td>1971</td>
<td>The Alaska Native Claims Settlement Act (ANSCA): settlement of indigenous title claims and federal/state ownership issues</td>
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<tr>
<td>Canada</td>
<td>1984</td>
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ters to Arctic regions and Arctic residents. Major devolution events are presented in the table on page 114.

**Devolution across the Arctic**

Devolution is connected to internal decolonization, which is described in Chapter 5, *Political Systems*. Devolution has been most obvious for Greenland and the Faroe Islands in their relationships to Denmark, and in Canada. The (now) three Canadian territories, Nunavut, Northwest Territories, and Yukon, have yet to attain provincial status, however.

In the United States, there is little prospect of further devolution of authority. In fact, there has been some reversal as federal authorities have re-assumed authority for the allocation and regulation of wildlife harvesting on federal lands.

In the Nordic countries, there is some possibility of continuing devolution of authority but more at the level of local or regional governance. For example, in Norway, the proposed Finnmark Land Act would transfer some elements of ownership and control of resources to the Finnmark Estate. In Sweden, a government commission report in 2002 suggested conferring increased political power and some degree of self-determination on the Saami Assembly Parliament. In Finland, where the powers of the municipalities are protected to some degree by the constitution, there has been a trend to devolve greater autonomy to municipalities, including those within Lapland.

The picture in Russia is very different from the rest of the Arctic. The present tendency, which is not an Arctic-specific trend, is towards greater centralization within the federation.

Even where there are significant transfers of legislative responsibility, the metropolitan centers retain significant control of the Arctic areas of their territories. In Nunavut and Northwest Territories, the federal government of Canada retains ownership and legislative jurisdiction for essentially all public lands and resources. This is in marked contrast to non-Arctic areas of Canada where the basic rule is that publicly owned natural resources are vested in the province and not the federal government. Even in Yukon, which now has administration and control of its own resources, the federal government can disallow territorial laws, resume ownership of lands for certain purposes, and make laws that are inconsistent with Yukon laws. These federal laws would trump in the event of a conflict. In Greenland, the Danish Government retains a joint interest in resource disposition and development decisions but has abandoned any such claim in relation to the Faroe Islands.

**To whom is authority devolved?**

As discussed earlier in this chapter, law-making powers are most often transferred to public governments rather than to authorities based on ethnicity. This is the case in Greenland, the Nordic states, and is the principal model in the Canadian territories.

For devolution of resource ownership, the picture is more diverse. Two models dominate. The first, which we might call the North American Arctic model, has a significant transfer of public resource rights from the federal government to the state or territorial governments contemporaneously with the recognition of indigenous ownership rights through land claim agreements. The second model, which dominates in the Nordic countries, favors a more limited recognition of indigenous harvesting and related rights rather than full-blown ownership. While there is continued discussion of the further recognition of indigenous property rights in Finland, Sweden, and Norway, the proposed Norwegian Finnmark Land Act would see presumed state ownership rights transferred to the Finnmark Estate, which is intended to reflect the interests of all Finnmark residents, Saami and non-Saami. In Greenland, further devolution of authority appears to assume that ownership of resources would lie with the Greenland Home Rule Government rather than the indigenous people of Greenland. In Russia, transfer of ownership rights to mineral resources to indigenous peoples does not seem to be permissible, given that a federal law vests subsoil resources in the state. The Icelandic model upon independence from Denmark was simply for Icelanders to assume full responsibility for their own government and resources, and the same model would presumably obtain for the Faroe Islands were they to follow a similar route.

**Trend summary**

From a medium- to long-term perspective there has been a significant transfer of authority from the center to Arctic regions. It is particularly evident in the cases of Alaska, the Canadian Arctic, Greenland, and the Faroe Islands. In some cases (e.g. Alaska) there is little prospect of further devolution in the future. There seems to be a
preference for devolution to public governments rather than to indigenous governments. In areas where indigenous peoples are in the minority and where there is no specific protection for indigenous interests, this devolution to a public government seems consistent with international norms.

**Key conclusions and gaps in knowledge**

An underlying assumption is this chapter is that sustainable development in the Arctic is connected to how well people can assert or reassert local control of land and resources. Based on a review of how the international and national legal systems support such local control, four conclusions emerge.

Firstly, international human rights instruments provide an important standard against which to measure the behavior of different states. But they have yet to show their full potential. While some global instruments are broadly accepted (e.g. the Covenant on Civil and Political Rights), others are not accepted by the majority of Arctic states (e.g. International Labour Organization Convention 169). In other cases, the international standards remain works in progress (e.g. the Draft Declaration on the Rights of Indigenous Peoples). It would still be useful to conduct a rigorous assessment of the domestic laws and practices of each of the Arctic states in light of generally accepted international norms. A further strategy might be to develop a standard-setting instrument on the rights of indigenous peoples specific to the Arctic region. Arctic states and indigenous peoples might pursue this collectively or through processes that parallel existing multilateral undertakings like the Draft Declaration.

Secondly, there are two distinctive approaches to the transfer of legal authority to the Arctic regions of Arctic states. One approach has been to devolve authority to public governments, sometimes in conjunction with the settlement of land claims of indigenous peoples. The other approach has been to recognize the inherent self-governing rights of Arctic indigenous peoples. Sometimes these two models are combined. It would be useful to have a clearer understanding of the respective merits of these two approaches and how they fit together, as well as their compatibility with international human rights instruments.

Thirdly, there is a broad range of responses to how the property rights of indigenous peoples should be recognized. This range invites us to explore different possibilities rather than being trapped within the limits of a particular jurisdiction. At the same time, we need a deeper understanding of why certain techniques seem to work in some contexts and not in others, and the potential risks with legal transplants. This suggests the need for a more rigorous “comparative law of the Arctic,” engaging not only legal scholars but also people from other disciplines as well as local, regional and national governments.

The final conclusion draws attention to the difference between formal law and actual practice. As one moves from the apex of a legal system (the constitution) to the base (laws, regulations, orders, judicial decisions), norms are articulated with greater and greater precision. This chapter and much of the literature in the field operate close to the apex of this hierarchy. Therefore, many questions about actual practices remain to be addressed. They include: What do constitutional rights actually mean? How have they been interpreted and applied? How have they changed peoples’ lives? How do the norms of the state interact with folk norms and the norms of indigenous society? Such inquiries are complex and will require a multi-disciplinary approach as well as a rich array of case studies.

**References**


35. SOU:2002:77, Sametingets roll i samhället; http://www.regeringen.se/content/1/c6/01/21/36/dd9f6c40.pdf (8 September 2004).

36. [1997] 3 SCR 1010 [SCR = Supreme Court Reports].


49. Fondahl 1999:57 (44).

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Human uses of the Arctic – whether subsistence hunting, commercial fishing, reindeer herding, or exploring for oil – reflect diverse histories, cultures, and ecological settings of the North. These uses are often rooted in distinctive traditions and belief systems extending back many generations. But resource uses in the Arctic are dynamic and are increasingly shaped by interactions with the global economy, including distant governments, corporations, and non-governmental organizations. Other powerful global factors, such as climate change, also play a role.

Just as human uses of the Arctic are dynamic and diverse, so too are resource governance systems that shape them. These systems encompass the principles, institutions, and practices a society and its members employ to use shared resources (1). Like resource uses themselves, governance practices in the Arctic are often deeply rooted in cultural traditions. Yet in a time of rapid change, a key question is if existing governance systems can respond quickly and flexibly in a manner that contributes to healthy communities and sustainable economies (2).

This chapter focuses on four trends affecting Arctic resource governance. First is the growing importance of property rights. The second is incorporation of traditional or local ecological knowledge with western science in decision-making. Transfer or devolution of power to local decision makers and co-management is a third trend, while a fourth describes the widening involvement of Arctic peoples in ownership and development of lands and resources. These trends all represent changes to resource management regimes with implications for long-term sustainability and self-determination in the Arctic.

Setting the stage

The vastness of lands and resources controlled by the state distinguishes the Arctic from many of the more industrialized regions of the world. Examples include fishery resources in the Barents and Bering Seas and expansive publicly owned lands in the North American Arctic. In Greenland, private land ownership as such does not exist. All land is owned in common through the state. For some Arctic resources, well-developed and successful management regimes are in place. For others, rights to resources remain contested or uncertain. In Russia, for example, the question of land ownership and rights to resources are continuing sources of debate and controversy.

The fact that so many Arctic resources are publicly owned highlights the importance of resource governance. The way resources are shared and managed in the Arctic is often distinctive, generally rooted in cultural histories and practices and incorporating innovative, cutting-edge approaches to management. Effective governance of Arctic resources requires management regimes that have strength in influencing human behavior to achieve agreed-upon goals, durability over time, and a robust capacity to survive destabilizing forces (3). Such regimes must also fit appropriately with ecological and institutional factors; what works in one setting may be entirely inappropriate in another. Another issue is the interplay between one regime and another, both across resource boundaries and across management jurisdictions. Scale is also of concern in understanding resource regimes. For example, what works at the local level may or may not be effective at a regional or global level.

While publicly owned resources predominate in many regions of the Arctic, privatiza-
tion is expanding significantly in some jurisdictions. For example, recent land claims settlements in North America have placed millions of square kilometers in the hands of for-profit and non-profit entities controlled by indigenous peoples. Such corporations control vast resources, and they interact actively with both public and private resource governance institutions (4).

Arctic resources and sustainable livelihoods

For generations, living resources have provided the basis for sustainable livelihoods for both the Arctic’s indigenous peoples and more recent settlers (5). This continues to be the case in many areas today. At the household and community level, fish, wildlife, and plants for subsistence purposes remain important (6). High-latitude agriculture and animal husbandry are also valued sources of income for many Arctic communities and households. For example, reindeer and caribou are a nearly ubiquitous resource, providing an important source of food and some significant income (7-8).

Renewable resources in the Arctic are increasingly important in global markets. In particular, commercial fisheries in the Arctic are world-class. Aquaculture and mariculture are well developed in many areas and are expanding as technologies and markets for farmed salmon, halibut, shellfish, and other species increase. Forest products are also important exports, especially in the Nordic countries. Commercialization of renewable resources is sometimes a contentious issue. For example, in some areas commercial use and export of marine mammals are allowed while in others they are strictly prohibited.

Exploration for and development of non-renewable resources such as oil and gas, gold, lead, zinc, and diamonds have profoundly impacted the histories and livelihoods of Arctic peoples. Early development was often associated with colonization and exploitation, where Arctic residents, who lacked recognized rights to resources, benefited little but paid substantial costs. With growing attention given to indigenous land claims, resource rights, and self-determination, some Arctic peoples are now finding ways to engage productively in non-renewable resource extraction.

As interrelationships between Arctic communities and the global economy grow, tensions over how to balance benefits and costs of renewable and non-renewable resource use and development will continue. In some regions, residents seek to maintain a dynamic mixed economy where both renewable and non-renewable resources play an important role. They seek jobs and income while not undermining opportunities for using local resources that have enduring nutritional, cultural, and economic benefits. This tension reflects the classic definition of sustainable development articulated by the Brundtland Commission two decades ago: development that meets the needs of the present without compromising the ability of future generations to meet their own needs (9). How this tension is addressed and the future trajectory of Arctic economies is difficult to predict. But key to these debates are the emerging forms of resource governance that have the potential to either support or undermine self-determination and self-reliance.

Securing rights to resources

In the Arctic today, effective resource governance increasingly depends upon success in addressing issues of rights to resources. Property rights – including rights to ownership or use – are central to comprehensive claims of indigenous peoples and in innovative approaches to governance such as creation of the Nunavut Territory in Canada, Home Rule in Greenland, and the Sakha Republic in Russia. The Arctic has seen dramatic changes in property rights over the past half-century. Key contributing factors include growing recognition of indigenous peoples’ rights (see Chapter 6. Legal Systems), the end of the Cold War, implementa-
tion of the UN Convention on the Law of the Sea, and expanded interest in Arctic resource development (10). The following briefly summarizes developments across the Arctic with regard to property rights relating to land and sea. Two case studies further illustrate the links between resource governance and rights.

**Addressing property rights issues: A circumpolar perspective**

*Alaska:* Longstanding indigenous claims to land and hunting and fishing rights were addressed in part through the Alaska Native Claims Settlement Act (ANCSA) of 1971, spurred on by the discovery of oil on Alaska’s North Slope in 1968 (4). ANCSA came on the heels of the Alaska Statehood Act of 1958 that made Alaska the 49th US state and set aside over one quarter of its land mass for development and use by the new state. These two acts, plus the Alaska National Interest Lands Conservation Act (ANILCA) of 1980, have created an ownership pattern where the US federal government owns nearly 60% of the land, the State of Alaska owns 28%, and Alaska Native corporations own about 12%. Other private lands make up less than 2% of the total. ANILCA created vast new national parks, wildlife refuges, and other conservation units in Alaska. Subsistence hunting and fishing continue in most of these areas. At the same time, they invite development of world-class tourism opportunities.

In Alaska’s marine environment, the US Government manages resources in its exclusive economic zone which extends 200 miles offshore. Federal fisheries management – based upon the Magnuson-Stevens Fishery Conservation and Management Act of 1996 – incorporates the broad-based North Pacific Fisheries Management Council, individual fishing quotas, and innovative community development quotas (11-12). Alaska’s State Government manages near-shore fisheries – most prominently those for salmon – through its Board of Fisheries, Commercial Fisheries Entry Commission, and Alaska Department of Fish and Game (13).

*Canada:* The Canadian Government has addressed longstanding indigenous claims in the Arctic through constitutional protections, legislation, comprehensive claims settlements, and a new territorial government. In southern Canada, treaties signed under the Indian Act formed the basis for settling indigenous claims. This culminated in 1982 in recognition of aboriginal rights in Canada’s new constitution. In the North, Quebec’s desire to develop massive hydroelectric resources led to implementation of the James Bay and Northern Quebec Agreement in 1974 (14), whereby Cree and Inuit exchanged aboriginal rights to land and resources for cash, title to hunting areas, and exclusive hunting and fishing rights in some areas. The James Bay agreement created significant new political institutions and paved the way for expanding co-management elsewhere in Canada and beyond.

In 1984, the Inuvialuit of the Mackenzie Delta signed an agreement with the federal government that exchanged aboriginal claims for a cash settlement, title to some 91,000 square kilometers of land, and mineral rights. These developments led to the division of the Northwest Territories and the creation of the new Nunavut Territory in 1999. The Nunavut Agreement, which laid the groundwork for the new territory, was signed in 1993. As discussed in a case study later in this chapter, it also provided a settlement of claims and gave Inuit a role in decision making.

As in Alaska, Canada controls use of its marine environment through its 200-mile exclusive economic zone.

*Greenland:* Greenlanders achieved Home Rule status within the Danish realm in 1979 (15). The Home Rule Government, a public government representing both indigenous and non-indigenous residents, manages both terrestrial and marine resources within a framework common throughout Denmark. Home Rule in Greenland arose in part at least, because of tensions between Greenlanders and the Danish Government over development policies, particularly in the 1950s and 1960s (16).

Under Home Rule, Greenlanders have gradually taken over responsibility for managing and developing living and non-living resources. Interestingly, there is no private land ownership in Greenland; all land is owned in common by the Greenlandic population through the state. Greenlanders have the right to use living resources subject to Home Rule regulations designed to promote a precautionary approach to resource use and sustainability over time. Fisheries management in Denmark’s exclusive economic zone off Greenland’s coast uses a system that includes both individual fishing quotas (including transferable quotas for shrimp) and Home Rule regulations. Even while Greenland remains a part of the Danish realm, its role in
resource governance in partnership with Danish counterparts is expanding. This includes negotiations over not only multilateral fisheries agreements but also in other international settings. An agreement exists between the Home Rule and Danish governments about sharing royalties associated with any development of non-living resources. The Home Rule Government recently established a high-level office for self-government that is actively exploring opportunities for expanding Greenland’s autonomy in relation to the Danish realm.

**Faroe Islands:** The Faroe Islands achieved Home Rule within the Danish realm in 1948 and continue to press for greater autonomy or even independence. The Faroese economy is highly dependent upon fisheries and fish processing, although prospects of offshore oil and gas development give hope for a more diversified economy (17). As in Greenland, the government of the Faroe Islands is taking a more active role in resource governance, especially as it relates to fisheries policies, marine mammal management (pilot whaling), and petroleum development.

**Iceland:** Icelanders have traditionally relied on sheep ranching, small-scale agriculture, and fishing for their livelihoods. Early laws, dating to the 12th century, addressed concerns about overgrazing of common pastures, while marine resources were generally regarded as a “boundless common resource” (18). Iceland’s involvement in the commercial fishing industry grew dramatically following independence from Denmark in 1944. Based upon concerns about cod stocks, it embraced a market-oriented approach to fisheries allocations by implementing a system of individual fishing quotas in 1984. This culminated a process of privatizing a common resource.

**Scandinavia and Finland:** Peoples of northern Scandinavia and Finland include indigenous Saami as well as Norwegians, Swedes, and Finns. This region and the adjacent Russian Northwest have the highest human population densities in the Arctic. The Saami traditional territory – Sápmi – lies within the nation-states of Norway, Sweden, Finland, and Russia. Traditionally, Saami livelihoods depended on a mixture of reindeer herding, hunting, fishing, trapping, and gathering. Today, only a minority of Saami are actively engaged in reindeer herding. Others mix agriculture, hunting, and fishing with wage employment. For reindeer herders, national legislation in the Nordic countries provides some degree of protection and support. Still, conflicts remain between Saami herders and others over rights to resources (see Chapter 6. Legal Systems) (19). Concern also persists about herd numbers and carrying capacity of the land.

Elsewhere in the Nordic countries, national governments create the broad framework for use of publicly owned resources by state-owned and private corporations. For example, the Norwegian Government remains the dominant investor in Statoil, the major Norwegian oil producer that was only recently opened to private investors. Norsk Hydro, a developer of hydroelectric energy, is 44% owned by the Norwegian state. In Sweden, the Swedish Forestry Act governs actions of private wood-products and pulp firms.

In the Barents Sea region, the Barents Euro-Arctic Council exemplifies regional cooperation impacting resource management and use. Its regional council is made up of representatives from northern Norway in the west to Russia’s Novaya Zemlya in the east. Its focus includes international collaboration, with special attention to forest management, sources of renewable energy, and development of the Northern Sea Route (20-21).

**Russia:** Property rights have changed dramatically in Russia since the demise of the Soviet Union. The independent livelihoods of northern peoples in Russia came under Tsarist and later Soviet control from the 18th century onwards (22). Early efforts to recognize and create autonomous territories for minorities in the early Soviet era gave way to traumatic collectivization in the early to mid-20th century. Industrial development in the latter part of the century offered indigenous and local people little control over land or resources. This resulted in widespread impact on the environment and growing inequality.

Since the collapse of the Soviet Union in 1991, property rights systems in Russia have undergone enormous change (23). A central focus has been on large-scale privatization of enterprises previously owned by the state and reallocation of profits and returns from these enterprises. Some new laws seek to guarantee rights of indigenous minorities, including protection for traditional territories (24). The degree to which these laws can and will be applied to the meaningful benefit of northern peoples, however, remains uncertain. Moreover, it remains unclear to what extent indigenous peo-
people will benefit from industrial development (oil and gas, timber, minerals, fisheries) derived from resources in the Russian North.

**Case study: Indigenous rights to traditional lands in Russia**

The Russian North is home to nearly 9 million people of whom only about 10% are indigenous to the region. The dominant presence of non-indigenous people in northern Russia reflects centuries of colonial history and a dramatic acceleration of in-migration during the Soviet era. Since the demise of the Soviet Union, many non-indigenous people have left the North, as state supported enterprises have declined or collapsed.

As a group, indigenous peoples of the Russian North live in an uncertain transitional economy in which their traditional livelihoods and rights to land and resources are unclear. The dramatic transformation from state ownership of collective enterprises to private control in the post-Soviet era provided a glimmer of hope that indigenous resource rights would be addressed. In the 1990s, one step in this direction was taken when the Russian Government approved some 2,300 obshchinas, or familial production units, involved in reindeer herding or fishing. In theory, these obshchinas could petition for land and acquire it in perpetuity. But this attempt at reform was not fully realized and has had limited effect.

Other initiatives in Russia involve collaboration between indigenous peoples and conservationists in developing “territories of traditional nature use” and “ethno-ecological territories.” For example, in 1998 the resource-rich Tkhasanom Reserve was established along the Sea of Okhotsk. It lies within the territory of the Itel’men people who use it for subsistence hunting and fishing. The decree establishing the reserve requires management in cooperation with the Itel’men people who have priority for hunting and fishing quotas. Many similar reserves and protected areas are being developed or discussed across the Russian North and Far East.

More recently the Russian State has begun to address indigenous rights through legislation. A major voice for addressing these rights is the Russian Association of the Indigenous Peoples of the North (RAIPON). RAIPON has advocated successfully for three important but as yet untested pieces of federal legislation. One is “On the guarantees of the rights of the numerically small indigenous peoples of the North,” which was adopted in June 2000. The second is “On traditional natural resource use of indigenous numerically small peoples of the North,” adopted in June 2001. The third is “On basic principles of organizing communities of indigenous peoples of the North, Siberia, and the Far East,” which was adopted in 2002.

Despite these legislative achievements, some argue that the impact at the local and regional levels is negligible. Mechanisms in Russia for implementing these rights are lacking and powerful political forces resist their implementation. Indeed, RAIPON president S.N. Kharyuchi recently expressed fears that these laws may be repealed just at a time when their adoption offers hope for resolving the legal basis for the establishment of conditions for sustainable development of indigenous peoples in the Russian North, Siberia, and the Far East.

The outcome of this debate will determine to what extent Russian indigenous peoples will have meaningful opportunities for self-determination as envisioned in the UN Charter and in international law. These efforts to secure indigenous rights to land and resources mirror similar struggles in recent decades in Alaska, Canada, Greenland, and the Nordic countries. While the approaches used vary dramatically, they all reflect a movement toward addressing legitimate rights to resources based upon traditional use and occupancy by Arctic indigenous peoples.

**Case study: Privatization of Arctic fisheries**

Management of Arctic fisheries focuses increasingly on privatizing harvest rights to publicly owned resources using individual fishing quotas and other mechanisms. This process is an outgrowth of developments in international law, particularly the 1982 Law of the Sea Convention which establishes rules and principles for the use and management of the natural resources in the ocean. The most important element is the creation of exclusive economic zones extending 200 miles offshore, in which coastal states control use of resources. Coastal states are to manage resources to achieve a “maximum sustainable yield,” effectively requiring that natural resources be used sustainably. All Arctic countries except the United States are party to
the Law of the Sea Convention and are therefore bound by its provisions. The United States has adopted most of its provisions in practice, and continues to consider ratification.

At first, the Law of the Sea Convention provided hope that overharvesting and depletion of fisheries resources would end. However, subsequent increases in fishing both inside and outside of the exclusive economic zones demonstrated that this hope was premature. The growth in number of fishing vessels and fishing effort created a rapidly growing fishing capacity. Many fish stocks were increasingly overfished, resulting in declining yields and increased pressure on the remaining resources (32-33).

The 1995 United Nations Fish Stock Agreement, negotiated under the auspices of the UN General Assembly, seeks to correct these deficiencies. The new agreement provides a legal basis for controlling fisheries on the high seas through more restrictive management principles. It strengthens regional cooperation in resource management, provides better enforcement of management measures, and requires mandatory dispute settlement procedures. Importantly, it emphasizes a precautionary approach in fisheries management in light of continuing scientific uncertainty about what is sustainable yield. The thinking behind such an approach is that, in managing resources, governments should err on the side of caution, in the face of uncertainty, when striving to fulfill conservation and management goals.

The precautionary approach and enhanced regional cooperation has proved crucial in recent fisheries development in the Arctic (34). For example, a number of regional fisheries agreements affecting Arctic waters have been modified to implement the agreement. This includes the Northwest Atlantic Fisheries Organization (NAFO), which covers the Northwest Atlantic and the Northeast Atlantic Fisheries Commission (NEAFC), which covers the international waters in the Northeast Atlantic, where enforcement of fisheries regulations and coordination of management for shared stocks has improved. In the Bering Sea, a moratorium on the harvest of living marine resources outside of the exclusive economic zone came into effect in 1992 (35).

In addition to the international fisheries management framework, Arctic countries are also
involved with substantive and sometimes controversial changes to fisheries regulatory regimes. In Iceland, a desire to conserve fish stocks and to promote efficiency and safety led the government to implement a system of individual transferable quotas in the 1980s (30). In 1990, a new law expanded this system to nearly all Icelandic fisheries. Under this quota system, quota shares can be bought and sold, creating a perception among many that what was once a public resource has now become privatized. Research shows that individual quotas offer benefits in the form of a more rigorous and closely monitored management system incorporating the best available scientific advice. When well managed, such a system rewards efficiencies, provides a more stable business environment, and encourages quota-holders to focus on long-term viability of fish stocks. Critics note, however, that the system has also concentrated quotas in the hands of fewer vessel owners and fostered development of powerful, vertically integrated fisheries companies (36). For some, this raises concerns about social equity in allocating a publicly owned resource.

In the Bering Sea, the United States has implemented several different management approaches (11). For halibut and sablefish, an individual fishing quota program was established in 1996. Other mechanisms focused on limiting entry to salmon and other fisheries. As in Iceland, the goal was to sustain fish stocks, improve efficiency and safety, and increase the value of fisheries products. But the individual fishing quota program also raised questions about growing economic dependence on only a few owners and processors.

One special innovation in management of Alaska’s Bering Sea fisheries is adoption of the unique community development quota program (12). Enacted by the North Pacific Fisheries Management Council in 1992, this program allocates a small portion of the total allowable catch for pollock, halibut, sablefish, Atka mackerel, Pacific cod, and crab directly to coalitions of identified indigenous communities in western Alaska. The community development quotas are designed to expand community involvement in Bering Sea fisheries, create jobs, and attract new capital. Other goals are to develop infrastructure and to improve social and economic conditions. Some 56 communities, organized into six regional fisheries companies, are now engaged in Bering Sea commercial fishing. Since 1992, the community development quota program has been responsible for creating some 9,000 jobs and income amounting to some US$60 million (35).

Emerging policy debates about oceans governance will undoubtedly influence Arctic fisheries in coming years. They reflect broad concern about Arctic marine resources, ranging from overfishing to pollution to examples of ineffective management (11). The recently released Pew Oceans Commission report in the United States calls for a new ethic of stewardship and responsibility toward the marine environment, centered on ecosystem-based management (32). It also calls for new institutional structures for fisheries management, establishment of marine reserves, and protection of critical habitat, as well as further research and education. The US Commission on Oceans Policy calls for many of the same actions (33). These reports and others point toward specific innovations in oceans management, including ocean zoning and marine reserves. Growing interest in the Northern Sea Route, especially in light of global climate change, also brings new attention to special Arctic shipping regulations and emergency response systems (37).

Trend summary
Resource governance in the Arctic shows a strong trend toward recognizing and formalizing property rights, including the rights of indigenous peoples. Resources once part of the commons and owned by no one are increasingly subject to legislation designed to specify ownership and use.

Traditional and local ecological knowledge
For generations, Arctic indigenous peoples have mediated relationships with each other and their environment using ecological knowledge and associated customary laws and practices. Settlers arriving more recently to the Arctic have also developed detailed local knowledge and practices now central to effective resource governance. A key trend in Arctic resource governance is to combine these knowledge systems with western science.

Traditional ecological knowledge as part of everyday life
Traditional ecological knowledge is defined as a body of knowledge, practice, and beliefs about the dynamic relationship of living beings with
one another and with their environment, which has evolved by adaptive processes and been handed down from generation to generation (38). In some regions of the Arctic, the phrase local ecological knowledge is more commonly used. Traditional or local knowledge systems can include several interrelated levels of analysis. Central are local knowledge of resources and knowledge of resource management systems, including practices, tools, and techniques for resource use and management (38). It also commonly includes knowledge of social institutions, such as “rules-in-use” and codes of social relationships, as well as a worldview that both informs and is informed by notions of religion, ethics, and broader belief systems.

For many indigenous peoples, customary practices and a profound sense of the sacred continue to inform everyday life. Anthropologist Ann Fienup-Riordan writes about Yup’ik in Alaska: “the most striking feature of traditional Yup’ik law and order . . . was its constant, competent, discoursive. First and foremost, leaders were attentive listeners and knowledgeable speakers. The laws that ordered their lives were known collectively as qaneryanaat – that which is spoken – and instruction in these laws constituted both the form and content of a vast amount of social interaction, especially between older and younger community members. Moreover, social control and decision-making both turned on speech – voicing opinion, administering warnings, listening to advice” (39). Fienup-Riordan notes that these practices continue today through “complex historical processes of appropriation, compromise, and revival that inform the activity of a people no longer living in isolation but ‘reckoning themselves among the nations’” (39).

**The challenge of integrating knowledge systems**

Traditional or local knowledge-belief-practice can be an essential element in building more effective resource governance regimes, especially when it can also draw on the best of western science (38). But challenges to achieving this can be huge. Some argue that using traditional knowledge outside the local context degrades it to “just another form of data” – it is artificially dissected from the cultural whole in which it is embedded (40). In Iceland, Pálsson reveals how local fishermen’s knowledge is commonly silenced when confronted with assertions of scientific precision in biologists’ data (41). Some critics argue that in light of these challenges, the only remedy is to return control to local people (40).

The challenges of drawing meaningfully from traditional and local knowledge have not kept Arctic resource users, their advocates, and even many biologists and managers from promoting
its use. Examples include pioneering studies from Canada, such as the Inuit Land Use and Occupancy Project (42) and the more recent Voices of the Bay (43), both of which illustrate the richness of environmental knowledge of Arctic environments and landscapes. Cultural studies such as Richard K. Nelson’s Make Prayers to the Raven reveal detailed knowledge of the Koyukon Athabascan people in Alaska, while others focus on Cree fishers in Canada, and Yamal-Nenets people in the Russian North (44). More recently, traditional knowledge has been instrumental in planning applied projects in the Arctic, ranging from assessment of the cumulative impacts of hydroelectric development in Quebec to planning for gas pipeline development in the Mackenzie Delta of Canada. The North Atlantic Marine Mammal Commission (NAMMCO) recently organized a conference on integrating local and scientific knowledge in management decision making for marine mammals (44).

Researchers caution that use of traditional ecological knowledge can be problematic if not done carefully. Examples exist where unthinking use has contributed to misunderstandings (38). Uncritical use can also create pitfalls such as characterizing indigenous peoples as “natural conservationists” or “original ecologists” whose knowledge and actions are beyond scrutiny (39). In spite of these cautions, a growing number of scientists believe that traditional knowledge can complement western scientific knowledge. It can also serve as a reminder that there are multiple ways of knowing about the world and that effective resource management requires understanding this diversity. Moreover, awareness of traditional knowledge leads the way towards the development of participatory, community-based resource management systems that allow diverse knowledge-practice-belief systems to become visible. Doing so overcomes the limitations of conventional science, which risks becoming blind to its (western) cultural foundation.

**Customary law and practice still regulate resource use**

Despite disruption and change in the post-contact era, Arctic peoples continue to use customary laws and practices in resource management. In Canada, the James Bay Cree use a system of hunting territories allotted to specific individuals. This practice serves to limit risks of overexploitation of beaver (45). In fishing for whitefish, the Cree also have cultural practices that recognize certain use rights and validate particular means in fishing (46). Another documented example is how Inuit hunters on Victoria Island exhibit self-limiting practices in hunting for ducks (47). In the Russian Far East, Chukchi hunters continue to appease the spirit of a hunted gray whale by offering it fresh water as it is brought onshore (48).

In Alaska, Yup’ik use of the environment continues to be informed by the view that animals are nonhuman persons and that a “collaborative reciprocity” must be observed between hunters and animals (39). Maintaining such reciprocity may include prohibitions on women’s involvement in hunting and prescriptions about their behavior while their husbands are engaged in hunting; such practices are based upon deeply rooted cultural beliefs. This cultural notion of reciprocity may, in fact, require that animals and fish be taken to ensure their continued availability in the years ahead – the more taken, the more likely they will return again. Similarly, some Alaska Athabascan hunters believe that the first caribou to appear in a migrating herd (the ‘leaders’) should not be taken so that others will follow. They also insist that the site of a caribou kill should be cleaned thoroughly so that respect is shown to the caribou spirit (49).

**Trend summary**

Field research among Arctic peoples suggests that it is important not to overlook or dismiss customary law and practice in resource management simply because they are based on strikingly different worldviews. The “rediscovery” of traditional knowledge in recent years is certainly not a panacea for conflicts, but it does suggest a growing awareness that there is more than one way to understand the dynamics of human-environment relationships.

**Devolution and co-management**

Throughout the Arctic there is growing interest in political devolution and co-management as strategies for devising more appropriate and effective resource management (50). Devolution refers to the transfer of power to more local and regional jurisdictions and governments. Co-management typically involves a sharing of power between the state and resource-user communities (51).
Devolution can take at least two forms. One is a transfer of authority and budgets to northern jurisdictions for macro-scale management of renewable and non-renewable resources. A second is the creation of more discrete co-management regimes designed to widen participation and build legitimacy in resources decision making. Devolution often occurs within national boundaries, as with creation of the Nunavut Territory within Canada. However, it can also occur at the international level, as illustrated by a case study of the North Atlantic Marine Mammal Commission (NAMMCO).

**Case study: Devolution and the Nunavut Territory**

A recent example of political devolution is the creation of the Nunavut Territory in Arctic Canada (52). Nunavut (“our land” in the Inuktitut language) came into existence on April 1, 1999 as a result of a decades-long struggle by the territory’s 27,000 residents, 85% of whom are Inuit (see also Chapter 5. Political Systems). Nunavut’s population is spread across 25 incorporated communities, situated in a vast Arctic landscape encompassing more than 2.1 million square kilometers (23% of Canada’s land mass). The capital of Nunavut is Iqaluit, a community on southern Baffin Island.

The creation of Nunavut as a territory came on the heels of the 1993 Nunavut Agreement between Inuit of the region and the Canadian Government. In that agreement, the Inuit of Nunavut exchanged aboriginal rights to lands and resources for title to about 350,000 square kilometers of land, of which about 10% include subsurface rights. They also received priority rights to harvest wildlife, and equal membership with the government in the new co-management institutions. As part of the exchange, Inuit received payments of nearly US$900 million (CAN$1148 million) as well as enduring resource royalties (50).

With regard to resources governance, the Nunavut Agreement created a Nunavut Wildlife Management Board, Nunavut Water Board, Nunavut Impact Review Board, Nunavut Planning Commission, Nunavut Social Development Council, and a Surface Rights Tribunal (52). While part of a public government rather than an indigenous or aboriginal self-government, these new institutions ensure equal involvement of Inuit in decision making and provide mechanisms for full consideration of regional and local concerns. They are designed to “bring together the traditional Inuit system of knowledge and management [Inuit Qaujimajatuqangit] with that of Canada’s . . . blending . . . two systems of management in such a way that the advantages of both are optimized and the domination of one on the other is avoided” (53). Strictly speaking, these new co-management institutions are advisory bodies making recommendations to ministers in Iqaluit and Ottawa. In practice, however, they are expected to become powerful new institutions, providing a clear voice to the Inuit.

Creation of the Nunavut Territory is an expression of political devolution on a macro scale, with creation of new regimes for decision making and new institutions for giving voice to Arctic residents. Similar processes of political devolution can be found elsewhere in the Canadian Arctic, in the Nordic countries, and in Russia.

**Regional management: The North Atlantic Marine Mammal Commission**

The North Atlantic Marine Mammal Commission (NAMMCO) is an international body for regional cooperation on conservation, management, and study of marine mammals in the North Atlantic (54). The Commission was founded in 1992 by the Faroe Islands, Greenland, Iceland, and Norway. It is an example of regional co-operation and co-management.
ment of whale, seal, and walrus that migrate between national and international waters. Using a multi-species, ecosystem-based management approach (55), NAMMCO’s work is grounded in science yet seeks to increase understanding of the cultural and socio-economic values associated with sustainable use of marine mammals.

NAMMCO’s activities include coordinating scientific research and providing practical management advice to governments. It is also in a position to examine issues like marine mammal-fisheries interactions – a topic of shared interest to member governments. NAMMCO engages governments in managing resources and is an institution with a strong connection to coastal communities and indigenous peoples. As such it strives to find ways of bringing together scientific and traditional knowledge systems; it recently organized a conference on user knowledge and scientific knowledge in management decision making, which was held in Iceland in 2003 (44).

NAMMCO’s regional focus highlights the importance of appropriate scale in addressing resource issues. The Commission’s regional approach contrasts with global entities such as the International Whaling Commission (56). There, science-based approaches to managing harvests of large whales are frequently confronted with objections to all whaling based upon appeals to “universal” values or ethics. In response, member governments prefer regional approaches that keep authority for management closer to home and more in tune with local cultures and traditions.

**Defining co-management**

In co-management, stakeholders share power in managing specific resources. In a North American context, co-management commonly refers to a “shared decision-making process, formal or informal, between a government authority and a user group for managing a species of fish and wildlife, or other resource” (57). More specifically, a co-management regime is an institutional arrangement in which stakeholders establish 1) a system of rights and obligations for those concerned with the resource, 2) rules indicating actions that stakeholders are expected to take under various circumstances, and 3) procedures for making collective decisions affecting diverse interests.

In the Arctic, co-management often provides avenues for sharing knowledge between users and scientists and balancing power between users and government officials. It also allows for expanding cooperation in research, education, and management and recognizes cultural and linguistic differences as they impact effective understanding. Finally, it focuses on integrated systems approaches for sustainable resource management.

**Case study: Shared management of polar bear in Alaska and Chukotka**

An example of co-management is the initiative of indigenous peoples in Alaska and Chukotka in managing a shared polar bear population in the Bering and Chukchi seas. Indigenous groups on both sides of the Bering Strait have long used these bears for food, clothing, and in artwork. In the late 20th century, the Soviet Union banned all polar bear hunting and the United States considered a similar ban. However, an exemption in the US Marine Mammal Protection Act of 1972 allowed Native hunters to take polar bear, and the 1973 International Polar Bear Treaty opened doors to new forms of co-management involving indigenous peoples (58).

The Inuvialuit and Inu̯piaq of Alaska and western Canada initiated this arrangement in 1984 by signing a polar bear management agreement in which hunters themselves – outside of government structures – agreed to protect females and cubs. This and similar agreements encouraged hunters in Alaska and Chukotka to form the Alaska Nanuuq Commission and the Chukotka Association of Traditional Marine Mammal Hunters, respectively. These organizations undertook a com-
mon study of polar bear habitat in Chukotka, which involved traditional knowledge about feeding areas, migration routes, and denning areas, and the information is being used to develop a polar bear management plan and appropriate regulations and enforcement procedures in Chukotka.

This collaboration led to the signing of the United States/Russia Polar Bear Treaty in October 2000 (59). The treaty contains several unique features. First, it creates a joint commission that establishes policy and sets annual harvest limits. The commission includes representatives of the Alaska Nanaq Commission and the Chukotka Association of Traditional Marine Mammal Hunters and is required to make decisions on a unanimous basis. This essentially gives indigenous peoples in Chukotka and Alaska the ability to veto any decision that would be counter to their interests under the treaty. A second unique aspect of the treaty is that its implementation is by agreement between two indigenous organizations. National governments will leave to indigenous organizations the responsibility for distributing allowable quotas and determining appropriate regulations.

Case study: Oil development on Alaska’s North Slope

The Alaska Native Claims Settlement Act (ANCSA) was realized largely because of pressure to develop oil resources discovered on Alaska’s North Slope – homeland of the Iñupiat. The North Slope alone produces about 17% of all oil consumed in the United States. ANCSA created 13 Native regional corporations and several hundred smaller village corporations, designed to be vehicles for indigenous economic development. On Alaska’s North Slope, the Arctic Slope Regional Corporation became a major owner of surface and subsurface land rights and also a major player in providing oil-field services in partnership with other companies (67).

Shortly after ANCSA's passage, Iñupiat residents of the North Slope created the North Slope Borough, a regional public government (68). Alaska’s state constitution encourages development of boroughs, and Iñupiat political leader Eben Hopson realized that a borough would provide opportunities for expanding local control of development and dramatically improving services. Importantly, the borough has the ability to tax oil-field infrastructure and has been a major player in providing jobs and services to its residents.

Creation of the North Slope Borough, the Arctic Slope Regional Corporation, and smaller village corporations provided an essential framework for resource governance in northern Alaska that is fostering greater resource development. Initial oil development in the Prudhoe Bay and Kuparak areas now extends westward toward the village of Nuiqsut, a predominantly Iñupiat community of about 420 people. Nuiqsut’s experience with nearby oil development illustrates the promises and the challenges of balancing industrial development and indigenous values through effective governance regimes (69).

Located in a traditional Iñupiat subsistence area, Nuiqsut was reestablished as a village fol-
ollowing ANCSA's enactment in 1971 (70). Under ANCSA, Nuiqsut's Iñupiat residents became shareholders in the Arctic Slope Regional Corporation and in a village for-profit corporation, the Kuukpik Corporation. Kuukpik received surface ownership of almost 600 square kilometers of land, plus US$3 million. The subsurface mineral rights to Kuukpik’s lands are owned by the State of Alaska and the Arctic Slope Regional Corporation, but a settlement with the regional corporation gives Kuukpik a royalty interest in subsurface resources. Moreover, in 1974 Kuukpik negotiated cooperative agreements for petroleum exploration and development on its lands.

In that year, the oil company Arco (now part of Conoco-Phillips) discovered oil on Kuukpik lands only eight miles from the village. The city and tribal governments of Nuiqsut signed a cooperative agreement with Kuukpik to ensure that they would speak with one voice about nearby development. Kuukpik negotiated a deal with Arco for benefits including rents and royalties, jobs and training, subsistence and environmental oversight, and a local supply of natural gas for power generation.

The economic benefits of nearby oil field development have been huge for Nuiqsut. Kuukpik’s revenues are on the order of US$5 million per year (and increasing), personal income is up 50% over the decade, and imported goods and amenities are widely available. The North Slope Borough earned significant property tax revenues; in 2002 these totaled US$16 million, helping finance Nuiqsut’s new water and sewer system. The Arctic Slope Regional Corporation earned US$10.8 million in resource revenues and paid dividends that averaged US$1000 per shareholder. The downside is increasing dependence on the cash economy and the fact that most jobs are in the construction field and are not likely to be sustainable. To offset this, Kuukpik has established a permanent fund that promises a sustainable income stream into the future. Other initiatives focus on getting more residents qualified for, and employed in, oil field jobs.

Cumulative impacts from expanding development, including new roads and infrastructure, increasingly cause local residents to voice concern about social and cultural stress. George Ahmaogak, Sr., mayor of the North Slope Borough, states that “when development was contained in the Prudhoe Bay area, we didn’t feel the disturbance. Now that some of us can see it from our homes, we are reaching a threshold of awareness with potentially serious effects. . . While the [federal agencies] spend millions for research on the land and wildlife populations, they dismiss human impacts with vague references, effectively ignoring the questions of social and cultural stresses on our people” (71).

These comments suggest that traditional cultural values and subsistence resources – while largely healthy – are under stress. Success in developing the initial field is contributing to further development such that Nuiqsut is nearly surrounded by industrial activity. Oil development has reportedly impacted subsistence by displacing hunting and fishing activities, diverting wildlife migrations, and removing a sense of solitude and cultural privacy on the land. Moreover, the social fabric of Nuiqsut is strained by an increase in alcohol and drug abuse, associated police problems, and an influx of outsiders. There are also anxieties about further impacts of development on subsistence.

In addressing these concerns, Nuiqsut has the advantage of identified property rights, a strong home-rule borough government dedicated to preserving Iñupiat values, and influential community leadership. Agreements between Nuiqsut and industry have created a foundation for on-going negotiations to address environmental concerns, resolve day-to-day conflicts with hunters, and overcome barriers to local hire. The North Slope Borough has used its planning and zoning powers to regulate land use and infrastructure design. It remains to be seen, however, if these powers are sufficient to protect and balance long-term interests in connection with further exploration and development on land or offshore in the Beaufort Sea. Not all of Nuiqsut’s traditional subsistence use area is controlled by the corporation, and local people have limited ability to influence subsistence protections on adjacent lands and waters. The industry and the federal and state governments are anxious to move ahead with development, raising questions about how much local communities can influence the extent or pace of development.

These opportunities and challenges on Alaska’s North Slope illustrate opportunities and trade-offs Arctic peoples face in large-scale industrial development (72). Economic benefits of oil development include jobs, tax revenues, access to new resources, and expanded infrastructure. New resource governance regimes
can, as in Nuiqsut’s case, provide local people with rights for regulating some aspects of development and bring significant royalties. As the scale of industrial development increases, however, costs to landscape, wildlife, subsistence, and cultural values can also increase while benefits from jobs and immediate income remain modest or even decline.

Uncertain picture for Arctic peoples and industrial development

The growing involvement of Arctic peoples in resource development is not unique to Alaska’s North Slope. Elsewhere in North America and in Greenland, local decision makers are increasingly involved as active partners, while this is not necessarily the case in Scandinavia and Russia. This trend highlights the question about whether existing resource governance systems in the Arctic are able to respond quickly and flexibly to emerging opportunities in a way that contributes to healthy communities and sustainable economies.

Alaska’s most profitable regional and village corporations generated revenues of some US$2400 million in 2002 with assets of US$2700 million. In that year, these for-profit corporations paid US$45.6 million to Alaska Native shareholders and employed over 12,000 people in the state (72). In northwest Alaska, Iñupiat shareholders in the NANA Regional Corporation are partnering with multinational Teck-Cominco in operating Red Dog, the world’s largest lead-zinc mine. Cook Inlet Region, Incorporated, whose shareholders live predominantly near Anchorage, earned over US$850 million in 2001.

Similar developments are taking place in Canada in the aftermath of comprehensive claims settlements. In Canada’s Northwest Territories, Inuvialuit and Dene seek to become active partners in the ownership of a major gasline extending the length of the Mackenzie River, from its mouth to distant southern markets (73). Their Aboriginal Pipeline Group is in the midst of negotiating a financial package as well as impact and benefit agreements to address immediate and long-term cumulative impacts.

Development of the Canadian diamond industry in the Northwest Territories and Nunavut is also creating jobs, generating resource wealth, and expanding self-determination. Greenland’s Home Rule Government is developing partnerships with multinational corporations for exploration and potential development of non-renewable resources such as offshore oil, gold, and zinc. It must share royalty income and some management authority, however, with Denmark.

Elsewhere in the Arctic, rights of indigenous peoples to resource wealth remain uncertain, both with regard to traditional uses and commercial exploitation. For example, some Saami in Norway fear that new impending legislation provides little or no recognition of their resource rights (19) (see Chapter 6, Legal Systems for details). Similarly in Russia, indigenous peoples express concern that they benefit little from privatization of collective enterprises and the resources they control. Yet it is northern peoples who more often than not bear the costs of resource development through environmental, social, and cultural impacts.

Climate change creates new challenges

The issue of climate change in the Arctic is only beginning to be understood and analyzed in terms of its potential effects and impacts on resource governance. The Arctic Council’s Arctic Climate Impact Assessment (ACIA) has evaluated data about climate change, climate variability, and increased UV exposure in the Arctic (74). In developing awareness of potential impacts, ACIA will also inform discussions about how to address them.

For resource governance, debates about Arctic climate change will almost certainly focus on whether current institutions are sufficiently flexible, resilient, and robust. They will have to cope with rapid changes in biological systems, including alteration of marine and terrestrial ecosystems, loss of polar bear habitat, and emergence of new species. Permafrost melt, reduced sea ice, and increased Arctic Ocean shipping will also have impacts on industrial development (75-76). These impacts and the potential demise of traditional subsistence systems may well affect community viability. The impacts from climate change could be profound and pose significant challenges to established and fledgling governance institutions in the Arctic.

Trend summary

Arctic peoples are increasingly involved in industrial development, especially in North America. This fact may advance political and economic self-determination, but it may also raise new
challenges to effective resource governance. Rights to land and resources, political devolution, and new regimes for co-management are crucial in providing a voice in this development and a share of the wealth. Climate change presents new uncertain challenges in the Arctic; research now under way will help determine effective responses to these challenges, including in the area of resource governance.

**Key conclusions**

This chapter illustrates how continuing efforts to define and clarify rights to resources in the Arctic have profound political, economic, social, and cultural implications. How these rights are finally addressed, and who has control over resources, will be the key issue for sustainable development of Arctic communities.

Efforts to incorporate traditional and local ecological knowledge in resource management are also almost certain to continue. How meaningful these efforts will be in addressing the needs and concerns of Arctic peoples remains to be seen, but the very existence of this debate signals growing awareness that effective governance requires broader thinking. Moreover, devolution of authority for local or regional resource governance offers promise for greater legitimacy in management for sustainability.

A third conclusion is that expanding involvement of Arctic peoples in economic development may become increasingly important to the future of effective resource governance in the Arctic. In the 20th century, economic development forces commonly came from outside of the Arctic region and were often imposed upon local residents. As more Arctic residents get involved in economic development, the character of resource governance institutions and political debates will almost certainly change. The link between economic power and self-determination has not gone unnoticed by Arctic residents.

Finally, research shows that sustainable development of Arctic communities is advanced when institutions and processes for decision making take into account the social and cultural values of Arctic peoples. The most appropriate institutions appear to be those that are flexible, responsive to change, and scaled appropriately to maximize effectiveness and legitimacy. Building on these values and principles is no guarantee of effective governance and resource conservation, but experience shows that effective governance has often been thwarted when these factors were ignored.

**Gaps in knowledge**

The policy conclusions point to several gaps in our knowledge about Arctic resource governance. First, we need a better understanding of the dynamics of effective regimes for resource governance – the socio-political contexts from which they emerge and the factors that support or undermine their implementation and long-term effectiveness (1).

We also need systematic studies and analysis of the full range of property-rights systems as they are applied in the Arctic. We need to look critically both at the privatization approaches increasingly common in North America and of alternative systems. Such studies should look not only at legal or political structures but also at the social and political context in which they are embedded. The still-evolving nature of property-rights systems in the Arctic and the openness to new approaches in different jurisdictions offers intriguing case studies that may have significance far beyond the Arctic.

The policy conclusions also point to gaps in our knowledge about how best to understand, assess, and address cumulative impacts related to resource development, as exemplified by North Slope development in Alaska. This includes improving data about the ecological and socio-cultural impacts of development and planning processes (66). Studies of cumulative effects are especially relevant in light of the potential impacts from climate change. Much more basic and applied research will be needed to understand and respond to climate change in the years ahead, while the science of integrated assessments offers a means for understanding dynamic and complex factors contributing to effective resource governance (77).

**Chapter summary**

Effective resource management regimes are important for long-term sustainability and self-determination in the Arctic. In describing the interrelationships between Arctic peoples, their environments, and resource governance, this chapter focuses on how human uses of Arctic environments have changed dramatically over time. It highlights opportunities for improving systems of resource governance through
addressing property rights to resources, 2) incorporating traditional and local ecological knowledge along with western science in decision making, 3) co-management and devolution to local and regional levels, and 4) expanding our understanding of resource governance dynamics – particularly as it relates to resource development and climate change.

References

27. V. Tyrllyshkin, A. Blagovidov, A. Belokurov, Russia: Management Effectiveness Assessment of Protected Areas using WWF’s RAPPAM Methodology (WWF, Gland, 2003).
43. M. McDonald, L. Arragutainaq, Z. Novalinga, compilers, Voices from the Bay: Traditional Ecological Knowledge of Inuit and Cree in the Hudson Bay Bioregion (Canadian Arctic Resources Committee and Municipality of Sanikiluaq, Ottawa, 1997).
53. Quote from page 60 in (30).
55. Ecosystem management involves an approach to natural resource management to assure productive, healthy ecosystems by blending social, economic, physical, and biological needs and values.


In the Arctic, many local communities experience population declines as people leave to find jobs elsewhere, while few if any others move in. Some places, however, are exceptions to this trend. This chapter focuses on processes that allow communities to survive and even to prosper, the factors that underpin community viability.

Four key themes are presented. In short they are principal strategies for human development by people in the Arctic. The first is to form partnerships with outside actors in developing natural resources. A second is to combine subsistence activities with government employment and welfare. Policies on regional development can be used to create jobs, and our third strategy is to negotiate with governments for such initiatives. A fourth strategy, which has been successful for many fishing villages, is to use business and political networks to ensure access to international markets. Common trends in all these themes are the increasing connections to global economic processes and the key role that local governments play in finding modern ways to cope.

Arctic communities in context

Small communities still play a key role in the Arctic: in terms of their numbers, in maintaining ties to traditions, and in the economy of the region. Arctic communities, however, face a number of challenges connected to their rapid transition from pre-industrial isolation to being part of a global market economy. This section defines the concept of community viability and presents a context for the rest of the chapter.

Defining community viability

The word “community,” or “local community,” is often used to describe smaller settlements, villages, and towns. We use the word community in this way – a geographically delimited, small or medium-sized settlement located outside the urban regions of the Arctic. Arctic communities vary in size from less than a hundred to some thousands inhabitants. There are also substantial differences with respect to their economic foundations and public services.

There are many criteria that can be used to assess community viability and it is hard to find universal indices, except for the simple measure of population development. Although it is a crude measure, it is easy to understand and makes sense to people discussing this theme, including people living in those communities. A viable community can thus be understood 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. In some cases, community viability is based on continuous activities of specific peoples, families, and groups, but most often viability will depend on the creativities and links generated through emigration and immigration. More comprehensive definitions of viability differ with the varying natural, societal, and cultural contexts for humans in the Arctic.

Local places with global connections

Most people in the Arctic live in rather large urban areas, like Murmansk in northwest Russia, Reykjavik in Iceland, or Anchorage in Alaska. These urban areas are centers of advanced public services, commerce, and scientific research. Most inhabited places in the Arctic, however, are rather small. These small communities are of vital importance for the use and protection of natural resources, for market-based production, and for the informal subsistence economy. And not unimportantly, some of these places are attractive to a growing number of tourists. The
smaller communities are also places in which traditional and indigenous life styles and cultural traits typical of the Arctic can have a space. Compared to the urban centers, they offer far better possibilities of accessing, and living in close connection with the natural environment. As to social relations, communities vary from socially well-integrated to socially fragmented.

In any community in the modern world, social life will reflect ongoing interactions between market-directed production and commerce, welfare arrangements, and informal but stable person-to-person relations based on ties of both kinship and friendship. In smaller communities, market-based production, the public sector, and daily-life processes tend to be highly interrelated, and these relations are increasingly going on also at a distance via information and communication technologies.

Arctic communities are no longer isolated from the rest of the world. Community viability is closely linked to what power the local level has when it becomes involved in processes of a potentially global scope. Therefore any analysis of the situation has to include systems that are larger than the communities themselves. This is not only true for market and central authority relations. Even kinship and friendship relations connect over long distances, and such informal relations can be important to local business, politics, or cultural life.

A journey in time
Since the 19th century, Arctic communities have moved rapidly away from a pre-industrial stage, in which the emphasis was on harvesting biological resources and people lived in scattered household units, frontier settlements, and nomadic and semi-nomadic settlements. The indigenous populations of the Arctic were in the majority and links to the central political authorities were weak. Trading links with the outside world were present in many of the Arctic regions, however.

Industrialization, with organized manufacturing in forestry, mining, and fisheries, reached its apex in the middle of the 20th century and changed the living conditions in many places. “Company towns” were the typical communities of that period. Beginning in the 1970s, oil and gas development has gradually come to dominate the industrial sector in the Arctic. The Kola Peninsula in Russia has been an industrial stronghold of the Arctic.

Since the middle of the 20th century, much of the Arctic has been in the process of entering a post-industrial stage. Typical for this period has been a growth of the information and service sectors, including telecommunications, education, and tourism. State welfare institutions have played a major role in many Arctic communities. For some of the regions, this transition has also been marked with de-industrialization, when old manufacturing industries closed down or departed.

The post-industrial era differs from earlier eras by its multitude of organizational forms. While the household was the dominant institution of the pre-industrial era, and the factory of the industrial era, the communities of the post-industrial era lack any one dominant organization.

Challenges facing Arctic communities
Communities of the circumpolar North are facing several global trends that find their specific expressions in the Arctic regions. They include urbanization, competition over declining natural resources, welfare state retrenchment, and a transfer of authority from central to local governments.

The dominance of city regions over the rural settlements has been profound in the Arctic. In the Murmansk oblast in northwest Russia, the urban population today makes up 92% of the total population. Urbanization has also been very strong in the northern regions of the Nordic countries. Moreover, many inhabitants of small communities commute to jobs in northern cities. Younger people, women in particular, tend to move south or to centers in the North that can offer advanced education and
employment. These processes leave smaller places with an aging population, often with a majority of male inhabitants. However, the demographic situation is mixed within regions as well as between regions of the Arctic.

Resource depletion in most of the fishing areas and in some of the reindeer herding districts in the Arctic has had a negative effect on local development. In addition, liberalization of national economies has led to the commercialization of herding and fishing rights, sometimes blocking access for local people. On the other hand, regulations aimed at securing access to resources for indigenous peoples have led to conflicts with non-indigenous community inhabitants. There are also conflicts between full-time and leisure-time users of the same resources. Local community institutions for regulating access to and utilization of natural resources have been suggested as a partial answer to this problem (1).

Arctic communities have limited home markets and have traditionally depended on income from the export of natural resources, governmental transfers for service provisions, and traditional subsistence activities. In addition to increasing global competition for work and market shares, many Arctic communities are expected to lower their level of welfare provisions. As an increasing part of local employment has been dependent on public sector jobs, particularly for women, central level policies have thus been less supportive to smaller communities. On the other hand, the central level's commitment to indigenous peoples' welfare has been growing, which has led to improved services in some communities.

Within the countries of the Arctic, transfers of power to the local level have taken place, as discussed in Chapter 5, Political Systems. However, there are differences both in the average size of municipalities and in what mandates are placed at the local level.

Local cultures, often based on the heritage of indigenous peoples, have been challenged by both national cultures and by a global entertainment culture. Within this context, a reassertion of indigenous culture has taken place, but also a redefinition of local identities in the wake of de-industrialization and with increasing awareness of ecological and cultural values. The development of hybrid or complex identities (2), in which individuals see themselves as a mix of traditional and modern elements, is a process that may lead to innovations in the business and public sectors, to individual mobility, and to new forms of political self-assertion. On the other hand, local communities in which the complexities of identity are not acknowledged may experience social fragmentation as a result of the tension between modern and ethnic identities.

These challenges reflect influences coming into the Arctic from outside. The four ways Arctic communities have tried to respond to them, with a focus on factors that promote community viability, will be the topic of the remainder of this chapter.

**Partnerships with outside actors**

Several Arctic communities utilize oil and gas resources in partnership with large corporations. The challenges of this path include how to convert the economic compensation for use of these resources to productive and innovative local activities.

**Russia**

Generally, the situation in the Russian Arctic is one of population decline and out-migration due to economic decline since the collapse of the Soviet Union (see box below). In the past three years, however, there has been a trend of economic growth connected with the extraction of mineral resources. Some towns profit from these developments. The brightest exam-

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**Russian Arctic**

Russia's Arctic communities have all experienced a loss of population since the collapse of the Soviet Union in 1991. Reasons behind the loss include migration to southern regions due to the closure of unprofitable enterprises and a general economic decline coupled with a dramatic increase in mortality and a decrease in birth rates. Unemployment rates are generally higher in the Arctic localities. In the settlements of the Murmansk region it was 13.4% in 2002, compared to a Russian average of 7.1% (4). In smaller communities that depend on fisheries and forestry, the unemployment rates are much higher. For example, the coastal villages of the Murmansk region – places in which people for ages have relied on fisheries – have all experienced a severe loss of jobs during the crisis of the 1990s. The unemployment rate has reached as high as 40% in some communities.
ple is Chanty-Mansiysk in western Siberia, which builds its wealth on oil and gas revenues. Oil and gas development in most Arctic regions is in its initial stage, but it is progressing fast and starting to influence northern communities in both positive and negative ways. On the one hand, it creates prospects for an increase in income and number of jobs. On the other hand, it brings the risk of negative environmental impacts such as oil spills – the losses from which corporations often fail to compensate.

The extent to which local communities can benefit from industrial development can be highly influenced by the level of local entrepreneurship. A case study of Erv and Kharp illustrates the differences between two communities that share many other circumstances.

**Case study: Erv and Kharp**

Erv and Kharp are reindeer herding cooperatives located in Nenets Autonomous Okrug in the Arkhangelsk region of the Russian Federation. This area is referred to as the Arctic Kuwait because of its rich oil and gas resources. Both cooperatives have their management and herders dwellings in the village of Krasnoe. They are both cooperatives but their structures are rather different. Erv is a cooperative of obschinas (family based communities of herders that relate to indigenous tradition) with private property. Kharp is a cooperative with collective ownership.

In the late 1990s, both cooperatives had to cope with continuous economic difficulties, such as lack of funds, and with oil and gas development in their area causing problems with pastures. In 1996-97, herders in both Kharp and Erv were lacking cash; they could afford only basic food, and had difficulties in buying clothes and other things. Several years later in the village of Krasnoe, it was evident that the members of Erv were much better off than their fellows in Kharp. This noticeable improvement of Erv’s well-being was based on contracts with the oil companies working in its territory. These agreements were initiated by Erv’s management and had two parts: first, material help from the companies (financial help, use of company helicopters, food supplies,
etc.) and, second, the participation of herders in the planning of land use.

Kharp’s contracts with the oil companies differed from Erv’s: they were initiated by the oil companies, which provided some equipment and occasional technical help. Workers in Kharp questioned why herders of Erv lived so much better than they did. On one hand they claimed that “everyone helps Erv, local administration, foreigners, oil companies and everyone.” On the other hand, they blamed their own management for not being able to make such contracts.

Obviously, ability to cope with economic crises and oil development depended on the cooperatives’ ability to negotiate with oil companies. Erv’s success was based on actions by its management, and also on the use of outside links such as assistance from the ex-president of Yasavei, the political organization of the Nenets people, and the help of a juridical bureau from Moscow specializing in issues related to indigenous people.

Erv is a case of development where local business entrepreneurship managed to secure a share of the resource rent from the oil companies as well as the possibility of influencing industrial decision-making in order to minimize the disadvantages of oil extraction for reindeer herding. Current Russian legislation is not very comprehensive in regard to compensation for land use to local populations or in tools for securing the needs of indigenous peoples. Combining local and non-local networking with local expressions of identity that include an indigenous component related to obshchinnas thus became a coping strategy. However, these practices are not institutionalized, and many of the herding enterprises in the area wait for help from the regional and local administration, even though the reduction of governmental support has been a major trend of the past decade.

North America

Taking part in developing oil and gas resources has been an important strategy for many communities in Alaska. The Alaska Native Claims Settlement Act (ANCSA) allowed for the creation of 12 regional for-profit corporations, which control large funds as compensation for the loss of land (5-6), as well as 200 village corporations that distribute and manage land for subsistence activities. This is further described in Chapter 7. Resource Governance. The developments in Alaska’s North Slope Borough represent an interesting and in many ways unique case of coping with the challenges of this approach, and point specifically to the importance of political entrepreneurship.

Oil development is also important in Canada, where funding from land claim agreements led to the establishment of several for-profit corporations that are not under government control. In contrast to the case of the North Slope Borough, and also of the Greenland Home Rule Government, the Nunavut Government does not control funds from commercial activities. Instead, economic power rests to a large extent in the hands of Nunavut Tunngavik, Incorporated (7). Canadian Inuit Corporations actively pursue the development of their own industries (8).

Theme summary

In some cases, oil and gas development can provide cash income and create new opportunities for reviving communities, as illustrated by cases in North America and Russia. When successful, these ventures have often involved a large degree of political entrepreneurship as the basis for productive partnerships with outside actors. For community viability, however, an important factor is to what extent the local community has ownership rights to, or other forms of control over, the resources.

Combining pre-industrial and welfare economies

In some communities, there are almost no market activities. These include areas where oil and gas exploration provided only a brief experience of an industrial economy. They often rely on a combination of government support and subsistence activities. Two case studies from the Canadian Arctic illustrate this theme.

Holman/Uluqsatuuq, Victoria Island

In the late 1970s and the early 1980s, communities in the Northwest Territories faced the challenges of oil exploration in the Beaufort Sea and the Mackenzie Delta. Some communities suffered the experience that jobs and incomes lasted only as long as the exploration and construction period. In some cases, drilling holes were dry. Still, some communities gain income from the land claim agreements, such as that provided by the 1984 Inuvialuit Agreement. One of these communities is
Holman/ Uluqaqtuuq on the west coast of Victoria Island, with 400 Inuit inhabitants (Innuinaq and Inuvialuit).

Holman became a mission and trading post as late as 1939, and it was not until the 1960s that community development took place as people moved into town from the camps where they used to live. In the wake of the land claims agreement, it became a municipal government unit and received hamlet status in 1984. This led to many new amenities and facilities, including television and a new school (9-10). The community also has plane connections to other places in the Northwest Territories several days a week.

While subsistence activities still play a role in this village, it is wage labor that provides most people with income, and nearly all from public service jobs. Still, only half the working-age population have regular full-time or part-time jobs. Some have seasonal paid employment and live partly on welfare payments.

Holman has no industrial activity. Jobs are found in the local authority, in the school, and the health center, in shops, and in the Holman Community Corporation, which is financed by the Inuvialuit Regional Corporation. Administrative positions are held by non-native people. In many other positions, people work side-by-side with their kin. Subsistence hunting has become a leisure activity for many inhabitants. Supported by funds generated by industrial resource extraction elsewhere, people in Holman have taken the step directly from the pre-industrial to a post-industrial phase, depending heavily on public service transfers.

Kuujjuarapik, Nunavik

Kuujjuarapik is the southernmost of 14 Inuit villages along the coast of Nunavik (11-12). It can only be reached by plane or by sea in summer. This village consists of two communities: an Inuit population of around 700, and a Cree population of more than 600. In Cree, the name of the village is Whapmagoostui. Although there is evidence of relations between populations at the individual level (especially through marriage), relations at the institutional level are few. In fact, each community has been granted its own institutions by the James Bay and Northern Quebec Agreement.

This is a community where people have been confronted with several choices in connection with the land claims process. The Great Whale hydroelectric project was planned for construction near Kuujjuarapik. As a result of the James Bay and Northern Quebec Agreement, the people of Kuujjuarapik were offered relocation to a new village – Umiujaq (constructed in 1986), north of Kuujjuarapik – and some moved. Meanwhile, the hydropower project was postponed and some have moved back to Kuujjuarapik.

Kuujjuarapik is a case of community development typical for the Canadian Arctic. As in Holman, there is almost no market economy and little private business development. This is due to late modernization and societal integration of Arctic communities in Canada, but also because this integration is shaped by publicly governed and subsidized processes. The role that the Hunter Support Program plays in Kuujjuarapik illustrates this well.

In contrast to Greenland, for example, there is no legal local market for country food in Arctic Canada. Hunters can only share with other community members and maybe sell informally. The Hunter Support Program, however, operated by a local committee with money from the Quebec Government, supports a municipal freezer arrangement.

Hunters that need support to cover their hunting expenses can receive a monetary subsidy from the program if they give the municipality some of their catch. Although it looks like a sale it is not, as the money received in exchange for the catch is not proportional to the value (defined by market prices) of the meat, nor to its weight, and even less to the preferences of the community members. On the contrary, money allocated by the program supports a sustainable hunting practice by encouraging hunters to catch different species all year long. By this arrangement, hunting for popular species is not rewarded. The money that the hunters receive can thus be regarded as an incentive outside the market economy. This is underlined by the fact that food stored in the municipal freezer is made available to every community member, who can thus pick up country food for free, an instance of modern solidarity (13).

This program and the municipal freezer produce a certain social division of labor. Informal relations between kin and community members are still possible and do exist, as many hunters keep a portion of their catch to share with their family networks. But this practice is now combined with the politically governed
and publicly funded distribution program of country food, making market development for this type of food not only illegal but also unrealistic.

This is again a specific combination of pre-and post-industrial development, where public funds support the continuity of traditional hunting practices. The redistribution of food via the freezer differs from informal sharing and exchange, as it does not build on direct social ties between people. For those who can choose where they get their country food, more autonomy has been gained, and traditional person-to-person ties are no longer the sole basis of social integration. The basis of social life in a community like Kuujjuarapik has thus become the choice of autonomous individual households.

**Theme summary**

The two communities Kuujjuarapik and Holman illustrate how industrial social forms can transcend traditional social forms even when there is no local industrial development. People become integrated on a new basis as citizens. People are heavily dependent on public transfers, however, and there are few ways open for community development through locally embedded business entrepreneurship.

**Negotiating for jobs**

How can Arctic communities use opportunities to negotiate for public initiatives that create new jobs? When can such opportunities be the start of a cultural revival and of creating local business opportunities? Three cases from Scandinavia illustrate the challenges in societies where public service sector jobs expanded until the 1970s. The provision of welfare services to all inhabitants, regardless of location, has thus played a role for community viability, along with the general political goals of regional development.

**Storfjord, Norway**

Storfjord is a municipality along the major north Norwegian highway about 120 km from the city of Tromsø. The municipality comprises several villages, is inhabited by three ethnic groups (Norwegian, Saami, Kven), and borders on both Sweden and Finland, with easy road connections. Until the 1970s, there were very few business enterprises and a low level of public services in this community. A large hydroelectric development was then proposed. To implement it, the regional energy authority needed approval of the project by the municipal council.

Instead of just welcoming this project and the jobs that would come during the construction period, the people of Storfjord, through their elected representatives, went into hard negotiations with the developers and succeeded in getting compensation in the form of a laundry which would service public institutions in the whole region, providing jobs for almost 30 women. Moreover, a voluntary-sector-based rehabilitation center for people with heart and
lung diseases was established, and a missionary school – a branch of the US-operated Youth with a Mission – was opened. In addition, the developer pays a special tax to provide capital for two funding schemes, one for small-scale business development, and one for investments in local fishing and farming equipment.

Female occupational levels exceed male, which results in a vital population structure as well as a favorable environment for growing up (15-16). A comparative youth study has shown that young people really appreciate the easy access to nature and the “good social environment” in the locality.

Storfjord is a story of developing strategies for negotiating with regional and central level public agencies. The community is admittedly weak on business innovations, but community dynamics work on the basis of households combining incomes from public and private sector sources. Many one-person or family-based firms, starting with support from the municipal funding arrangements, take advantage of the local and the regional markets for construction and services. And as in many other Arctic communities, there is a tendency to organize the stable public sector jobs on a part-time basis, particularly jobs for women.

Culturally, complex identity formation is taking place in the context of common “projects,” such as a large annual market festival, and Storfjord is asserting itself as an arena of northern multi-culturalism. Storfjord’s municipal authorities play a key role in providing the agenda for networking and funding of public welfare investments, but this would not work without the diverse income base at the household level, ranging from agriculture to jobs requiring a long-distance commute.

**Karasjok and Kautokeino, Norway**

Karasjok and Kautokeino are neighboring municipalities, located in the inner part of the county of Finnmark, and bordering on Finland. Both municipalities are connected by road to the nearest regional centers and airports (Alta and Lakselv). In spite of setbacks in reindeer herding, they experienced population growth in the 1990s. This growth has been most evident in the municipal centers, where several central-government-funded Saami institutions, such as the Saami Parliament in Karasjok, and the Saami College and the Saami Theatre in Kautokeino, are now located.

The successful outcome for these two municipalities is the result of processes involving the Norwegian state and the Saami organizations. Once the Norwegian Parliament had decided to contribute to the construction of a broad range of Saami institutions, the two inner Finnmark municipalities were the inevitable choices. As a number of institutions were to be created, this facilitated the distribution between the two Saami “capitals.” Being the core Saami communities, both Karasjok and Kautokeino have also been able to develop a viable tourist industry with a focus on activities related to reindeer herding.

**Northern Sweden and Finland**

The northern peripheries of Finland and Sweden have experienced a population decline due to the restructuring of the forestry sector, agriculture, and the steel industry. When the economic crisis was over, only the urban centers of the regions benefited, while unemployment remained high in the rural peripheries. Today public sector services are by far the most important provider of jobs.

Sweden and Finland joined the European Union in 1995, and contemporary regional policies are implemented in a variety of EU supported programs, providing infrastructure support for tourism development, but also facilitating the formation of village development groups. Some of these programs create a project economy, where much activity is associated with adult education and other types of infrastructure development. While substantial results within the business sector are hard to achieve, project employees are required to work to raise funds for the next generation of projects.

**Jokkmokk, Sweden**

Jokkmokk municipality has 6,000 inhabitants, with more than 3000 in the central town of Jokkmokk. The municipality stretches from the highlands in the west with reindeer herding, recreation, and tourism, to the intensively utilized forestlands and wetlands in the east. Rivers have been used for hydropower development.

In 1960, Jokkmokk reached its maximum population of 12,000 inhabitants. Since then, the local forest industry has been in steady decline and the last sawmill in Jokkmokk has been closed (17). The vast forest resources are now transported to sawmills and processing plants outside the municipality and citizens of...
Jokkmokk feel their resources are being extracted without proper compensation.

Jokkmokk is home to a Saami reindeer herding community. In addition to reindeer herding, their economic activities include hunting, fishing, and tourism. Saami entrepreneurs have gained some influence through international networking in the formation of the UNESCO cultural heritage landscape Laponia. The idea behind such cultural landscapes differ from those of conservation areas and national parks in that they recognize the economic and cultural activities in an area as an integral part of the area. The process of realizing Laponia, however, has been full of conflicts between state, regional, municipal, Saami, and international actors; few economic benefits can be documented.

Jokkmokk’s present economy is dependent on transfers from the Swedish state to finance much of the public sector activities. Jokkmokk no doubt has some advantages from being the location of the language department of the Swedish Saami Parliament and of other Saami institutions, but this has not had the same effects in added employment opportunities as in Karasjok and Kautokeino in Norway. The attempts at economic diversification, for example in “cultural tourism,” are by no means sufficient to compensate for the vast job losses in the industrial sector.

**Theme summary**

In the inland of northern Scandinavia, many small communities depend on political initiatives and funding to create local jobs. In some cases, negotiations between local representatives and governments have led to new institutions and small businesses, which have provided a base for maintaining viable communities. However, the picture is mixed. Communities that used to depend on forestry face problems with the displacement of this industry. There are also marked differences in the priority given in official welfare and regional policies for the periphery areas in Norway, Sweden and Finland. Furthermore, Norway has the advantage of the revenues from oil, redistributed nationally.

**Networks**

Combinations of market-driven processes, a politically governed economy, and informal relations can provide a way to ensure survival for small communities. This has been the case for a number of fishing communities across the Arctic. One key to success has been access to the international fisheries market. Another has been to diversify the economy. A major challenge has been to transform the gains from commercial, political or civic networking to lasting local development.

**Båtsfjord, Norway**

Båtsfjord is a modern fishing village in Finnmark County, situated on the coast of the Barents Sea. It has all-year road connections, in addition to an airport with daily connections and transport by sea. As in all peripheral Norwegian municipalities, public sector employment is important, but in Båtsfjord the fishing sector is still the backbone of the community. For decades, the owners of the land-based processing firms have co-operated in order to make the community an attractive fishing harbor.

During the 1990s, the managers developed a common strategy to take advantage of the more liberalized fishery regime in Norway, and in Russia as well. Despite a deep crisis in cod resources around 1990, they succeeded in securing stable and even growing deliveries by making contracts with trawlers from the Russian fleet, diverting them from delivering their catch back in Russia by offering Norwegian prices. Meanwhile, reluctance on the part of the local population to work in filleting plants had been countered by bringing in refugees, coming to Norway mainly from Sri Lanka, to work for Norwegian fixed wages. More recently, this refugee labor is being partly replaced by Russian workers, women and men, coming in on short-term contracts. To secure diversification at the local level, the owners of the fish processing industry have cooperated with the municipal authorities and with central government agencies. Båtsfjord has, for example, set up sports facilities, relocated the airport in order to be able to serve 40-seat airplanes, and offers secondary and university level education on site and through distance learning.

In the highly volatile fisheries industry, setbacks come on short notice, however. It is also a problem to convert business success into development of culture and identity. Many of the refugee workers have by now left Båtsfjord, and a study of young people in Båtsfjord showed that the younger generation expresses mixed feelings about their home place. Business innovation is the main thing in
Båtsfjord, but the networking involves only a limited group of actors connected to the international fish trade (22).

Teriberka, Russia
Teriberka is a fishing village on the coast of Kola Peninsula, 120 km northeast of the city of Murmansk with a population of 1,400. It is one of the very few fishing villages left in this highly urbanized region. It was, for ages, a wealthy town, and open to international contacts, especially at the time of the Pomor trade before the Russian Revolution of 1917. During most of the Soviet period, Teriberka experienced intensive development, with a population maximum of 12,000 inhabitants in the 1960s. In the last decades before perestroika, the population stabilized at a level of 2,400 inhabitants. The economy has been based on a fishing kolkhoz, which owned the fishing fleet, several fish processing plants, and a shipyard (23).

In the beginning of the 1990s, the village faced a deep socio-economic crisis caused by the transformation of Russia to a market economy together with the introduction of strong regulation of fish resources. In 1993, the shipyard was closed and about half of the jobs in the fish processing plants were lost. The former “pride of the coast” was about to collapse as the local economy crashed. Living standards declined and a class of “new poor” appeared, made up of well-educated people. The welfare infrastructure was cut back, with reduction of state transfers and a diminishing base for local financing.

Since 1994, the dominant strategy in Teriberka has been to attract external (primarily foreign) capital to the traditional sector of its economy. These efforts resulted in establishing a joint Russian-Portuguese-Lithuanian fish processing enterprise and a project of cooperation with the Norwegian municipality of Båtsfjord. These business initiatives were mainly a result of ties between outside entrepreneurs who had either formerly worked in Teriberka or who knew about the place from business partners. The local and regional governments provided strong political support for measures to attract external financial resources and to stimulate cross-border cooperation. Informal social ties connected to the fishery economy had been very strong between family members and neighbors, but these ties played no role as a basis for the new business initiatives.

New initiatives in the fisheries industry have been important for keeping the local economy alive. Nowadays, people of the village can find work in fish processing, both at the kolkhoz and at the new enterprise. In addition, 40-50 workers from Teriberka (9% of the workforce) have been employed in fish processing in Båtsfjord, which is seen as a fortunate way of coping with poverty.

Oil and gas transportation development in the region may bring another perspective into Teriberka’s life, as there are some prospects of constructing transportation facilities in the village. Realizing these plans depends on corporations from outside the region, but people in the village believe this new project will create new local jobs.

This case is about attracting external resources to a traditional sector of the economy via entrepreneurial and political networks at the regional and local levels. During the most difficult period, the decline in living standards led to the rise of a subsistence economy. The local informal economy can thus be regarded as a safety net.

Iceland and the Faroe Islands
Community development in Iceland and the Faroe Islands is much about networking and entrepreneurship in the fishing industries, where the very small municipalities used to play an important role in organizing and facilitating business activities. It is much an “economy of flows,” where the decisive factors keep changing all the time: the presence of fish in the sea varies, as do regulations concerning access to these resources and international markets. An important response, especially in Iceland, has been to diversify the economy, including new information technology and tourism developments. The two municipalities, Ísafjörður and Hornafjörður, illustrate this well.

Ísafjörður is the main town within a municipality that also includes villages and districts south of the town (24). While the population of the villages had declined to around 1,000 in 2002, the town of Ísafjörður has had a stable population of just over 3,000. The system of individually transferable quotas in the Icelandic fisheries has led to the municipal area losing both some of its quotas and some of its vessels. Instead, Ísafjörður is becoming a town dominated by public and private service sectors. The strategy of the municipal authorities has been to make Ísafjörður a center for marine research in Iceland, and a number of businesses in fishing technology have located there. Tourism is also
growing. The municipal authorities have played an active role in supporting innovative projects. Ísafjörður is a town that its young people take much pride in, according to a survey of young people’s perceptions of their communities (25). Many migrant workers from different countries have come to work in the fishing industries and are now enriching cultural life, for example by the creation of an annual festival displaying the cultural multitude of the community.

The Hornafjörður municipality covers a 200 km long but narrow strip of land on the south east side of the glacier Vatnajökull. It includes the fishing town of Höfn and five small rural municipalities, and has 2,300 inhabitants. The fishing industry in Höfn has coped more successfully with the quota system than Ísafjörður, but the municipality has nevertheless engaged in strategies of economic diversification. A major new source of income is tourism, which was facilitated by the completion of Iceland’s circle road that made Skaftafell National Park beneath Vatnajökull much easier to reach by car. Major events, such as the 1996 sub-glacial volcanic eruption and the following flood, have created extra visitors. Other job opportunities were created when a biotechnology venture was established in Höfn. Apart from the raw materials useful for producing enzymes and seafood flavorings, there were few reasons to locate the business in Höfn; but the choice of location was facilitated by personal networks of a non-business character. As in Ísafjörður, the municipal authorities of Hornafjörður are actively promoting an innovation strategy, which includes bringing together secondary and continuing education facilities, the municipal library, an entrepreneurial center, and a branch of the University of Iceland. On the other hand, inhabitants of Öræfi (a small formerly independent municipality, now part of Hornafjörður) more than 100 km away from Höfn feel that municipal authorities do not do much for them.

These Icelandic cases indicate a shift on the part of local people away from trying to stabilize and “ground” the volatile fishing sector towards developing strategies that are more in line with post-industrial attempts to become involved in dynamic game plans of potentially global scope. This includes attracting new types of tourists and developing high-tech enterprises related to marine resources and/or advanced services for the fishing fleet. By capitalizing on informal networks and allowing entrepreneurship and outside contacts to flourish, at least some fishing communities are coping with the challenges posed by the process of restructuring traditional industries.

Greenland: Uummannaq and Ilulissat

The introduction of Home Rule in Greenland produced many expectations of policies for community development, especially in the villages and rural districts. Today, regional policy is integrated into all policy in Greenland, but with an increasing orientation towards economic independence for Greenland as such. There is thus less emphasis on the leveling of regional disparities.

Municipal authorities in Greenland are expected to behave as “midwives”, in facilitating business development in their areas. Two municipalities in West Greenland have been relatively successful in connection with the success of specific fisheries: Uummannaq, with a stable population in the 1990s, and Ilulissat, with a growing population in the same period (26-28).

The municipality of Uummannaq (population 2,700) comprises the town of Uummannaq (with a population of 1,400) and seven smaller settlements separated from the town by water or ice. Travel in the vast municipal area is possible by boat, snowmobile, dog sledge, or even by car over the sea-ice, but isolation is part of life,
especially when it comes to contact with the rest of Greenland. Sea transport is only possible in summer. Since 1999, air connections go through the new airport for fixed-winged aircrafts near the small village of Qaarsut, 20 km across the sea from Uummannaq, thus involving a further transfer by helicopter to Uummannaq or the other small villages. As a result, tourism development is also limited. After the closure of the Maarmorilik lead and zinc mine in 1993, the main economic activity, except for the public service sector, has been the fishing of Greenlandic halibut. There are fish plants in the town and in several of the villages producing halibut fillets. In addition to Royal Greenland, the home-ruled company, new private firms have tried to enter into this business since the late 1990s, supported by cooperative initiatives between the municipality, local fishermen and non-local capital. This has caused conflicts, for example concerning obligations to secure jobs on-shore instead of relying on more profitable factory ships. These events show that though municipal and central governments are still major actors, the fishermen’s organization also plays an important role.

Entrepreneurship in Greenland is much a question of political activities and personal networks. The intersections and networks between business, political and trade associations, the public sector, and fishermen are what nourish innovation. This is also true for Ilulissat, the third largest town in Greenland with 4,500 inhabitants, and growing since 1990. Its municipal district also includes some smaller settlements with a total of about 500 inhabitants. Ilulissat’s economy is different from Uummannaq’s. It hosts one of Royal Greenland’s cornerstone plants for processing both shrimp and Greenland halibut and the biggest fleet of private fishing vessels in any town in Greenland. Ilulissat is also a major tourist destination in Greenland, facilitated by its location vis-à-vis the most productive glacier fjord in the northern hemisphere and its airport for fixed-winged aircrafts (opened in 1984).

Entrepreneurship in fisheries has played a major role in Ilulissat. Building on municipal initiative and a combination of local and international fisheries’ networks, a business corporation began fishing snow crabs in 1995. The director was recruited, local fishermen are shareholders, and the factory ships only employ
people from the municipality. The 90 local citizens working on the factory ship operating in distant waters earn high incomes, which also benefits the municipal authority by income taxation.

**Theme summary**

In the face of a volatile market and dynamic marine resources, many fishing communities in the Arctic have had to become more competitive. The economic success of one community may well be at the cost of others in a zero-sum competition over fixed resources. Success is often built on a combination of business, public, organizational, and personal networks. The multiplicity of local stakeholders is important in making business innovations issues of public interest, auditing their legitimacy and testing whether they make sense to local people.

Another strategy has been to diversify the economy, often with tourism. Good communications are important in order to attract tourists.

**Finding patterns**

It is hard to point to an overall pattern in Arctic community development. Even though the forces of globalization may be based on a common set of principles of economic liberalization, there are differences in how specific regions and communities are exposed to those forces. Moreover, buffering mechanisms and compensatory measures vary within each national setting. This includes differences in welfare and regional policies, but also in policies towards indigenous peoples. Other factors are distances and the presence, and condition, of road connections that allow access to regional labor markets on a commuting basis.

The economic structure of communities can affect their viability. In many fishing communities along the North Atlantic rim and in some communities dependent on oil or minerals extraction, the economic basis may sustain a relative high standard of living. The situation is quite different in communities that depend in large part on a combination of subsistence activities, public sector jobs, and public transfers.

Local strategies can set specific local resources in motion, both by stimulating individual entrepreneurship and by more collectively oriented coping strategies and networking. In both forms, the strategies involve ties and relationships with institutions and actors outside of the community.

Community-based strategies must be understood both with respect to how relations to the globalized economy are being handled and how central and regional governments respond to specific bottom-up initiatives. In a number of successful fishing communities, a combination of market-driven processes, a politically-governed economy, and informal relations were found to intersect, along with local access to fisheries. This can be described as a way of combining industrial and post-industrial elements. Their direct involvement in the international fisheries economy has provided these communities with income from these markets, in addition to the income created by tourism and in the public and informal sectors.

Many communities without strong market connections combine subsistence activities and incomes from the public or corporate economies. Some communities have also been able to capitalize on compensations for oil, gas and hydropower developments, in some cases though not always with relatively high incomes as a result.

This diversity among Arctic communities begs for moderation in the ambitions of formulating an overall policy for Arctic community development. Two observations from the case presentations seem to be salient, however: First, while subsistence activities are going on in many villages, it is in fact wage labor that provides most cash income, and a large proportion of that income stems from public service employment. The second observation is that claiming compensation for utilization of local natural resources is becoming increasingly common, including compensation for loss of fish quotas, or industrial restructurings that have led to fewer local jobs. It is not always easy for communities to make central and regional government authorities accept compensation schemes, however, and to convert such compensations into productive and innovative activities at the level of the community.

**Key conclusions**

Community development is a complex process where, unsurprisingly, small events make the difference between who succeeds and who does not. The complexities are becoming increasingly important as Arctic communities are integrated in northern modern societies and in global economies. The potentials for development lie in measures that balance global economic flows,
political organization, and often far-reaching civic networks. In some instances, Arctic communities have succeeded in really influencing rather than just adapting to external agendas and flows.

Economic actors located closer to consumers are often profiting most from the industrial extraction of Arctic resources. Welfare state subsidies to the Arctic, understood as compensations for this loss of natural resources, are therefore justified.

A proper infrastructure is necessary in Arctic communities in order to enable peripherally located businesses to be competitive, both in marketing products and in recruiting competent specialists and staff. This includes both physical and digital communication networks.

Self-government and home-rule government were introduced with promises of local and regional development, but paradoxically the political and economic priority given to national and regional independence may result in less focus on local development issues. However, self-government and independence may also lead to a stronger political culture of public debate and political accountability, thus securing political agendas where issues, initiatives, and projects can be formulated and evaluated.

Municipal self-government plays a significant role in community development. An effective and democratic local government structure is able to coordinate different public services, supporting both daily life and cultural life, and stimulating business development. Municipal authorities are crucial actors when they combine the roles of (1) partner, supporter or even entrepreneur in innovation, (2) gate-opener, establishing contacts and legitimating actions by networking, and (3) integrator, securing the direction and commitment of actions to locate development. As the legitimate community representative, local government should have the capacity to bridge local and non-local relations, and the more isolated the locality the more important it is.

It is crucial to stimulate learning across the Arctic by strengthening international cooperation, not least at the level of communities, municipalities and first nations.

We suggest that community viability in the Arctic depends on people coping locally and at a distance, building on local citizenship, rights of mobility, bridging between social fields, and post-industrial economic development.

**Gaps in knowledge**

Understanding community development and its connections to global processes requires cross-sectorial analyses that focus on the spill-over and connections between economy, nature, politics, and informal daily-life practices, not only at the local level, but also the links to higher levels. Such comprehensive community studies should investigate the relations (or lack thereof) between private businesses, associations, the public sector, and informal networks, including those working at a distance. Such studies can be implemented most fruitfully in cooperation with local authorities and communities.

Researchers working on community development across borders need support from international bodies to cope with barriers to research, including those of infrastructure, language and permissions. An international research project on “Modern Societies in the Arctic” would be valuable, and should help make Arctic communities interesting to institutions of knowledge, research and development around the world.

While such development carries risks of continued colonialism, this would certainly also be the case if research on Arctic communities and societies were to be isolated and associated only with images of the pre-modern.

**Chapter summary**

A viable community is one in which people are able to dwell and prosper, for some period, finding sources of income and meaningful lives. For many small communities across the Arctic, populations have declined because of a lack of job opportunities. There are also examples of communities, however, where a combination of local entrepreneurship, engaged political leaders, and government initiatives have created more hopeful situations, where thriving businesses as well as cultural revival give people a meaningful way of life and thus community viability. This chapter has described social transformations in several such small Arctic communities and it points to some key factors for such positive developments, issues ranging from resource management and connections to global markets, to the role of public services and infrastructure.
References

16. On Storfjord, see also Bærenholdt and Haldrup 2002 (29).
21. Young people in Båtsfjord and Storfjord have been included in the UNESCO-MOST study *Young voices – Northern Futures* (30).
22. By February 2004, all the processing factories had laid off workers, and the population figures show a loss of about 100 inhabitants during 2003.
23. Teriberka has been studied in a number of MOST CCPP studies, including Riabova 2001: pp. 115-138 (31) and Skaptadóttir, Mørkøre and Riabova 2001: 43-67 (32).
24. Ísafjörður and Höfn have been studied in a series of studies supported by Nordregio, building on the CCPP platform (33-34).
25. This was very apparent when young people in Ísafjörður, during a visit of the president, wrote their school essays for the UNESCO-MOST study *Young voices – Northern Futures* (32).


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During the Twelfth International Congress on Circumpolar Health in 2003 in Nuuk, Greenland, a number of presenters called for a new approach in discussing the health and well-being of northern people. Rather than focusing on diseases and illnesses, there was a desire to look at positive aspects of life. When health is defined as the mental, physical and social well-being, and not merely the absence of disease and infirmity, cultural and social practices become critical contributing factors.

This chapter will look at three major trends in health and well-being in the Arctic. The first trend describes the increasing problems with mental health and violence, but also how new approaches that engage the local community can dramatically reduce suicide rates. The second trend is an increase in community-based participatory health research, especially regarding traditional foods. The third trend is the increased use of new technology in addressing health concerns and service delivery throughout the Arctic. This chapter provides a number of examples to support these key trends. Together they demonstrate how the Arctic could become a global leader in creating health care systems that integrate local control, new technologies, and many traditions in ways that become increasingly relevant in a rapidly changing world.

Guarding health in the Arctic

Our point of departure in this chapter is that health in the Arctic has to be seen in the context of the special conditions in the region, and that guarding health is a key to improving well-being.

A special place

The Arctic has many factors that make it a special place in discussing health and well-being. These include rapid social changes, where local and global cultures as well as old traditions and new technologies are mixed in a myriad of ways. Some people move from one end of the spectrum to the other in a matter of minutes, such as children walking home from a 21st century school computer lab stopping by an “uncle’s” yard to enjoy liver from a freshly killed seal. The blending of diverse values, skills, and resources makes up the environment in which children are raised and adults live their lives.

Other characteristics that make the Arctic special are the great distances and severe conditions for travel. The provision of health services in remote communities is a challenge. It always has
been and always will be. However, recent advances in technology are enabling those in communities who want to be engaged in research to be active members of teams, and those who provide clinical services to gain access to local insights or expert advice over a radio, telephone, computer camera, or video conference line.

Life in the Arctic also includes the survival skills of the indigenous populations and an attitude of “optimistic problem solving” that brings a sense of mastery, confidence, and self-esteem – prime ingredients for survival (1). Guarding health is closely connected to such attitudes.

Guarding Health

The parts of today’s multi-national world culture that guard well-being are quite varied and many are not considered primarily as health delivery programs. They can include practices of the past, modern technological advances, and local control of a broad range of community services. In order to assure the best combination of factors that contribute to healthy longevity, there must be a broad view that allows for a flexible combination as each community sees fit.

It is the parts of culture that promote health that have the most significant impact. In the Arctic, it is very well known that the prevention of frostbite and hypothermia are far more effective than trying to treat either after the fact. Likewise it is far more effective to keep young people active in their communities than it is to attempt to “straighten” out their anti-social behavior when they become adults.

Recent research has indicated that when a number of factors are considered for predicting an individual’s true state of well-being, one will stand out. It is not percentage of body fat, grip strength, jogging endurance, or visual acuity. It is not the number of volunteer activities, number of drinks per week, or smoking habits. It is not the number of visits to the clinic for annual physicals or even access to regular health care. The best predictor of the individual’s health is one’s own perception of own health. If you feel healthy, then you are healthy. If you believe you are healthy for your age, then you are (3). That perception is forged through a personal assessment of many social and cultural factors. These include the availability of and access to health services that are culturally based. The role that one plays in the community appears to be both an important personal factor as well as an external indicator of social health. How individuals perceive their level of contribution to their communities, with solid and reliable relationships, may thus be a key factor in determining resilience (4). The desire to engage and the level of participation in one’s community are not typically assessed in reports of health.

### Limits of health statistics

Basic health parameters show that the Arctic nations are doing quite well. Sanitation is available for 60% of the population, water available for 82%, and life expectancy at birth is 65.2 years (5). Clearly, the Arctic is made up of some of the most developed nations in the world. However, national averages do not necessarily reflect the state of the people who live in this region. Moreover, it is not possible to extract consistent and comparable health data for just Arctic people as each nation has its own definitions and means for collecting data and they do not delineate their "Arctic" regions as places for which data is collected separately. Another limitation with health statistics is that the factors that relate to wellness are not regularly tallied by government agencies.

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<table>
<thead>
<tr>
<th>Key Health Indicators for Eight Arctic Nations and Three Southern High Latitude Nations (5)</th>
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<tbody>
<tr>
<td><strong>Canada</strong></td>
</tr>
<tr>
<td><strong>Child &lt;5 Mortality/1000</strong></td>
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<tr>
<td><strong>Life Expectancy at birth, in years (2002)</strong></td>
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<tr>
<td><strong>Healthy Life Expectancy at birth, in years (2002)</strong></td>
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<td><strong>Healthy Life Expectancy at birth, in years (2002)</strong></td>
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<tr>
<td><strong>Total Fertility Rate (2002)</strong></td>
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<td><strong>% Total Water Supply Coverage (2000)</strong></td>
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<td><strong>% Total Sanitation Coverage (2000)</strong></td>
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<tr>
<td><strong>Suicide Rate per 100000 M/F (Year)</strong></td>
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</table>

U = Urban  R = Rural  M = Male  F = Female

From World Health Organization Country Indicators and Water and Sanitation Data Bases

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Margret Lantis, 1959 (2)
The factors that relate to wellness may not be regularly tallied by governmental agencies, see box. In particular, statistics do not focus on factors that improve the perception of health such as participation in culturally important activities and locally based civic involvement. They do not take into consideration that a strong reliance upon cultural values serves as a protective factor against chronic social problems and can reduce the probability of a negative outcome and strengthen adaptation, as has been shown for Alaskan men. Consequently, this chapter cannot provide baseline statistics on well-being in the Arctic. Instead, it will focus on selected key trends that can give insights into the factors that guard health.

Well-being and local control of services

In the rapidly changing world of the peoples of the Arctic nations, there is a need to establish and maintain an environment that promotes health. This environment is made up of physical, social/cultural, mental, and spiritual aspects. The physical includes not only the biosphere and atmosphere but also the buildings and utility systems of each community. The social/cultural includes the economic, educational, and basic behavioral values of the community. The mental includes the attitudes of the citizens about their future and the role they and their children will play in building lives with quality. The spiritual includes that inner sense of belonging to place, in a relationship with the world at large and with a greater sense of the whole. Signs that all is not well in the factors that maintain health include the high suicide rates in parts of the Arctic and the decline in life expectancy in Russia. Experience shows however that new approaches in local control that engage the community can dramatically reduce such health disparities.

High suicide rates

In the Arctic, a major health disparity is the high rate of suicide, especially among young men, when compared with the populations as a whole. Rates of completed suicide among this sub-population in the North are much higher than the national averages, ranging from a slight increase to a factor of nearly ten (7-11). There are many contributing factors to these startling numbers. When there are dynamic changes in the government, in culture, and in community and family values, there is stress on the individual. The inordinate level of change in the Arctic may well contribute to the increased rates of suicide. Males in northwest Russia commit suicide at a higher rate than males in Scandinavia. And the Arkhangelsk oblast has the highest rate of suicide among males in the Leutire Barents Region.

In Norway there is no difference between Saami and Norwegian youth as to suicidal thoughts. Neither are there any differences between the two ethnic groups as to suicide attempts. There are regional variations however, depending for example whether you live in the areas where the Saami constitute a majority of the population or not. There is also a gender difference: more girls than boys have had thoughts of suicide. Among Saami youth, more girls than boys attempt suicide.

Among the Inuit, suicide rates among young adults are much higher than national or regional averages. While young women in Alaska attempt suicide more often, it is the young men who more frequently complete the act. This pattern has been associated with a view of

Inuit suicide rates per 100,000 for Greenland, NWT and Alaska with their national averages for Denmark, Canada and US by age group 1980-89
young males not seeing a future for themselves as hunters or contributors to their community and at the same time not fitting into the cash employment structures that are becoming the dominant lifestyle \( (8) \).

Within Alaska there has been research that links greater levels of acculturation with an increased risk of youth suicide \( (9, 11, 14, 15) \). The data on cause of death is unfortunately such that it is difficult to separate unintentional injuries that result in death, which may have been high risk behavior of depressed individuals, and confirmed intentional suicide events. This is a continuing problem in collecting and comparing data from the circumpolar region. The data is also organized and quantified differently with mixed genders, varying age groups, and there is no standard assessment of the definitions applied.

**Self government and cultural continuity may help to prevent suicides**

There are indications of ways to address the problem of high suicide rates. In some areas where there have been efforts to allow local self-government, mental health has improved. Studies of 195 First Nations in Canada showed a decrease in adolescent suicide rates with an increase in self-government \( (6) \). Suicide risk also showed a strong linear relationship to the number of factors of cultural continuity that were present in the community. The six factors assessed were self-government, land claims, education, health services, cultural facilities, and police/fire service. Self-government was associated with the single largest percentage decrease. All in all, the suicides dropped from 137.5/100,000 with no factors present, to no suicides for the five-year study period when all six factors were in place in the target community. In subsequent research, child protection and women in government have been factors added to the assessment \( (16) \). The reduction of suicide from these alarming rates to zero is a result that other communities will want to examine.

Unfortunately the data from Greenland, where there has been local control and Home Rule for a number of years, show no such noted decline in youth suicide. The findings among the First Nations in Canada need to be further assessed and compared to the circumpolar populations that have the highest disparity for youth suicide.

**Decline in life expectancy in Russia**

In general, life expectancy has improved in the Arctic. In recent years, however, there has been a decrease in life expectancy throughout Russia, where there have been dynamic changes in economic and cultural conditions. From 1990 to 1995, four factors have been studied for their impact on life expectancy: alcohol consumption \(-1.5\) years), economic environment \(-1\) year), medical care system \(+0.2\) years), and stress \(-2.5\) years). In spite of the improvements in the medical care system over this five year period, the net effect of dynamic change has been a decrease in life expectancy of 4.8 years. The most important factor was stress, which may also be reflected in other factors, such as poor economy and alcohol use \( (17) \).

In Russia, there have been recent attempts to quantify the impact of modernization \( (18) \). Blood pressure and blood glucose concentrations along with anxiety levels were measured for two groups of indigenous Siberians. Results indicate that the more urban the living conditions, the higher the blood pressure and glucose concentrations. The conclusion reached is that “modernization” and urbanization have serious health consequences on the indigenous people in Siberia. As people
move from remote settings into larger communities, not only do they perceive themselves as having less control over their health services, they also become more stressed overall.

Community engagement can foster resilience

Local control has been a recurring theme in Arctic health policy discussions. There have been calls to involve indigenous peoples in all levels of setting priorities for health research and health care (19). Other examples include the need to understand how people, in the face of pervasive social and cultural change, can retain a sense of control over their lives and an ability to cope with the changes they confront (20). Moreover, the United Nations has for decades maintained that local involvement in the development of solutions and active community engagement are critical in making health programs successful (21). Numerous studies have also documented that local control and an ability to predict actions for the future enhance the individual’s physical and emotional well-being (22). The gradual implementation of local health programs in the circumpolar region provides new support for mechanisms that shift authority over health care into local hands. The following are some examples that illustrate factors that contribute to success in indigenous peoples’ communities.

A large cohort study focused on indigenous children on the Hawaiian island Kauai has detailed some key factors for resilience (23). It shows that children who have supportive families, are given a second chance, and build strong relationships within their community, tend to go on and become successful contributing members of their society. The same factors have been identified in other longitudinal studies of children from the time of the great depression, and from other countries such as Great Britain, Denmark, and Sweden. The term that is being used to compile many of these factors is “resilience.”

Some traditional indigenous groups in Alaska talk about their children being asleep. When they become adults they “wake up.” It has been observed, however, that many young people, no matter what their cultural background, are waking up, and growing up, at a later age than before. For example, students can remain in Western-European-culturally-based schools well into their thirties, and not move to independence for decades. In contrast, a young hunter who brings home a seal or takes a reindeer herd through a yearly migration can be considered adult while still a young teenager. Rites of passage had their value and this is perhaps something worth revisiting.

Substance abuse programs in Alaska and Canada have begun a process of assessment for “best practices” (24). These programs are steeped in cultural values and provide services to entire families, and even to extended families. The understanding is that cultural environment for any one individual is dependent upon a foundation of family and friends that support the healthiest behavior. If one person needs treatment, then it is viewed as the entire supporting structure being in need of assistance. A popular poster states “It takes an entire village to raise a child.” It seems to follow also that it takes the same community to keep that person healthy as an adult. This group approach should help improve services to everyone in need of support in dealing with behavioral health problems in remote communities.

Spiritual values contribute to well-being

Another component that has been mentioned as key in improving health among the indigenous peoples of the North is spirit. It was nearly a century ago that the mind was formally seen as topic of study, albeit separate from the physical aspects of the body. The field of psychology and later social work began to look at the mind and personal relationship environment as areas worthy of study. New techniques were devised to understand behavior. It became clear that behaviors could not be determined just by a person’s ethnic background, upbringing, or patterns of bumps on the skull. There is no way currently to quantify love from one’s family or enthusiasm for a community organization, but these factors do influence resilience (4).

Many northern people continue their firmly embedded tradition of relating to their ancestors as well as to a strong spiritual world. While most have shifted from the understanding of the Inua or life spirit, to the concept that the Holy Spirit passes among living things, there is still a strong respect for life and for those who have lived before. Thanks and acknowledgement are an important part of gathering local food, as is saying a blessing before many meals purchased in cans or plastic containers.

New research in the field of complementary and alternative medicine indicates that the spiritual aspects of life contribute significantly to a

“"This is the greatest error in the treatment of illness, that there are physicians of the mind and physicians of the body and yet the two are indivisible.”

Plato
person’s well-being (25, 26). In order to combine both the cultural and spiritual aspects of communities for addressing the well-being of the individual, there needs to be a change in the dynamics of the current medical models as applied in the eight Arctic nations.

For some northern peoples, the spirit is maintained by consuming locally obtained foods. A recent review has found potential associations in the changing diet, a shift in key nutrients and subsequent brain development and function (10). The group proposes that an epidemiological study be done to further assess the possible link between food, mental health, and even suicide.

**Local control improves health services**

Over the past four decades there has been a growing trend toward more local control of services in the Arctic. This includes home rule and tribal authority over the provision of health services. Two cases illustrate this trend, one from Norway and one from North America.

In Norway the Saami Parliament has stated that they have the responsibility for developing a comprehensive health policy for the Saami, one which ensures respect for Saami patients and takes their special needs into consideration. In 1995, after considerable pressure from Saami health professionals and political bodies, the Norwegian Ministry of Health and Social Affairs launched a white paper on integration of health and social services to the Saami population. In 2002, a four-year plan came into being, whose goal includes increasing the cultural competence of the health personnel working with Saami patients. Local as well as regional health service providers were invited to come forward with project proposals. In 1999, some of the money and responsibility of this program was transferred to the Saami Parliament. The evaluation of this program so far is generally positive.

Even though health care to the Saami is to be integrated into the general provision of services, there are specialist programs in both physical and mental health that have additional obligations. These services came into existence because both individual Saami doctors and their own professional organization established the services as a private initiative. They also put political pressure on regional authorities to establish a psychiatric service in the Saami core area. This is an example of young people taking positions of leadership and responsibility in their own community. This fits well with the experience from other parts of the Arctic where well-trained young people taking positions of leadership and responsibility in their own communities will contribute more than any other single factor in ensuring a satisfactory future (27).

In Sweden, Finland and Russia, there has not been a comparable development in health services. The Saami psychiatric and mental health services of Norway do, however, provide care in the northernmost part of Finland. These services are now in the process of becoming a national competence center in Norway; the Norwegian Saami Parliament’s goal is a national competence center that comprises physical health as well as research. There is currently a Saami research center, which is funded by the Ministry of Health until 2005. Though its locus is in a Saami community, organizationally it is part of the University of Tromsø.

Throughout North America, tribal control of health care has been shown to increase client satisfaction, improve community awareness of health issues, and improve relationships between health care providers and local residents (28-31). One study has found improved health outcomes under local control; less rigorous studies have also shown indications of such trends (32).

There are two distinct forms of the local empowerment process. One is psycho-political empowerment where local individuals receive the resources and authority from others to implement change. The other is psycho-symbolic empowerment, which raises self-esteem or the ability to cope, but where the local circumstances remain basically unchanged (33). So while there are indications of improved perception of health and well-being with more local control, there are great inconsistencies in the various nations and regions of the Arctic on how this local control is to be implemented and what its impacts may be.

**Trend summary**

The rapidly changing world of the peoples of the Arctic nations has been connected to health problems, especially to high suicide rates and stress. There is thus a need to establish and maintain an environment that promotes health. This environment is made up of physical, social/cultural, mental, and spiritual aspects. There are unique issues in each and every community and various peoples may have significantly different approaches for addressing the problems that they themselves identify. With greater local control of community service pro-
grams there is some apparent improvement in both the perception and the outcomes of health-promoting activities. There needs therefore to be enough fiscal support to have quality programs and enough flexibility to allow for community ownership of the endeavors.

**Environmental oneness – you are what you eat**

A second trend in human health issues is the increasing number of community-based participatory health research programs, especially regarding traditional foods. Much of the impetus for these programs has come from the fact that activities beyond local control contaminate traditional food.

**On food and self determination**

In 1961, indigenous peoples in northern Alaska came together in Barrow to create their own “bill of rights” (34). The events that lead to the meeting included concerns about local control over education, hunters being arrested for taking birds out of season, and government plans to use nuclear explosives to excavate a harbor. The people called for local control of services and management as well as a total cessation of planning for nuclear excavation. This may have been the first time in the United States that a small group of concerned individuals stopped a major federal initiative on environmental grounds. The rights document called for local control of health and education programs along with wildlife management collaboration.

In the 1950s and 60s, concerns were raised throughout the Arctic about nuclear fallout from atmospheric testing and what this meant to reindeer and caribou, as well as to the people who depended upon them for food. This concern also led to community awareness about other contaminants that could impact the quality of subsistence species. In Canada, at McGill University, staff began to work with northern indigenous peoples on their food concerns. In 1993, the Centre of Indigenous Peoples’ Nutrition and Environment (CINE) was established. This program has been a model for other nations in dealing with subsistence food sources.

The work of CINE has been recognized by the World Health Organization (WHO) through the production of a new guide on participatory health research for indigenous peoples (35). The process of working through community-based participatory research with indigenous peoples has been documented and the following factors were found to be particularly important for success: collaboration in the sharing of funding and credits for the work, common efforts on ethics and consent, joint partnership decision making, and benefits coming back to the community. Researchers are now learning how to be good community partners, while communities are learning how science works on their behalf. Both groups are becoming more sensitive to the needs of the other and the resulting research is more relevant to the communities. Throughout the world, these types of collaborative investigative endeavors are beginning to follow the lead of health programs that were established in the circumpolar regions. Through the program “Achieving Household Food and Nutrition Security in Societies in Transition,” WHO has stated that community-based participatory health research is a basic human right.

Similarly, the Alaska Native Science Commission received support for holding meetings to discuss environmental concerns that have been summarized on their websites (36). What was learned is that there are many different observations of change and a growing number of questions as to what they mean. Some people have offered very clear explanations of what is changing in complex systems. Others have offered cautionary comments. What is clear is that the world as it has been known throughout the circumpolar regions is changing rapidly. In 1986, an international meeting discussed the use of traditional knowledge with science and included several presentations on the advantages of empowering communities to assume local control of health services (37).

Alaskan communities are following CINE’s lead in establishing community-initiated research partnerships. The Aleutian/Pribilof Islands Association requested support from local, Alaska state, and US federal experts along with representatives from the University of Alaska and private sectors to prepare a proposal on environmental justice. They were successful in securing the research grant and now contract with others to conduct the work they designed. The focus of the work is reflected in the title of the project – Dietary Benefits & Risks in Alaska Villages. Tired of the emphasis placed on contaminants research, they decided to focus on the benefits of what people are eating. They are developing research questions, sampling design, and a communication strategy for dissemination of what is learned to the target communities.
Global political impact

In the early 1990s, the people of northern Finland took the opportunity to foster international dialogue with Russia after two events: the Chernobyl nuclear power plant incident and Mikhail Gorbachev’s 1987 speech in Murmansk, where he proposed breaking down the old barriers and working for the good of all people in the North. The Finnish initiative provided the basis for the eight Arctic nations collaborating on producing an assessment of the state of the environment with directly comparable data (see also Chapter 12. Circumpolar International Relations and Geopolitics). The work was coordinated by the Arctic Monitoring and Assessment Programme (AMAP).

The AMAP assessment documented that contaminants from all over the globe reached the Arctic and became part of the food web, including people. At the 1997 Arctic Council Ministerial Meeting in Alta, Norway, the Norwegian representative received permission to take the new report to the United Nations in order to institute a larger process for controlling some of the persistent organic pollutants. That action, along with other documents and concerns, moved the world’s nations into discussions that eventually resulted in the “Stockholm Convention on Persistent Organic Pollutants,” which went into effect May 17, 2004. In addition to phasing out the production of twelve toxic and persistent organic pollutants, the convention establishes a process which will include other persistent and toxic chemicals in the future.

This global agreement was moved forward in some significant steps due to the work that had been done by circumpolar communities concerned about individual health and locally obtained foods. During the early negotiations, the United States had been cautious about the proposed intent and language. The Alaskan participants in the delegation urged greater participation by indigenous peoples from the US Arctic. Alaska Natives actively participated, attended key meetings, and put a very human face to the concerns about contaminants that were moving to the North and ending up in local food. Other northern nations had similar participation from their indigenous peoples.

During the early planning of AMAP’s work, there were lengthy discussions on how the information in the report was to be organized. At first the idea was to look at the marine system, the terrestrial system and the freshwater system, but the approach shifted to looking at heavy metals, radiation, acidification, and organic pollutants as they move through all of the biological systems. It was felt that the chapter on human health would bring all of the concerns together. In a similar way the Arctic Climate Impact Assessment report of the Arctic Council uses health implications as a way to pull together a number of themes which provide a sense of our exposure to risk. The Arctic Council work has thus put a very human face to physical and biological research. The programs and work of the Arctic Council in environmental monitoring now include community and individual health impacts.

Trend summary

Human development in the Arctic is dependent on working within the environment. Health research has been conducted through local engagement and active participation, and the results have been shared to document the global influences that affect foods that are important to peoples of the Arctic. The Arctic nations have also been successful in the international application of grassroots environmental concerns, for example in the work leading to the Stockholm Convention on Persistent Organic Pollutants. This process of national governments working with local communities within an international forum is bringing global attention to regional concerns. Moreover, community-based health research as practiced in the Arctic can become a model for how health-related research is conducted throughout the world.

Merging traditions with new technologies

The third trend in Arctic health is the increased use of the latest technology in addressing community health concerns and delivering health services throughout the circumpolar North. Many of the tried and true health programs have now moved into the computer-technology age and are becoming models for others to use. The Arctic is moving from the 19th century to the 21st century in one generation.

Immunization and prenatal care illustrate successes of the past

In many areas of the Arctic, the successes of new technologies in promoting health have been recognized only in the past few decades. Immunizations have increased life expectancy
through decreasing infant mortality. While the elimination of tuberculosis, increased and regularly available food resources, improved water quality, advanced housing, and other public and clinical services have improved overall well-being, immunizations have been the key to extending life.

Women are gaining near universal support for prenatal health care. It is realized that the healthier the child during the first few years of life, the better the long-term health outcome. Iceland took the position after World War II that they would focus their attention on pre- and postnatal care, as well as establishing a National Registry for coordinating health data (38). That effort has evolved into computerized health and genetics records for the entire population of the nation. Icelandic life expectancy is one of the highest in the world. With a nurturing health care system in respect to child bearing, mothers return to receive their well-baby checks and the full series of recommended immunizations. These health behavior patterns, once established, are long lasting and improve overall outcome.

**Genetic mapping as a tool for public health**

Iceland has also been a forerunner in looking at the genetics of large, yet isolated, populations. Greater understanding of the genetic factors, the health histories, the environment, and the behaviors of one group of people may offer opportunities to develop both preventive and restorative health programs.

The Icelanders began this research in 1975, based on a “natural laboratory” that was created a hundred years ago when 18,000 Icelanders – 20% of the population – moved to Canada to establish a new community there (38). The physical health of these two populations of Icelanders has been assessed and their genetic family heritage has been traced (39-44). The comparison of these two groups has provided insights into the genetic-environment linkages that influence general well-being. The genetic assessments have included a review of a wide variety of conditions, the person’s family lineage, and information in a number of registries that are all linked through increasingly sophisticated computer systems.

A similar bi-national genetic project has been considered in Alaska on another divided northern population. Saami reindeer herders were brought to Alaska in the early 1900s to train people to husband caribou. Among the mixed-heritage descendents, some Saami genetic conditions have been found that are not common among the Yup’ik populations of the western part of Alaska.

Genetic projects in Alaska are currently looking at patterns that are associated with obesity and weight-related health conditions, such as heart disease and diabetes. There have been recommendations to assess some populations due to the high incidence of the eye condition myopia. The ability to use the latest technologies on health surveys with community participation allows for a fuller assessment to be made of the status of northerners.

Nowadays genetic research is carried out using the latest technologies in bioinformatics and genomics. Bioinformatics is the computerized analysis of the various bits of genetic code that are being inventoried. With a combination of modern genetics and computer technology, it is possible to make inventories of the genetic heritage of whole populations, and Iceland has taken the lead in this development as well.

Such programs raise a number of questions. While many national health leaders are calling for a greater understanding of the contributing factors to health and well-being such as behavior, environment, and genetics, there are increasing concerns about the control of information that may come from personal investigations (45). For example, genetic tests can assess the likelihood of future conditions arising in apparently healthy individuals decades prior to their onset. This is quite in contrast with individual health problems connected to one’s behavior. Moreover, if one person in a family agrees to genetic testing, information about all family members may be derived which could be considered a breach of their right to confidentiality, and personal desires for privacy. While the technology of our time has provided us with the opportunity to learn more about our past and future health, our laws and ethics have not kept pace with our inventions.

**Local health aides: from tuberculosis to telemedicine**

The scourge of tuberculosis in the Arctic is legendary. In Alaska the problem was so severe that once it was documented in the early 1950s, the US Government shifted the health care of its indigenous people to a newly formed Indian Health Service that was created just for them. It was constructed out of the Public Health Service that had existed for treating other special popu-
lations in the nation. Within a few years, major programs targeting tuberculosis had their impact and the disease all but disappeared. A system in which individuals selected from the community saw to it that everyone took their full course of medication played a key role in controlling the disease. There continues to be concern for tuberculosis in some areas where proper treatment is not followed and new drug resistant strains are appearing. This is especially the case in Russia, where a local system for control is not in place and where many people only receive partial treatment. Instead of being eradicated, the disease-causing agent has modified itself and become drug resistant, resulting in a new epidemic and concern of its further spread.

One group of health professionals that has received support in Alaska and Canada is that of the Community Health Aides or Representatives. This concept, based on the 1830s Russian “feldsher” system, was formalized in Alaska in the 1960s. Every community, no matter how small, could have a person trained to provide basic health services. Over the years, these people have become the backbone of primary health care delivery in remote communities for all people (46).

In the first years of the 21st century, these health aides are being trained in the use of new computer-based telemedicine systems and analytic tools. This system allows for physical health parameters to be put into electronic form for review, storage, and distant expert consultation without having the client move from the home community (47). Having the basic community support structure was critical to the implementation of the new program for providing even greater access to health care providers. In Scandinavia, the field of telemedicine has been extended with mobile units that are taken with reindeer herding groups throughout their range.

**Waste management illustrates two faces of modern technology**

A problem with a long history in the Arctic is sanitation. Potable water is difficult to access for communities built on rock or permafrost. Wastewater is difficult to dispose of in these same areas. Solid waste at one time consisted only of left over organic materials, but now has expanded to include plastic bags, aluminum cans, and styrofoam packing materials that do not degrade, but collect and then blow about. The more materials that are brought into the Arctic, the more trash become a problem. The more people who live in the Arctic, the more things they need from the south. In addition, the more resource extraction that takes place, the more waste that is also left behind. Fishing nets foul shores. Fuel drums dot remote landscapes. Broken vehicle parts can be found throughout most remote districts.

New techniques of securing fresh water from the ocean or generating electricity from the wind or through oceanic heat pumps provide for more comfort in life in the North. However, these same successes have required more building, which creates local heat-island effects, and have generated trash from all of the packaging that is shipped north. There are some agreements about shipping aluminum and cardboard back, such as the “Flying Cans” program supported by the Alaskan air carriers at no charge. The overall impact, however, has been an increasing need for local landfills where there is little or no gravel or other material for capping. Even when waste is segregated so that the glass and tires can be chipped to provide cover for the organic wastes, these programs need personnel. Small communities do not have the tax base to provide such services and governmental funds are limited for small communities.

Recent work has included looking at using some combustible wastes to burn and reduce the overall volume of waste materials. The use of super-filtration units to reduce the amount of waste crankcase oil that needs to be disposed of has cut the volume. Once oil replacement is required, filtering the old oil makes it possible to use it to burn other materials. A note of caution is that waste incineration without proper technology can generate dioxins and other persistent and toxic pollutants (48).

**Mind, body, and spirit in new health care partnerships**

The communities of the Arctic desire the latest that our global society can provide. The application of new technologies to more traditional practices appears to some as a discord, but for those living in the circumpolar region these are new tools to make life a bit better. Two examples illustrate how mind, body and spirit are integrated in new health initiatives.

Russian researchers have developed a device that combines a number of traditional and technical concepts: The Gas Discharge Visualization camera. Based on the meridian system known from acupuncture and the photonic energy emissions from living bodies, the camera cap-
tures light emissions after an individual is subjected to electrical stimulation. A computer then models the individual’s health profile. This devise links traditional healing, oriental philosophy, and the latest electronic and computer technologies in a new diagnostic tool that may assist in the quantification of health and well-being (49). This device is also now being used in research projects in the United States.

The second example involves the University Hospital in Tromsø, Norway, which has had a project where a healer was invited to provide services. This is an illustration of a way in which northern communities are working on incorporating traditional practices into the regular health services. In Alaska there are two officially sanctioned programs where traditional healers are co-located with health practitioners, and this collaborative health care model is growing in acceptance.

There are efforts currently underway to assess some traditional practices for their effectiveness, especially in dealing with chronic pain. At the University of Tromsø, there is a research center financed by the Research Council of Norway for 5 years (2000-2005) on “complementary and alternative medicine.”

It is only recently that western health care systems have started to integrate the spiritual health of their individuals with social, physical, and mental well-being. To many indigenous peoples, the concept of separating these four components is beyond comprehension, while combining them is seen as equally ludicrous to those whose educational systems atomize every topic. The inclusion of local values in the promotion of health, well-being, and self-esteem are seen by many indigenous people as the foundation of any healing system. Broadening our ideas about what constitute health services and the best ways in which to provide help in cross-cultural settings will help create new approaches to solving old problems in well-being.

On the topic of linking traditional knowledge and information technology, the book “Inuit in Cyberspace: Embedding Offline Identities Online” points to innovative uses of the internet by the Inuit (50). Another example of how indigenous peoples are creating new innovative uses of technology is illustrated by the fact that students from a very small school in Gambell, Alaska, won the International Future Problem Solving competition. This is considered possibly the most difficult academic competition for young people, as it combines research, creative thinking, essay writing, and verbal skills (51). Not only did they win, but for the first time ever, the same school won in both the Junior High School and the High School team categories in the same year; in addition, the High School team set the record for the highest score ever to that date.

Different ways of thinking about the applications of new technologies can open amazing new ways of perceiving the world. These examples of fostering local cultural strengths in order to diversify health care services and alter perceptions of the quality of health offer a positive link for moving forward. Students should be encouraged to use their cultural framework for creating new solutions and look at new ways of thriving. These skills are building a foundation from which new endeavors can be created. These cross-culturally-wise students will construct the successful and sustainable communities of tomorrow’s Arctic.

**Trend summary**

There have been many successes over the years in applying technology and new approaches to addressing health concerns in the Arctic. Lessons learned from not-so-distant histories of the region indicate that learning from the people and being flexible in approaches to solutions will offer the greatest opportunity for long-term success. Local provision of health services as well as community-initiated research partnerships will lead to a better understanding of the quality of life in northern communities. The shift of responsibility and leadership will be followed by an increase in the perception of one’s own health as a contributing member of the society.

**Key conclusions**

The international collaboration of the Arctic Council has been successful in sharing health information among a number of its programs. However, data that delineate indigenous peoples groups as well as regional health disparities and emerging concerns are often lacking. Moreover, there is a need to include a greater number of directly comparable health parameters.

Arctic communities have gone from communicating by citizen band radio when doctors and health aides needed to consult to the latest in telemedicine diagnostic tools in less than 30 years. In many cases, medical advances and innovations, such as immunization and new forms of local health care, have improved well-being. The rapid pace of change, however, and
the questioning of cultural practices and traditional community values have also resulted in mental health problems in many communities. In this case, the chapter has shown that there may be an association between the amount of local control over services and well-being in Arctic communities. We need therefore more information about the programs that are delivered in remote communities, especially how they are controlled. Such a review should include a broad range of programs many of which are provided specifically as “health” services.

Traditional healers who were previously disdained by health care professionals are now working in hospital settings. This is part of a growing trend of combining traditional values with modern technology. New partnerships and shifts in responsibility to local communities, can lead to a more positive perception of one’s own health, which has been shown to be the most significant predictor of well-being.

The Arctic Council and a number of its associated programs have shown leadership in developing new cooperative efforts in health research and applying new technologies for health care in remote and isolated communities (52). The best practices that have been implemented can be shared to reduce health disparities in remote communities and with minority populations. These efforts have been reflected in the pages of the International Journal for Circumpolar Health and during the meetings and in the proceedings of the International Congresses for Circumpolar Health and the meetings of the International Arctic Social Sciences Association (53-55).

The lessons learned in the circumpolar region are of global interest. Here are the developed nations developing their remote communities. These are the nations who can best afford to be flexible and innovative. These are the technically and economically successful countries attempting to improve the well-being of populations who are identified as having health disparities, whose communities have long struggled with problems of cultural identity and the erosion of local values during the storms of political and economic upheaval. It is imperative that these hard-won lessons be shared with the developing nations.

Gaps in knowledge

On many issues of health and well-being in the Arctic, there is a lack of information. In order to be able to make more comprehensive reports on this topic in the future, a number of issues need to be addressed by the Arctic Council and by the research community.

Of highest priority is the gathering of consistent and directly comparable health data for the Arctic, including birth weight, birth outcome, umbilical cord blood screening, maternal blood screening, breast milk, child development measures, emergency visits, immunization records, hospitalization rates, laboratory outliers, tumor registry, incidence of illness, health educational evaluation measures, and unit costs for specific health services (56).

More research is needed on how best to give the children of the North supportive home environments. This includes gathering information about the training they desire in order to be contributing members of their own communities.

Home rule exists in a number of forms throughout the Arctic. There are some studies that indicate that this form of local control leads to a dramatic decline in suicide, with an overall improvement in mental health, while other studies do not find a similar improvement in suicide statistics and quality of life. More research is needed to understand these conflicting results.

“Community cohesion” and individual and community “resilience” are important for well-being, but these factors are seldom reflected in health statistics. We need to find ways to quantify these factors and their role in “quality of life” in a way that makes it possible to compare the situation across the Arctic nations.

Finally, more knowledge is needed about how to best promote the development of the skills that are necessary for life in remote communities, where resilience and self-reliance are critical.

Chapter summary

Arctic communities and cultures are keeping pace with the latest health technologies and desire the accompanying benefits. Many innovative approaches build on a combination of tradition and new approaches. However, the coverage of new technologies is inconsistent.

Concerns about food and environmental pollution were a starting point for community-based research, with new partnerships between indigenous peoples and the scientific community. This has been important in connecting local Arctic concerns to global environmental policy discussion.
Health challenges are unique to each Arctic community and there is thus a need for flexibility in community-based services. This chapter shows that many factors that are not usually considered part of health care are important for well-being, including cultural continuity and local self-governance. The values and decision-making processes of local communities need to be identified in order to establish and maintain the best working partnerships for preserving and promoting health.

**References and suggested readings**

13. Center for Saami Health Research, “Ung i Sápmi (Young in Sápmi)” (University of Tromsø, Tromso, Norway, Oaidnil No 1, 2003) (in Norwegian and Saami).
37. Boreal Institute for Northern Studies, “Knowing the North: integrating tradition, technology and science” (Abstracts from meeting at Edmonton, Canada, 1986).
48. Arctic Monitoring and Assessment Programme (AMAP), AMAP Assessment 2002: Persistent Organic Pollutants in the Arctic (AMAP, Oslo, Norway, 2002).
49. C. A. Francomano, W. B. Jonas, “Measuring the human energy field: state of the science” (The Gerontology Research Center, National Institute on Aging, National Institutes of Health, Samuely Institute Corona del Mar, CA, USA, 2002).
51. G. Guthridge, personal communication, unpublished book
54. International Union for Circumpolar Health web site www.iuch.org
55. International Arctic Social Sciences Association web site www.uaf.edu/anthro/issa

Suggested readings

S. Heyerdahl, S. Kvernmo, European J of Child and Adolescent Psychiatry, in press.
S. Kvernmo, S. Heyerdahl, J of Adolescent Research, in press.
O. Young, Arctic Politics: Conflict and Cooperation in the Circumpolar North (University Press of New England, Hanover, NH, USA, 1992).

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Access to education can be seen as a key indicator of human development in the Arctic. Equally important is the content of education, including how well it fulfills local needs. This chapter does not attempt to make a circumpolar assessment of education, however. This is partly because there is very little circumpolar research in the field. Also, the varying circumstances across the Arctic make it necessary to proceed with caution when making comparisons between countries and regions and between rural and urban areas.

Instead of assessing the field of education, the chapter explores some of these limitations. Using some selected examples, it also provides an initial discussion of three themes that can be further explored in future work. These include the balance between local and national control of education, the introduction of indigenous curricula in formalized schools, and circumpolar cooperation in higher education.

**Introduction**

**What is education?**

Education contributes to the development of human capital. It is most apparent in its institutional form as schools. Education is not a neutral enterprise. It is the promotion of skills, values, history, languages, and ways of thinking and behaving. In this chapter, it is discussed as a formalized process whereby nations perpetuate their values and beliefs from one generation to the next, including science, art, sport, and other facets of culture. Local and regional human capital needs are involved in the broader context of national needs and globalizing factors. Each of the circumpolar states has a vested interest in education. They do not all share equally, however, the same authority for education policies.

Education policy is driven by values and interests. It is therefore important to know if some take precedence in curriculum development over others, and why. This chapter reveals a host of influences shaping education, from development to reform, where the major constituencies influencing education policy include professional teachers and their associations (unions), parents and organized parents’ groups, regional and local governments, economics and industries, and students.

In the circumpolar North, there is significant interaction between minorities and majorities, located across vast areas with small populations. Education is at times seen as an arena in which different social groups struggle for influence, often in subtle ways. Education should be an important indicator for human development in the circumpolar region. Those aspects of education that could be crafted to this purpose are not readily comparable between jurisdictions, however, whether at the state level or between states.

**Educational systems**

In this chapter, we are interested in knowing how education is organized into systems: from the interaction of individual students to the school house, from school boards to ministries of education. Comparative analysis is difficult as there are no pre-established models to follow. In our initial foray we have looked for developing trends. In light of several circumpolar educational initiatives, it is important that we develop a shared understanding of similarities in the changes of the educational systems and of the differences that set them apart.

To start, we acknowledge that northern values and skills are conveyed to northern students in a number of ways. We are also aware that the forces of globalization, for example satellite tel-
evision and the internet, are bringing the world
to northern students, forever changing what we
know as northern values and skills. We are
equally aware that traditional cultural values
and practices continue to persist, with adapta-
tion inherent to the very nature of indigenous
cultures. Furthermore, we have seen and can
envision the changes coming to the North,
including development pressures, in-migration,
and diasporas in our Arctic environments.

Some aspects of what students learn during
their primary and secondary school years, and
even beyond to post-secondary education, is on
the surface similar in all parts of the circumpolar
North. In Narsaq, Greenland, students will
acquire some of the same knowledge as those in
Norilsk, Russia, even if there will be some obvi-
ous language and culture differences. Comparisons show similar systems of organiza-
tion, school administration, and textbook sub-
ject matter, though the size of classes and eco-
nomics of education vary a great deal. This holds
ture when comparing a number of schools in
each of the larger urban communities. The gradu-
ates from these different schools will follow
goals and objectives set within the social and
historical context of where they live, as well as
the economic and cultural specifics of their
times.

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

Increased access
An emerging trend for circumpolar education is
its increasing accessibility. Accessibility is about
students being able to take classes and fulfill
their potential, that is, it concerns their possibil-
ities for attending school, both physically and
culturally. The economics of education, if we
were to employ a sustainable development par-
adigm, would show that educational systems
are often supported through public funds,
although there are private schools that charge
fees. Accessibility to post-secondary education
varies greatly in the circumpolar North. In pri-
mary and secondary school, students enjoy a
high degree of accessibility to physical struc-
tures, although cultural and linguistic barriers
persist in some areas. In the past, some students
were separated from their families to attend
school, and for higher education this is still
sometimes the case. Distance and institutional
capacity were barriers to centralized education.
Now there are schools in most communities,
students can be “home schooled” in remote and
rural locations, and increased connectivity
allows students to take courses on the internet,
for example the Bachelor of Circumpolar
Studies offered by the University of the Arctic.

As institutions become more “accessible,”
larger numbers of students will attend. This is
not a documented trend, however, rather it is an
assumption. In some parts of the Arctic, there
will also be more students because populations
are growing, see Chapter 2. Arctic Demography
for details. So far, there has been little discus-
sion of what these changes mean for the North
in terms of challenges and opportunities.

Even though this increased accessibility of
education is occurring in some places, it is not
unique to the North. Rather, it is a reflection of
changes that have occurred in urbanized areas
around the world, where population growth,
increased living standards, modernity, and tech-
nology have been transforming schools for the
past fifty years.

Statistical comparisons: a cautionary
note
Circumpolar education research would benefit
from comparative measurements for a range of
factors: recruitment and retention, graduation
rates, student-teacher ratios, per capita funding,
literacy rates, employment rates, and so on. It is
with caution, however, that we seek the devel-
opment of such measurements since within cir-
cumpolar nations, there are a number of nation-
al indicators that do not necessarily correspond
to northern realities. Such research must
include an understanding of the fact that north-
ern education includes both formal and tradi-
tional systems, so that one is not given promi-
nence at the expense of the other.

There are certain common characteristics in
northern education: it is regionalized, it involves
mostly small populations in remote communi-
ties and few urban centers, cultural diversity and
the erosion of small languages are the norm, and the level of educational investment varies as do the costs. Comparisons, however, have to take some major differences across the North into account also. For example, comparison of systems of post-secondary education would have to take into account the fact that Canada has no independent universities in the North unlike other Arctic Council member countries. In order to attain an undergraduate or graduate degree, the reality for most northern students is attending southern universities. Nevertheless, one of the territories in Canada, the Yukon, claims one of the most educated populations in Canada. One would thus need to survey where those people in the Yukon who reported having degrees came from to get a clear idea of educational capacity in northern Canada.

Comparisons in educational systems must also take into account infrastructure. In Alaska, for example, there are communities which are accessible only by air, and of those connected by road, some are only connected by winter road for four months of the year. Populations in the different communities vary, sometimes on the order of tens or hundreds. Can small communities have the same quality of education as large communities or can it even be better? Regional variations create complexity and urban and rural dichotomies exist not only for education but for other services as well. The circumpolar challenge is to have quality research on education from the primary to the post-secondary level.

Another gap in research concerns the differences between state-developed and indigenous educational systems, as well as between northern and southern approaches to these systems of education.

Our survey of the literature indicates more variations than similarities in the good “national” research on education. Regional-scale studies are not easily comparable and circumpolar studies are almost non-existent (1). This chapter has therefore relied heavily on case studies to illustrate some trends that should be more fully analyzed in future research. In addition to the aforementioned increased accessibility, one common theme is the striking of a balance between local, regional, and national authority over education. After that, we discuss cultural and linguistic plurality in circumpolar education, in particular reinvigorated indigenous curricula within formalized schools. Finally, we look at the emergence of a circumpolar network of post-secondary institutions.

Local control or national directives

Researchers have demonstrated student motivation and success increases when teachers make school subjects relevant (2). A significant issue is the balance between local and centralized curricula control. The degree of autonomy given to each school and the resources that go along with it vary a great deal, and there is no clear circumpolar trend on how different countries strike the balance between standardized curriculum and locally specific content. The following country examples illustrate the tensions and harmonies that now exist.

Russia

Changes taking place in Russian education mirror those taking place in Russian society, and include a modernization of secondary education. Since the 1990s, Russian education has become decentralized, and educational institutions are under regional authority with extensive rights (3). Other changes include democratization and acknowledgement of diversity. Students have more learning choices with new institutions emerging having greater curricular variety which has been tailored to meet regional and school differences. Tkachenko characterizes these changes as a break from the old authoritarian state view: “the school before was aiming at teaching all and everything in the same way. Compulsory education based on the single curriculum and system of required marks in 14 subjects listed in school-leaving certificate was universal from Kaliningrad to Vladivostok, from Turkmenia to Baltic. Uniformity and disregard of the interests, talents, inclinations of an individual suppressed and prevented individual development. …To liberate school is in the first place to release it from the necessity to lie.” (4).

Russian schools now devote 75% of the curriculum to federally defined subject content, with the remaining 25% concerned with region and school specific content. These latter subjects provide opportunities for indigenous cultural revival, for example in the development of indigenous history courses. The schoolhouse is an element of social development in Russia. Therefore all Russian citizens, families, federal and regional authorities, local governments, pedagogic communities, academic, cultural, commercial and public institutions are becoming actively involved in educational policy (5).

Strategic priorities have been aimed towards
increasing accessibility, quality, and effectiveness of education. One of the indisputable achievements of the change in policy is the increase of accessibility for all children from an early age. Pre-school is compulsory for children starting at age 5. In 2003, 92% of all 5-year olds attended these institutions, which can be compared to 70% of all children in 1997.

An emerging trend in the developing Russian education system is the increased accommodation of the needs and interests of students by creating educational plurality. Various programs have been introduced with specialized content. Administrative models are being modernized to support such diversity. A network of pre-school and general education institutions is developing. There are efforts to develop new textbooks, manuals and teaching aids, in particular for indigenous education institutions, to support ethnic and cultural aspects of core subjects.

The increased recognition of diversity can be illustrated by developments in the Sakha Republic (6). Here, educators are investing in multicultural awareness as a means of easing tensions in society and for training pupils to be critical thinkers. Efforts include creating conditions for cross-cultural relations between children of different ethnic groups studying at schools with different (Russian and indigenous) languages. A network of multicultural schools in the Republic implements the principle “from native threshold to the world of values common to all mankind.” For example, the Khatystyr school in southern Yakutia has schoolchildren studying Russian, Evenki, and Sakha cultures. The study of foreign languages is integrated with the study of world culture. The teachers are involved in developing and implementing an interdisciplinary program of “Multilingualism, Comparative Typology of Languages, and Polycultural Education,” and specialized courses on ethnic psychology, ethnicity and culture such as “The Routes of My People.”

In 1997, a network of “Presidential” schools was established in order to encourage pedagogical initiatives. These are schools with excellent teaching staff with the school curricula characterized by new content and advanced teaching technologies. They function as scientific, methodological and resource centers for various districts of the Republic.

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

**Sweden**

An intensive process of change has taken place in the Swedish school system throughout the 1990s. Since July 1, 1991 the municipalities have been responsible for the schools. The Riksdag and the government exercise control by setting achievement objectives. The municipalities must send quality reports to the National Agency for Education. The Education Act and Curricula state that the school has an important role in communicating and firmly establishing the fundamental values of our society.

The national school system regulations regulate the Saami schools as well, but the municipal school plans do not apply to Saami schools, who instead develop their own plans. The Swedish National Agency for Education is responsible for educational inspection, national follow-up and evaluation, as well as reviewing curricula and grading criteria. “Sameskolförordningen” are the additional regulations for the Saami schools. Children one to six years of age have the possibility to join preschools for Saami children. Saami schools, in terms of compulsory schools, are developed for children six to twelve years of age. For upper secondary levels, the pupils have to take part in different forms of integrated education. Home language programs are offered for all levels, however. An agreement between the local education authority for Saami schools and the municipality is a requirement when offering integrated education in Saami.

Sweden thus has an institutionalized intercultural approach to teaching and learning today (7). In this intercultural perspective, the importance of a holistic educational approach is emphasized, including cooperation between home (first) languages and cultural backgrounds in order to cross cultural barriers.

Until 1940, the Saami had special schools, “nomad schools,” which often moved through the seasons, the idea being to not take children away from their culture and their normal daily life. In 1962, the Riksdag decided that the Saami people should have the possibility to choose
what kind of schooling system they wanted to join. In the national curricula, three different phases can be distinguished in the development of intercultural teaching and learning (8): In the first phase, the introductory phase during the 1960s–1970s, the perspective was more international, and only faint traces of intercultural perspectives could be found in the syllabi. In the second phase, the evaluative phase in 1980s, multicultural perspectives were visible. The curriculum required schools to work with cultural backgrounds, and municipalities had to offer teaching and learning in the students’ home language, even if all students also had to learn Swedish. The curriculum was not changed at this stage, but comments were sent out to the municipalities and schools. In the third phase, the reformulating phase during the 1990s, a new form of curriculum for the Swedish compulsory schools was developed with intercultural objectives. For example, the intercultural perspective is visible in the texts about ethical values, and in the objectives that all students are expected to achieve.

However, the curriculum says nothing about how to reach these objectives. Moreover, teachers, pupils, and researchers still claim that the curriculum materials are focusing on international rather than intercultural issues. A major problem is the lack of relevant knowledge at the local level. For example, there is a deficit of skilled teachers with knowledge of Saami language and culture (9). This discrepancy between political intentions, curriculum objectives, and students’ views is an area for research.

### Norway

During the 1990s, the Norwegian education system, from kindergarten up to the post-secondary level, was radically revised at a tempo never before experienced in the country. From 1987, Norway followed the national policy for education described in Mønsterplanen 87, a flexible curriculum that gave teachers some degree of latitude. Under this policy, the northernmost county of Norway, Finnmark, was declared a special educational region. This special regional designation was meant to motivate young people to attain full education so that the region would develop economically, culturally, and socially. The education reforms in the 1990s (Reform 97) brought the regional project in Finnmark to an end. For primary and lower secondary education, the reforms set a more detailed national curriculum in place.

In 1990, the Ministry of Education replaced most of the elected educational councils and committees with “ad hoc committees” on different educational issues. The Minister himself wrote the general part of the curriculum and a new strategy was introduced in which power and control in policy making become more important than ever before. Norwegian education policy changed from a corporate and democratic process, where different voices could be heard, to an authoritarian-oriented process, where the state tried to impose a hegemonic position (10).

Why was the education system reformed? An analysis of the basic documents on which the reform was based shows that the curriculum to a great extent is based on economics disguised as pedagogy (10). Policymakers stress the needs and interests of society defined at a macro level, especially with reference to economic growth and technological development. Local differences are marginalized. The education system is now building the stock of human capital and labor in order to make the state internationally economically competitive. This dimension is important, but nevertheless problematic as long as personal aspects of education are considered irrelevant. The tension between macro and micro is left unmediated. There is no discussion about the role of schools in the formation of student identity, how their self-esteem should be positively stimulated, or well-rounded personal development.

The economic orientation in the Norwegian reform project can be linked to global trends of education being increasingly integrated with other areas of social and economic policy (11). This trend is clearly visible in the second half of the 1980s (12) and has been well documented in OECD countries where education is often regarded as an instrument of change and renewal (13). A study of European Union educational policy indicates a primary consideration of education as an instrument for increasing competition and economic growth, whereas the idea of education as the provider of a well-rounded personal development is almost absent (14).

One of the most striking differences between Reform 97 and Mønsterplanen 87 is that the latter allowed the teachers to plan their teaching within three-year time frames and gave them the opportunity to choose on which themes they would concentrate. The current curriculum defines year by year what should be taught.
Moreover, the previous plan allowed the students in lower secondary schools to choose at least some subjects in accordance with their personal interests and abilities. Today this possibility has been radically reduced.

To what extent has Reform 97 influenced pedagogic practice in the classroom? In a study of teachers’ and students’ experiences (15), 78 students from six different lower secondary schools in rural and urban districts in both northern and southern parts of Norway reported (16) various degrees of dissatisfaction. School subjects were thought of as being too “theoretically oriented” and students complained about the lack of personal relevance. Students reported being tired of school, even some of the cleverest girls stated that they did not know how to keep up with the demands. All students expressed the wish to have influence on what and how they were learning. As one girl said: “We need more freedom in school, it is just before we are handcuffed.” (17). Students reported wanting a closer connection between school and local society and between school and working life. The experiences of the teachers correlate to the experiences of their pupils. For example, teachers feel obliged to teach what is presented for each subject year by year, even though they know that many students do not find the classes relevant.

An evaluation of Reform 97 from the perspective of differentiated teaching indicates that the reform has failed (18). This is a serious criticism. If schools cannot develop well-rounded students and the top-down strategy provides little opportunity for teachers’ professionalism in the classroom, the gap will widen between what teachers believe is the right way of teaching and what they really do in the classrooms.

Canada

In northern Canada, the Western and Northern Canadian Protocol is the vehicle for curriculum framework development (19). Agreed upon standards apply to core courses as well as electives. Educational authority is the responsibility of territorial and provincial governments (20). Territorial education departments are run by elected ministers, and the thirteen Canadian education ministers oversee and regulate education in their respective jurisdictions. Universality in Canada enables students to move between jurisdictions if necessary (21).

Principals administratively manage schools and a superintendent supervises groups of schools geographically linked. School boards/district, school trustees, and education ministers are elected. Departments of Education are large bureaucracies staffed following a strict hierarchical structure. Canada is unlike other Arctic Council countries in that there is no national education ministry. However, it could be argued that transfer payments using a per capita formula of funding, enable the federal government to exert enormous pressure on education policies and practices of the provincial and territorial ministries.

A newly emerging concept in northern Canada is parent advisory councils. These councils are being used in schools where circumstances provide an impetus for increasing community partnerships with school staff. The involvement of parents, in particular indigenous parents, is a growing movement aimed towards increasing the recruitment and retention of indigenous students and improving schools in northern Canada, where the majority of students in many communities are indigenous (22-23).

There is a growing trend in northern Canada to appreciate the differences of language, place, and the tensions experienced due to standardized curriculum. One expression of this trend is the development of student-centered classrooms and the revitalization of land-based education. The latter is discussed further in the next section.

Each of the northern territorial education systems is unique. Nunavut, the youngest government, is still in the formative stages of development of their education system, whereas in the Yukon, the most senior northern government, education is well developed and moving toward devolution to self-governing indigenous nations. While the realities of education across northern Canada vary considerably due to the cultural diversity, there are some commonalities. Teachers are often attracted from southern universities. The three northern colleges have, over the past twenty years, invested considerable resources in developing northern teachers. In many remote and rural communities, the first language of instruction is not English. However, in keeping with Canada’s national bilingualism, French language instruction is available across the North, in particular in urban centers. Specialized curricula have been developed to reflect the unique cultural, historical, and economic differences across the North. The ability of each teacher and school to deliver quality education is sometimes constrained by remote-
ness and under-funding. As a counter-balance, rural and remote teachers and schools have access to a range of “northern” culture, language, and experiences on the land, which urban and southern education lacks. Access to online courses are an option for students in small and remote communities to pursue courses that would otherwise be impossible to offer because of small class size, multi-age class rooms, diversity of learner experiences, etc.

**Theme summary**

These four country cases focusing on the formalized educational systems of states and territories/provinces demonstrate a range of experiences. In sum, it seems that some Arctic countries follow the international trend of increased central control, whereas in other Arctic countries there has been an increasing recognition of the need for more local control. We are cognizant that additional specifics from other Arctic Council members would add to the discussion. A full assessment of education in the Arctic should include an exploration of the tension between local and central control across the Arctic and how it has affected the direction and quality of northern education.

**Indigenous education**

Traditional indigenous education existed before contact with outsiders and continues to exist as part of indigenous cultural practices, mixed economies, and traditional systems such as food systems (24). In a discussion on local control, an important consideration is how indigenous perspectives are permeating northern education, both as a starting point for school curricula and as part of more general policy. This section examines some such educational developments, illustrating with examples from the Athabaskan, Saami, and indigenous peoples of Russia.

**Athabaskan**

Northern Athabaskans attend schools in Alaska, the Yukon, and the Northwest Territories (NWT) of Canada (25). These schools can be characterized by their cultural content and language of instruction. In the past, the majority of students attended mainstream courses, with Americans and Canadians, taught in English. The history of residential schools, replete with neglect, marginalization, and assimilation, are a legacy of colonial education. This case acknowledges this past, but we will not elaborate further on the associated issues that taint education for Athabaskans. In order to contextualize, the following argument will focus on Athabaskans in Canada, in particular in Denendeh (NWT).

In northern Canada schools can be found in communities that range in size from 200-16,000 people. In smaller communities, school grades are often combined to make greater use of limited resources. For example, a teacher in Tsiigehtchic (Denendeh - NWT), may teach math to a combined class of twenty-five Gwich’in students from grades 5, 6, and 7 (ages 10-13). They may learn the basics of mathematics in English just as they do in many other classrooms around the North. For many students, English is their second language. These students will spend the entire day in classrooms with family, friends, and all the children of the rural community. They will have a computer class at some point in the day and will have to contend with dial-up internet access until broadband is installed up the Mackenzie Valley.

In smaller isolated centers, students will receive local schooling in grades one to nine. Some students attend high schools in major urban centers, such as Inuvik. Increasingly students are graduating from high school (grade 12). The dropout rates are higher, on average, for indigenous students compared to other northern students, and also higher than among students in the south. There are a growing number of mature students returning to studies to achieve high school diplomas, either as single parents, or after spending time in the labor market. In communities connected by roads, high schools often combine students from a number of communities.

Education can be thought of in terms of local capacity (24). Indigenous communities may have very different expectations for schools than school administrators and teachers, which can undermine local capacity. It is essential that educational goals of the schools reflect those of the community. Schools prepare students with skills to be able to “live a good life.” Besides formalized schooling, traditional education systems persist to convey indigenous cultural and spiritual values. Traditional education systems, or the primary values at the heart of many traditional teachings, are increasingly playing a role in classrooms in northern Canada. Inuit students, for example, can learn biology by preparing a seal, and eating it as well as studying it. Student-centered education paradigms are of
critical importance. Individual and social identity varies a great deal, however, and there are adjustments needed to ensure that the social cohesion typical of many northern indigenous cultures is strengthened. More importantly, the cultures and languages of students are no longer forced to fit into English parameters.

The schoolhouse is not the main location for indigenous education. Rather indigenous peoples largely educate their children in their own languages, while embedded in families and communities, by cultural practices at various stages and under a host of influences that continue to evolve over time. The common view is that it takes an entire community to raise children, and now that there are schools and other influences such as satellite TV, the question becomes what possibilities still exist for the perpetuation of culture. What exactly will be the next generation’s culture?

Indigenous peoples in Canada have largely experienced schools as tools for assimilation and acculturation. As discussed in Chapter 3, Societies and Cultures: Change and Persistence, there was a time when education was used to destroy indigenous culture. Much of the experiential learning of oral traditions, at the heart of indigenous educational practices, still however persists. Northern education capacity seeks to maximize the human potential here with education that is from here. How well we balance the need to import educational tools (educated people and curriculum) with the creation of education that reflects the north will be important to evaluate.

An important trend in this respect is the development of indigenous curricula within the school system. Primary schools have offered indigenous students curricula that strengthen their knowledge about their own cultures. For example, Inuit communities in the Northwest Territories follow Inuuqatigiit, which is a culture-based school curriculum (26). Similarly, in Dene communities, subjects are being complemented with Dene Kede, which is a curriculum produced by Dene Elders and teachers from each of the five Dene regions. While Dene Kede may have been developed for all students to grade nine, we raise it here to illustrate the importance of culturally relevant curriculum, in particular for indigenous students. Dene Kede will not be discussed for its value in cross-cultural education but we recognize this value.

Teachers are expected to use Dene Kede curriculum as a guide in the creation of community-relevant course content. Each teacher has to interpret the expectations in terms of what is specific to his or her community, and use the language(s), material resources, and people of the community to bring the curriculum to life. The extent to which the curriculum is used in a school depends on the desires and needs of the community. Where one school may use the curriculum as a Dene-based perspective within which to organize teaching of all other subjects, another school may use it only in second language classrooms or as an elective. These curricula for indigenous students in high school (grades 10-12) are alternatives to the Province of Alberta’s curriculum (with the exception being the three-credit Northern Studies course). Neither is mandatory for Canadian students outside of Dene schools; however the curriculum is intended for all.

Often the culture-based curriculum is taught by a teaching assistant, who is also a community member. Increasingly often, these are people who have received degrees from one of the northern-based colleges or from a southern teaching university. Teachers who present these courses in their native language are at times challenged by combined classes with students at varying levels of comprehension with their own language, or students who speak different languages. Teachers are also often responsible for administrative duties and other education-related work in their communities.

There is a trend towards the development of a northern studies curricula in centers such as Yellowknife and in some southern schools, in particular universities. More efforts are needed, however, to produce a generation of Canadians knowledgeable about indigenous cultures and languages (27). The development of northern studies oriented programs in southern universities may usurp much of the resources and energy needed, if the development of northern post-secondary education is to advance. Small and highly diverse populations combined with the high costs of education will continue to be factors that retard the establishment of northern universities in Canada.

The availability of teachers has been a major challenge in northern Canada, especially teachers with knowledge about local cultures and languages. Most teachers go north with no indigenous language training, with very little understanding of the history and ecology of the community they fly into. Not that these teachers necessarily do a poor job; many are young and energetic and others are experienced teachers.
who remain in these communities for many years, often becoming important members of the community. All too often, however, teachers leave when their contracts expire, taking both the institutional memory and educational capacity of a seasoned teacher with them. Often teachers come into schools with no specialized training and with the only possible language of instruction English. Intuitively we know that if the language of instruction is not that used by the students, small indigenous languages are in jeopardy. This is particularly acute as students advance through their higher learning (28).

There is no Canadian official native language policy. Such matters are instead left to local or regional authorities, who often lack adequate resources. Indigenous languages are often taught in schools by local community members many of whom nowadays have college or university education, if not teaching certificates. The Nunavut government has set a hiring quota for Inuit, which may reverse the need for immigration of southern Canadian teachers.

**Indigenous schools in Russia**

In Russia, indigenous schools for many years worked in the interests of the unitary schools, and several generations of people were brought up isolated from native traditions. Most indigenous languages were displaced from social and everyday life. In 1992, the Ministry of Education had to admit that Russia had no indigenous schools, only fragments (29). However, processes that began with Perestroika favored the renewal of indigenous languages. The number of languages being taught rose from 66 in 1990-91 to 83 in 1992-1993. Educators began to look for new content that would include indigenous cultural elements. Russian authorities started to move from a common unitary system to a new system of indigenous schools based on indigenous culture taught in native languages. Since 1990, this process has developed both as a top-down policy and from bottom-up initiatives led by local populations.

The indigenous schools sought to meet three important goals: first, promotion of indigenous culture and indigenous identity among new generations of ethnic groups, every child having a right to education in his or her native language, and on the basis of his or her own culture; second, openness to other cultures; and third, that these schools should meet the needs and requirements of modern development and international educational standards.

In the mid-1980s, a typical Russian classroom would be made up of 19% of indigenous students with the language of instruction in Russian. Of the indigenous students, 19% of the total, 10% attended ordinary Russian schools while the other 9% studied at indigenous schools. Forty-four indigenous languages were taught while 120 ethnicities live in Russia. Twenty-six languages were studied as academic subjects. Eleven languages were used during the first three years of study. Four ethnic groups used their languages for instruction in both junior and senior levels of schools.

In 1991-92, new curricula for indigenous schools were introduced. Subjects were divided into federal core courses (e.g. mathematics, computer science, physics, astronomy, chemistry), those of regional concern (e.g. regional studies, biology, geography, history, society, the market economy, languages, fine arts, music, Russian and world culture), and those of local concern (e.g. indigenous culture, physical and labor education). The number of hours for regional and local subjects varied depending on subject areas and education level being analyzed (30).

Indigenous cultures programs and other methodological materials were published for both indigenous and Russian schools. Moreover, regional and local components for programs and textbooks were developed for all school subjects, for example dictionaries with Sakha terminology in geography and biology.

Indigenous languages are being used more widely. For example, 36 % of Yakut pre-school students were educated in Yakut in 1993 but 50% in 2002, by which time 86 % of all Yakut schoolchildren were learning in their native tongue. Minority indigenous languages were taught in only 13 schools from 9 districts in 1989, and a decade later there were 31 schools from 15 districts. By 2002, 44% of Even children, 25 % of Evenks, 70% of Yukagirs, and 82% of Chukchi were educated in their native languages. Twenty-two communities have opened Sunday schools where indigenous languages, culture and traditions are taught.

The organization of state education and training for children among the numerically small peoples of the North presents special challenges. For example, many live a nomadic life while the present system of education is based on large settled communities. Also, the lan-
language and ethno-cultural situations of the numerically small peoples of the North have been characterized by loss of language, culture and identity. Alternatives are developing, however. For example, in Verkhoyansk, a new model for schooling was worked out to match the traditional nomadic way of life. The classroom year ends on May 1 and traditional cultural education with the family and community begins. Language learning is based on communication with relatives, ecology is learnt in nature. Cultural transmission is based on interaction with different people and participating in traditional economies (trading, reindeer herding, hunting and gathering, crafts, etc.). Education is inseparable from the life and practices of northern indigenous communities. Nomadic schools emulate traditional cultural practices, education placed in the context of life in the “open air.” The individual curricula take into account the special, unique aspects of the life patterns and traditional economies of the peoples. This educational model promotes indigenous languages in family, and domestic activities, and connects parents and children through cultural practice.

There are six nomadic schools: four Evenk schools in the Anabar, Aldan, and Olenyok districts and two Even schools in the Kobyaysky and Srednekolumsky districts.

**Saami**

In recent years there have been major changes in the policies governing Saami education, leading to creation of Saami schools. However, a closer look at policy implementation shows some challenges to creating indigenous curricula.

The basic (13 year) education curriculum for Saami in the Norwegian public national system follows guidelines that adjust the national system and create a foundation for Saami schools. A core objective was to improve school practices regarding indigenous, minority, and multicultural perspectives. This represents a change of educational policy in that Saami values are supposed to serve as the foundation for education. This shift has its basis in Norway’s ratification of the United Nations International Labour Organization Convention 169, which recognizes indigenous peoples’ will to control their own institutions, way of life, economic development, as well as their formation of identity, language, and religion (see Chapter 6, Legal Systems). These principles are in the Saami curriculum guidelines (SCG97) as its legal basis.

The responsibility for the Saami schools rests with the local municipality. Compulsory use of the guidelines is limited to six municipalities where Saami legal status equals that of Norwegians. Outside this area, the use of the guidelines is voluntary. Education based on these guidelines is referred to as “the Saami school” and the pupils studying under these guidelines are referred to as “Saami pupils”, regardless of ethnic heritage. The Ministry of Education is responsible for the overall development of the Saami school, while the Saami Parliament of Norway has a limited role as copartner in developing some of the school subject guidelines. At the municipal level, the schools have a responsibility to work consciously to develop a learning environment based on Saami culture and community.

The Reform 97 discussed earlier in this chapter covers also the Saami school and SCG97. SCG97 is not peripheral to the national curriculum but is an independent alternative. It spells out the general guidelines (grades 1 through 13) and goals for Saami education. These include Saami syllabi for a certain number of subjects, a separate time plan for instruction hours, indigenous and minority perspectives, and a view of Saami schools from a multicultural perspective.

SCG97 claims to be pivotal, with Saami values and traditional knowledge introduced in the Saami schools and transmitted to the next generation (31). The policy states that local Saami culture has its place in the schools and that course content should reflect local culture. The teacher is responsible for emphasizing and expanding pupils’ knowledge of and participation in traditional culture, ecology, and economy.

Some of the SCG97 subject syllabi use Saami Traditional Knowledge. This knowledge is characterized by its connectedness with nature and is particularly well suited to learning in science and ecology. Core cultural values are introduced to strengthen and preserve students’ identities. Social sciences do not make explicit use of the term Saami Traditional Knowledge. However, history, geography, and social sciences all use it as a basis, from traditional social organization to solving contemporary challenges.

The greatest challenge for schools and communities is the interface between cultures where Saami knowledge has been largely marginalized by the Norwegian school system in the past (32-33). Saami Traditional Knowledge must be
understood in a broad social and ecological context and directly applied to educational content (34). Initiatives to date have seldom had a comprehensive approach integrating philosophy, nature, and spirituality. Schools tend to focus on practical work and skills (34).

An evaluation of SCG97 (35) indicates that schools and teachers are making changes according to the guidelines, but that some aspects take more time to change than others. One challenge is to guide pupils to work independently (if it is culturally relevant to do this is another question) (36). Computer and information-technology use outside the classroom is low.

**Theme summary**

From having previously been a part of colonial oppression, education in formal schools systems is being redefined in a couple of areas with a recognition of indigenous cultures and languages. This includes creating indigenous curricula, using, in some cases, traditional indigenous knowledge. We close this section of Russian, Saami and Athabaskan case examples knowing that we are lacking Inuit, Gwich’in and Aleutian examples. Much more research is needed to better understand the advances in indigenous education in all countries, its opportunities and barriers.

**Saami language in schools**

Training in Saami was formally introduced to the basic educational curriculum in 1967. School regulations have since expanded, allocating increased hours of instruction, to the point where Saami-speaking students have a right to instruction in Saami regardless of geography. SCG97 places the burden of responsibility on schools to work systematically with the Saami language as a subject. There is also a bilingual program (37), whose goal is for students to be functionally bilingual. In an evaluation of the SCG97 (33), 64% of the total population of the communities involved were Saami speakers (38). 66% of the pupils received instruction in Saami language, but only 35% receiving instruction through Saami language (39). 47% of the teachers were Saami speakers. However, the general lack of statistical information about Saami makes evaluation difficult, in particular the degree of instruction through Saami language. Saami educational reform needs significantly more support in all areas to achieve an acceptable level (40-42).

Education will not change until the Saami produce more textbooks and other curriculum materials (in particular, computer technology) and connect them to the community outside the school (43-44). Teachers must be encouraged to use traditional teaching methods and Saami epistemology. In our research we found that teachers did not give direct answers to some questions. Indirectly, however, it is clear they have started thinking about the significance of Saami culture and ethnicity and its influence on education (45), as well as how this influences their teaching practices. They try to identify the connections between their practice, their cultural background, and their environment. They compare their practice with theory (46) and find a convergence with traditional child rearing (36).

**Higher education**

Institutional capacity as well as northern students’ access to post-secondary education varies considerably across the Arctic. This section illustrates this diversity with a few examples. We conclude with discussion of an emerging trend of increased circumpolar collaboration among universities.

**North America**

In North America, the University of Alaska is based in Fairbanks and Anchorage, with urban campuses in the smaller communities. In northern Canada there are no universities, but there are colleges and research institutes (in Yukon, Northwest Territories, and Nunavut) based in northern cities, with regional community classrooms in rural and remote communities. At the territorial campuses, there is a limit to the range and types of courses, programs, and degrees available. Students in northern Canada cannot attain a Bachelor of Arts or Science degree unless they leave the North or unless they take courses from southern universities, purchased by their northern colleges and taught by sessional instructors (mostly without doctorates) (47).

Many northerners, particularly in rural communities, have been served by distance education. For example, University of Alaska (Fairbanks) services each of the regions within Alaska through regional campuses and distance delivery: video conferencing, telephone, and web-based teaching. The University’s Board of Governors sets the curriculum.
Similarly, in northern Canada the curriculum is set by the college and delivered at regional campuses and satellite classrooms in most of the medium-to-large communities. In the Northwest Territories, for example, Aurora College contracts with Athabasca University in Alberta and other southern universities for courses taught at all three of their major college campuses (Fort Smith, Yellowknife and Inuvik). Students can be linked by phone or are able to access web-based courses through the college.

The increasing opportunities for college and university education via satellite campuses, mail correspondence, tele-conferencing, and web-based delivery, in particular where broadband is available, are not, however, the main path of delivery as most northern students still make the trip south at the end of August to attend post-secondary institutions. The southern urban universities offer students undergraduate degrees in sciences and the arts/humanities and colleges offer diplomas in a wider range of subject areas.

The Nordic countries

In some of the Nordic countries, universities are seen as motors for regional development. In the northern parts of Iceland, Norway, Sweden, and Finland, university institutional development has stimulated accessible education and quality research since the early 1970s. Universities have become expressions of regional development policy and require infrastructure ranging from increased communication technology, teaching hospitals, specialized research institutes, libraries, to such supports as student housing and other services. Many states have invested in increasing the general level of education. The establishment of the University of Tromsø is our first illustration of this theme, followed by a look at Swedish and Finnish initiatives.

The University of Tromsø was established in 1968 by a parliamentary decree, and officially opened in 1972. Until then, people in northern Norway needed to go south for higher education. Consequently, northern Norway had a lower rate of well-educated people compared to other parts of the country. There were three main reasons behind the decision to establish a university in northern Norway: concern about regional imbalances in socio-economic development, the belief that the best way to overcome shortages of qualified manpower in the region was to train local young people (who would be more likely to remain in the region after graduation), and a determination to promote research and technical and cultural services relevant to the region (48). The University of Tromsø has been described as “a symbol and, it was hoped, an effective instrument of the government’s policy of promoting the economic, social and cultural development of the north.” (49). At the time, the Norwegian government linked social, economic, and cultural development with education.

In 1966 the Swedish government decided to establish higher academic education in technology in Luleå, and in 1971 Luleå University of Technology was opened. The impetus came from a need for qualified competence in the mining, steel, and hydropower industries. Poor educational possibilities in the North were pointed to as one of the most important reasons for weak development in Norrbotten (50). In particular, the lack of vocational, technical, and commercial professional training was a problem. Effects of higher education in the region have been visible in many ways. The number of students enrolled in undergraduate programs in Sweden in general and in the North in particular continued rising during the period 2002/2003 (57). The high number of new enrollments means that Sweden is now close to attaining the goal of half of each age cohort including those in northern regions beginning studies in institutes of higher education. The social sciences, including economics and law, are the educational fields that attract most applicants. When taken together with the field of health, medical and social care, they account for more than half of the total number of applications. The third largest area comprises programs in technology and teacher training. A teacher training college was already established in Luleå in 1907.

The highest participation in higher education can be found among women, who make up 60% of the students. The location of this university in Luleå has resulted in broader recruitment in terms of social background. Life-long learning offered by the higher education institutions has also been of importance in the region. Distance education has been of importance for people living in the rural areas, and the number of distance students has been rising rapidly, increasing opportunities for staying in the area and influencing its development. The number of companies working with high technology has
increased, as well as the number of skilled people. The university studies that are and have been offered are of great importance for the survival of the region. For rural areas, an important developmental factor has been in teacher-education programs to support high quality teaching in the compulsory schools.

Post-graduate studies have increased during 2002/2003, with considerably more women than men. The number of PhDs has more than doubled since 1993. The trends are the same in all of Sweden. Social background still influences the transfer to postgraduate studies. In northern Sweden, great efforts have been made by Sametinget in supporting PhD studies and also in funding research programs.

The youngest university in Finland is the University of Lapland in Rovaniemi, which was established in 1979. The aim of its educational program has been to contribute to the development of occupations and culture in northern Finland and to further international cooperation between universities and research institutes in the northern regions. There are more than 4000 full-time students. Faculties cover art and design, social sciences, education, law, and business and tourism. The research strength at the University of Lapland lies in northern issues, in particular in research into welfare, minorities, international relations, international jurisprudence, and applied environmental research.

In some of the western Nordic countries, universities have been in place for a much longer period than in the Fennoscandian North. For example, the University of Iceland was founded in 1911. During its first year of operation 45 students were enrolled and today it provides education for approximately 8,000 students, studying in eleven faculties. The University of Akureyri in northern Iceland was established in 1987. The University of Greenland offers courses taught in both Danish and Greenlandic. As of 2003, the university has approximately 100 students and 13 academic staff members. The university has four departments (Administration, Cultural and Social History, Greenlander Literature, and Theology). The University of the Faroe Islands was founded in 1965. The university carries out research and provides post-secondary education. It has three departments and about 90 students.

Russia

In post-Soviet Russia, there has been a trend towards more regional differentiation not least in higher education. All regions want to have their own university or universities and there is a strong academic drift by upgrading former colleges, for example, teacher training colleges, technical colleges, etc., to pedagogical universities, technical universities and so on. As an illustration, in Murmansk and in Arkhangelsk there were no universities before perestroika. Today there are several in both cities, and in addition to the state universities there are also private institutions of higher education. The students’ fields of interest have also changed: business administration, economics, management, and law are favorites, while the number of applicants to faculties of natural science is decreasing. The possibility of getting higher education close to home in the Russian North varies however. In the northwest there are several universities, whereas educational possibilities are sparser in the less populated northern Siberia and in the Far East.

Circumpolar initiatives

A significant development in northern higher education is the thinking in terms of circumpolarity, and the increased interest in the use of information and communication technology and open learning networks (52-53). This is reflected in the University of the Arctic and the Northern Research Forum. Their efforts to raise awareness of natural and cultural circumstance of the Arctic and promoting dialogue among members of the research community and a wide range of other stakeholders in the Arctic have been applauded by the Arctic education ministers. (54).
The University of the Arctic is a cooperative network of universities, colleges, and other organizations committed to higher education and research in the North. Its members share resources, facilities, and expertise to build post-secondary education programs that are relevant and accessible to northern students. The overall goal of the University of the Arctic is to create a strong, sustainable circumpolar region by empowering northerners and northern communities through education and shared knowledge. It was officially launched in 2001 and now, three years later, has 71 member institutions and organizations.

The Northern Research Forum has as one of its main objectives to enlist the participation of university students in discussions on northern issues, problems and opportunities. In particular, they serve as rapporteurs at open meetings, where they also take part in policy relevant discussions among the more senior members of the research community and a wide range of other northern stakeholders. The majority of students associated with or enrolled at University of the Arctic member institutions are also attracted to the Northern Research Forum. While it is affiliated with the University of the Arctic, the Northern Research Forum has its own, independent governance structure. (See also Chapter 12. Circumpolar International Relations and Geopolitics).

The University of the Arctic and the Northern Research Forum function as spaces for institutional processes to further the political and environmental work of the Arctic Council. In the past there were various initiatives that brought together specific educational/scientific communities (e.g. the International Polar Year). None of these initiatives, however, created a popular base of support or permanent institutions. The University of the Arctic offers the promise of post-secondary education based on information communication technology, “a university without walls,” as well as mobility programs to facilitate northern student and faculty exchanges.

A particular feature of the University of the Arctic is the inclusion of indigenous peoples in its governance structure. For example, the Arctic Athabaskan Council, the Russian Association of Indigenous Peoples of the North (RAIPON), and Gwich’in Council International are member institutions of the Council of the University of the Arctic, and the Inuit Circumpolar Conference, Saami Council, and others have worked at various levels to help develop the university. Moreover, there is an Indigenous Issues Standing Committee that was established to promote indigenous input to programs and projects and which has identified a need to coordinate northern indigenous views in the development of the University of the Arctic. The Indigenous Issues Standing Committee, like the University itself, is relatively new and is struggling to establish itself as a coordination mechanism. The goal of the committee is to assist indigenous educational capacity in the university and to increase northerners’ activities on indigenous issues.

Many indigenous organizations see the potential of the University of the Arctic as an institution in which they may positively influence northern research and education. The opportunity to shape and develop the curriculum exists, as well as possibilities for the inclusion of traditional knowledge holders in teaching. This possibility would embody a major shift from professional academic atmosphere to a more open classroom, which respects different styles and norms of knowing and teaching. The inclusion of traditional knowledge holders on the roster of “Arctic Professors” and “experts”, as well as recognizing the expertise of traditional knowledge holders with honorary PhDs, is the goal of members of the committee.

There have been and continue to be a host of organizations and institutions that enhance or play a role in higher education in the circumpolar North, for example the International Arctic Science Committee (IASC) and the International Arctic Social Sciences Association (IASSA). There are institutions, precursors of the Arctic Council, which share a concern for improved education in the North, such as the Conference and Standing Committee of Parliamentarians of the Arctic Region and the Canadian Polar Commission. Event-oriented initiatives, such as the International Polar Year (IPY) and the International Committee on Arctic Research Planning (ICARP), have also devoted attention to education and research issues. A plethora of funding agencies has specific mandates to increase research and post-secondary education in the circumpolar North. Future research could analyze the linkages, and lack thereof, of these initiatives, especially how they coordinate and focus post-secondary education opportunities in the North.
Theme summary

Access to higher education has increased in the Arctic over the past 30 years, with new universities being established in northern regions, various initiatives for circumpolar cooperation, and increased use of distance education. This access is still very uneven, however, and in many parts of the Arctic there are few or no opportunities for post-secondary education within the region (e.g. in parts of Canada, Siberia, and the Russian Far East). With the burgeoning of circumpolar initiatives in higher education and research, there is a need to look further into how they link, or could link, to each other.

Conclusions and gaps in knowledge

In this chapter we have identified and discussed three themes that resonate in schools around the circumpolar North. We have shown that indigenous and minority cultures are a major consideration when discussing education, as these peoples are adding to the reform of education. Education, as we have shown, can also continue to contribute to standardization and cultural loss. One cause for this may be the process of “difference blindness” that has led to the loss of many rare languages and important elements of indigenous cultures. Education can also be a significant tool for renewal and we have shown that education is performing a significant role in northern revival and development.

Education statistics are not readily available for the circumpolar North. In some jurisdictions these numbers are collected; however, they are not collected the same way in each of the jurisdictions of the circumpolar North. We believe it is very important to know the total number of possible students by grade category, total numbers of students enrolled, and the total numbers of students graduating at different levels in the education system. It would be useful if we had a breakdown of these numbers by indigenous and non-indigenous populations as well as by gender. Such statistics could be used to establish a baseline for evaluation of circumpolar educational trends.

Further statistics that would be instructive to future assessments of education in the Arctic would be: distances students have to travel to school each day by grade; faculty educational levels and place of origin; years of teaching/school; teacher-student classroom ratios; support to schools; costs to deliver programs, etc. Income levels, employment levels, types of employment and other such indicators also need to be developed and used to understand education. But these measures must be tempered, as they tend to ignore and negate traditional economies and cultural practices. Control of one’s own destiny, cultural continuity, and contact with nature are elements that could be measured by indigenous languages spoken in schools. We need to look at school instruction using cultural practices, as well as activities outside formal school settings. There needs to be more research to determine what these tempering measures might be and if they can be used on a circumpolar basis. Too often generalization produces results that mean very little, so there has to be special consideration for the local when searching for pan-Arctic indicators. Also, comparisons across jurisdictions will be meaningless if we do not account for variations within each country.

Finally, another research area is the question of northerners as producers of knowledge. At present, there are no statistics for the publication of northern books or books about the North. All areas of knowledge production must be considered.

Chapter summary

The trends for education discussed in this chapter demonstrate that the most critical concerns are for control, relevance, and access to education. The three concerns are directly impacted by the acknowledgement of distributed knowledge and the need to adapt education services to fit local needs and conditions. They are set against a legacy where western values have been given priority in the view of knowledge over indigenous ways of knowing. The shift from viewing knowledge as a standardized commodity to seeing it as a distributed resource has lead to pressures for decentralization of control and decision making, local adaptations of curriculum, and increased use of technology to access knowledge from any place at any time (i.e. University of the Arctic).
References

1. Little has been published; however a very good example of comparative circumpolar education research is: F. Darnell, A. Hoem, *Taken to Extremes: Education in the Far North* (Scandinavian Univ. Press, Oslo, 1996).


15. The following discussion is based on data from an ongoing study supported by the Research Council of Norway (Hovdenak 2001 (16), 2004 (56) and a national evaluation of “Reform 97” by Haug 2003 (18).


17. Later on this study was broadened to include 149 students from eight schools; the previous conclusions were supported: Hovdenak 2004 (56).


19. The Protocol was signed by the Canadian provinces of Manitoba, Saskatchewan, Alberta, and the territories of Yukon, Northwest Territories, Nunavut (www.wncp.ca).


21. A student in Carcross, Yukon, will receive the same education in grade 11 chemistry as they would if they were in Sachs Harbour, Northwest Territories, even though the student in Carcross follows the BC curriculum and the student in Sachs Harbour follows Alberta’s curriculum.


26. GNWT, Department of Education, Culture and Employment received funding from the federal government through the Aboriginal Language Enhancement program (1984), and organized an Inuit Subject Advisory Committee to work on Inuit curriculum. By 1992, the Inuit Subject Advisory Committee was formed.


31. SCG 97: 60 “The Saami school contains the knowledge, traditions and values that coheres the Saami community and upon which the general knowledge is based.”


38. Total population was 16,828.

39. Total number of students was 2,284.


45. Lauhamaa 2003 (39).

46. A. Balto, Sámi mánnáid bajasgeassin nuppástavvá (Ad Notam Gyldendal, Oslo 1997).


54. Declaration of Ministers of Education and Science of the Arctic Council Member States, Reykjavik, 9 June 2004; http://eng.menntamala.raduneyti.is/media/mrn-enski/Arctic_council_member_states06_2004.doc


Understanding the prevailing power relations is instrumental in making sense of human development in the Arctic. This includes power relations between women and men. However, any discussion of power relations and gender roles must also recognize the social and cultural diversity across the circumpolar North and the fact that many different perspectives can be applied when analyzing these roles.

Some of the authors in this chapter emphasize that the traditional relationships between women, men, children and the land have been paramount for life in the harsh conditions of the North. The gender roles displayed in many Arctic regions are therefore seen as complementary rather than opposing. There may indeed be a commonality of this experience across the Arctic that transcends both culture and nationality.

However, western values, attitudes, structures and regulations were imported from southern societies following the introduction of the large-scale nation state. The paternalistic male bias inherent in these values and structures led policymakers and administrators with little knowledge of the societies they were working with to defer to males when assigning decision-making positions. Increased understanding of situated and traditional knowledge can make us aware of what we are losing by adopting gender roles from other cultural landscapes. Introducing western feminist critique may even be perceived as yet another vestige of post-colonialism. It is seen as more relevant to discuss gender equality in terms of tradition, justice, values, and democratization.

Other authors emphasize issues that have long been reflected in the feminist agenda, including western, non-western and indigenous feminist perspectives. This includes analyses of women’s representation in formal decision-making bodies and a discussion of gendered violences.

In light of the diverse perspectives on the significance of gender and culture in designing power structures in the Arctic, this chapter provides a starting place for further dialogue on gender issues in the Arctic. It is a collection of varying views of gender and culture as a basis for describing Arctic societies. The themes range from a critique of western feminism as contrary to indigenous views and realities, through the importance of acknowledging indigenous men’s disenfranchisement, to using the concept of human security as a way of thinking about female out-migration and gendered violences. They also include discussions about women’s involvement and representation in political life and natural resource management.

The objective of the chapter is not to present a comprehensive assessment of gender issues in the Arctic. In Arctic research, gender is still an emerging topic, and there is not a fully developed body of literature available for assessment. Therefore, the chapter is more of an exploratory scoping exercise. The aim is to operate as a catalyst for future analysis of how shifting gender roles affect human development in the North.

**Gender and equity, the Arctic way**

**Karla Jessen Williamson**

“Kaaleralanngortartoq, Makkanngortartoq” was one of the chanting songs I received from one of our close family friends during my childhood in Greenland. This translates to “that person who alternates Karl and Magrethe.” I have many baptismal names, and the first ones were Karla and Magrethe, but this friend labelled the male and female in me at the same time. This always caused me some puzzlement as a grow-
ing girl. This contribution examines gender equity in the Arctic and argues that it requires an approach that differs from the western feminist discussion.

The term “Arctic” evokes for many southerners thoughts of ordeals and the idea that those traveling to the area must be seeking a test of bravery. That such a perception has arisen makes good sense, considering that visitors to the Arctic from the south have been largely male. Arctic “exploration” in search of minerals and the Northwest Passage, fur-trading, whaling, mining, and military activities were mostly achieved by men without their women-folk (1). It was only relatively recently that southern women came to the Arctic, some to stay and many others as transient workers in the governmental structures.

The particular perception of the Arctic being a male world is also compounded by the fact that most of the Arctic peoples’ lives depended on hunting, trapping, and husbandry of reindeer. Most literature on peoples of the Arctic was written by males whose writings have yet to be analyzed through non-patriarchal and non-colonial frames of perception. The strong male bias about the Arctic has led into a situation where relatively little is known about Arctic women’s roles. There is little appreciation of women’s capacity to contribute to decision making around hunting, or of their roles in the hunting economy, including group membership and location, and spiritual relationships (2-4).

While one can lament the negligence and the lack of knowledge about Arctic women typical of earlier generations, there remains much to be celebrated in the real achievements of Arctic women (5). Among indigenous populations, the Arctic is home for at least as many women as men. Have they had less say than their men in, for example, how life should be ordered and enjoyed, where one should hunt, how food should be distributed, or how to thank the forces of life for the good and rewarding life in the Arctic?

Southern women have also asked such questions over the years, and since the early inception of feminism, many different groups have embraced the idea of equality and developed further thoughts on how to achieve a more egalitarian society. These new ideas may be seen, for example, in “eco-feminism.” Such groups as the socialist feminists, radical feminists, and liberal feminists speak to different priorities and different means by which different inequities can be addressed.

How has this process of social change affected Arctic women? Many feminists whom I have talked to take it for granted that Arctic women experienced the same devaluation as the southerner women did, and many assume that Arctic women experienced even more devaluation due to colonization. This perception is compounded by the perception that the Arctic is a male-preferential world and that Arctic women therefore must suffer doubly under male dominance as compared to women in the south.

Some of these perceptions may hold some truth, depending on how different people look at Arctic societies. But there are also other realities. Lekhanova (6) is a Russian northerner who writes: “In northern families the women – the mother and particularly the grandmother – had an indisputable authority. It is not by chance that in the folklore of all the Arctic peoples, maternity and femininity prevail … women and men had equal rights … gender balance prevailed.” On the other side of the circumpolar range, Hansen in Canada (7) writes: “In my early years, my mother was the anchor for our family. She taught me that strong families build strong leaders.” In my own field research in Greenland, I found that many of the women and men I interviewed never had the perception that their own women-folk had lost their status in their own societies, in present times or historically. Individual women carry out their daily activities without thought of their activities being deemed less or more important than others. Women are valued as real human beings, making their contribution as real men do.

Socio-culturally speaking, indigenous Arctic women seem not to have experienced loss of importance in the family setting to the same degree as their southern sisters, or indeed by comparison with their men-folk. In fact, in writings about equity issues in the Arctic, the notion that each human being is valued in much the same way is rather common. As Lekhanova writes (6): “Every human being in the Arctic community is a worthy individual as such holding his or her rights.” These points speak to a deep sense of genderlessness, with every person seen primarily as a human being rather than being identified by characteristics of sex. Naming traditions provide another example.

Among the Inuit, the traditional names are given to each person regardless of gender. The names are androgynous and carry with them the
spirited and renewable source of life, which has its own autonomous power. Females and males may carry the same name. Many indigenous languages around the world are structured in a way that does not divide human beings between male and female. Instead, they are both “it” – this indicates equal validity, particularly in the case of those cultures that invest spiritual power in the name and require respect for the soul denoted by the name. This non-gendered terminology equates all with other creations in the world, both physically and metaphysically (8). Intellectually, women enjoyed sharing their knowledge for the communities’ well-being, and good wisdom was never divisible between gender. The traditional egalitarian approach among Arctic societies speaks to a humanistic or individualistic approach to holding power instead of emphasizing one gender over another. It is in this context that “Kaaleralanngortartoq Makkannngortartoq” can best be understood.

It is perhaps on the basis of the above that no single model of marriage can be found in the indigenous Arctic communities. Much like Koukarenko (9), my own research shows that Arctic couples practice matriarchal, patriarchal or even other models, depending on their situations. These arrangements are negotiated among couples, and these realities are most likely much older than the historical accounts. Today, one might find among younger couples a situation where a mother holds a job outside the home while the husband is the homemaker with three or four children at home. These arrangements largely depend on the individual circumstances and the individual personalities involved.

These observations demonstrate that gender equality issues have to be understood from a uniquely Arctic perspective, different from the typical idea of power imbalance between males and females. Insisting on introducing southern styles of equity issues to the Arctic peoples will only reinforce colonial attitudes. For indigenous populations the colonial systems have already had a devastating effect on areas such as language, religion, and management of resources, among others. Families have been divided where children have been removed from their families in the name of education. At this point, Arctic families need to recover from various levels of alienation. Land-claim settlements negotiated with the governments create tension rather than emphasizing the need to live in the Arctic regions symbiotically. Generally speaking, the expected tensions between men and women in the Arctic need to be understood differently, and gender issues in light of the aforementioned obstacles appear absolutely miniscule.

The experience of Arctic indigenous women in relation to feminism may at times be reminiscent of other non-western cultural groups who live within western societies. Macionis and Plummer (10) assert that “[w]hite feminism is often critical of the family, and subordination of women within it.” But, as one can see, indigenous Arctic women enjoy a high status when creating lives. The birth of children is seen as a fundamental renewal of life and energy and a continuity of an old tradition closely related to the beginnings of all lives. Muslim and Afro-Caribbean women, whose lives are often circumscribed by the family, according to Macionis and Plummer (11), may have experiences in relation to their womanhood and their social status more similar to that of the Arctic indigenous groups than that of southern feminists. According to the two authors, there is a significant debate between African-American and Euro-American women, as the first group “sometimes feel they have become the [manipulated] objects of white feminism” (10). Interestingly, Ackerman’s (12) statement on Colville reservation women rings quite true for Arctic indigenous women that “women are not accorded a lower status because child-bearing, child-rearing, and lactating functions, but rather are honored by men for these contributions.”

In summary, southern perceptions of the North are not always useful or accurate in understanding gender relations in the Arctic. Unlike western feminist perspectives, much of the oppression and inequality in the Arctic has more to do with the colonial and paternalistic practices of southern powers than inequality between men and women. Most indigenous women in the Arctic have not experienced the same degradation of human worth as in the western world, and the same question Lillian Ackerman (13) asked about the Colville Indian Reservation in United States could be asked about the Arctic indigenous women: “Why has female status been reduced in other parts of the country and the world by colonialism and capitalism and yet escaped that fate on the Colville Reservation and, in fact, in the entire Plateau Culture Area?”

Arctic indigenous women have experienced equal status but have also gone beyond that; for
example, many are emerging as leaders for their peoples. Instead, it may be that men have a disadvantage in some Arctic societies. This is explored in the next section.

Do Arctic men and women experience life differently?

Karla Jessen Williamson

One of my Cree friends in Saskatchewan once asked me why the Cree and Inuit seem to have strongly delineated work along gender lines in their daily lives. She was asking me knowing that such practices may seem “old-fashioned” to some and may appear discriminatory in light of present-day couple arrangements. As good friends we had long conversations, comparing and contrasting the Inuit and the Cree from historical times to the present and in relation to spiritual realities and other situations. Little did we realize how steeped our conversations were in a scholarly discourse on gender construction across cultures and time. Indeed, according to the editors of “Many Faces of Gender” (14), gender “is not just about sex roles but about relationships…it is about complex interpersonal interactions rather than two-dimensional dichotomous stick-figure people.” The authors’ statement applies very directly to the analysis of how men and women experience life in the Arctic, which is rarely rigidly dyadic.

Some of how Arctic men and women experience life differently can be analyzed through the tasks that men and women do both inside the house and outside. In my own studies in Greenland, some of my informants thought that the fact that so many people today live in apartments surely contributed to the loss of human value – particularly for men. The particular interviewee compared his own ownership of the family house where he continues to enjoy healthy esteem by looking after the outside of the house to be enviable to men who have no say or responsibility in apartment living. In his estimate these men lost their role and their ability to exchange their manhood duties for all what their womenfolk offer. Certainly much of men’s and women’s lives can also be analyzed through the kinds of jobs they hold in society, and how the values attributed to those jobs have changed. However, for the sake of brevity, this contribution focuses on a few indicators: unemployment, suicide, criminality, and life expectancy as a way to depict differences in female and male lives.

Figure 1 shows that in the year 2002 men in Greenland, Alaska, the United States, and Iceland had a higher rate of unemployment than women.

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenland</td>
<td>6.8</td>
<td>5.9</td>
<td>6.8</td>
</tr>
<tr>
<td>Iceland</td>
<td>3.6</td>
<td>2.9</td>
<td>3.3</td>
</tr>
<tr>
<td>Alaska</td>
<td>8.7</td>
<td>6.5</td>
<td>7.7</td>
</tr>
<tr>
<td>United States</td>
<td>5.9</td>
<td>5.6</td>
<td>5.7</td>
</tr>
</tbody>
</table>

1 Greenland in Figures, Statistics Greenland; www.statagreen.gl
2 Labour Market Statistics on the web, Hgatofa Islands; www.hgatofa.is

Figures 2 and 3 indicate gender specific suicide rates. Suicide in the Arctic is not myth. The gender differences in suicide rates in the Arctic, especially the number of young males committing suicide, simply cries out for action. Although it seems that the suicide rate is especially relative to gender and age, suicide is much more prevalent among Inuit men and women than among any other cultural groups in the Arctic. Young men up until 24 years of age seem much more directly affected by this phenomenon. The statistics for suicide rates in the Nordic countries are not disaggregated by cultural group making it difficult to ascertain if cultural factors play any role there. Even if men are more likely to commit suicide, statistics from Alaska raise a note of caution on how to interpret the data. In Alaska, while four times as many males as females commit suicide, females attempt suicide four times more often than men and report higher rates of depression. Alaskan males are 80% more likely (35.8 vs. 19.99 per 100,000) and Alaskan females are twice as likely (8.7 vs. 4.4 per 100,000) as their peers nationwide to commit suicide.” (15)

In the broadest societal context, the strikingly high suicide rate in most northern areas may suggest – along with extreme housing problems and substance abuse – some correlation with unemployment figures. The kinds of jobs available and the predominantly male attitudinal control over work force deployment by gender is
probably also significant. I also suspect that the devaluation of men’s traditional role in the Arctic plays a tremendous part and this needs to be addressed on both the individual and the societal level.

Incarceration rates along gender lines were only available from the Alaskan Department of Corrections. Here 93% of the incarcerated are men and only 7% women. This picture fits well with international statistics and is not unique for the Arctic (16). Nevertheless, it tells a story of differences in men’s and women’s lives and I expect that the Alaskan experience would have great similarities with other nations across the Arctic.

Life expectancy also shows a variation across gender (see Figure 4). This is not too different from any other developed nations (17) where men can expect to have shorter lives than women. However, Russian men live on average much shorter lives than any other group. The Greenland population can expect to live on average 10 years less than their ex-colonial counterparts in Denmark. Interestingly, the Faroese population has a longer life expectancy than the Danes.

<table>
<thead>
<tr>
<th>Country</th>
<th>Men</th>
<th>Women</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Russian Federation (1998)</td>
<td>61.4</td>
<td>73.3</td>
<td>11.9</td>
</tr>
<tr>
<td>Finland (2001)</td>
<td>74.6</td>
<td>81.5</td>
<td>6.9</td>
</tr>
<tr>
<td>Faroe Islands (1996-2000)</td>
<td>75.2</td>
<td>81.4</td>
<td>6.2</td>
</tr>
<tr>
<td>Greenland (2002)</td>
<td>62.8</td>
<td>67.8</td>
<td>5</td>
</tr>
<tr>
<td>Denmark (1998)</td>
<td>73.9</td>
<td>78.8</td>
<td>4.9</td>
</tr>
<tr>
<td>Iceland (2000-2002)</td>
<td>78.2</td>
<td>82.2</td>
<td>4</td>
</tr>
<tr>
<td>Arctic Canada (1998)</td>
<td>67</td>
<td>72</td>
<td>5</td>
</tr>
<tr>
<td>Canada (1999)</td>
<td>76.3</td>
<td>81.7</td>
<td>5.4</td>
</tr>
</tbody>
</table>


These statistical snapshots indicate that the welfare of Arctic men is much more jeopardized and at risk than that of women. This is in contrast to the assumptions of feminist discourse on gender issues. Enfranchisement was the very tool for early feminists and rightfully so. In the Arctic, modern development is, in fact, systematically disenfranchising Arctic men. Gender equality discourse needs to concentrate now more on Arctic men. In light of the suicide and incarceration rates, actions need to be real and immediate.

**Women’s migration from and in the Arctic**

Gunhild Hoegensen, Ann Therese Lotherington, Lawrence C. Hamilton, Sarah Savage, Natalia Koukarenko and Marina Kalinina

A sense of place and home is crucial to human security (see box on page 192 for further detail on the concept of human security). This includes not only the lodgings available, but also the surrounding services and community that either supports or does not support a person’s needs, sense of well-being, and overall security. The movements of people, or migration, as individuals or as groups can provide an indication of the sense of security people feel in given spaces at given times. Whether migration is voluntary or involuntary, it speaks to the sense of security or insecurity felt in the place that is left, and the expected security in the place of destination.

A pattern of disproportionate out-migration by young adult females has been observed in a number of northern regions including Alaska,
Greenland, the Faroe Islands, Iceland, Norway, Newfoundland, and Russia (22-27). Where it occurs, such out-migration results in an excess of young adult males among the locally born population, particularly in smaller and more remote places. One statistical footprint of “female flight” is a positive correlation between the percent female and the total community population. Figure 5 illustrates with data from Alaska. Here, sex ratios range from 113 men per 100 women in smaller villages (1–999 people), to only 73 men per 100 women in cities (10,000 or more people). High mortality rates afflict males, but adult female out-migration apparently more than offsets this, leaving young adult through middle-aged males predominant in many villages (28).

Such patterns are by no means inevitable, or universal, but they seem to occur widely across different cultural, economic, historical and governmental regimes in the contemporary North. In Arctic Norway, in Saami as well as non-Saami communities, this is the trend, and this “woman-deficit” in the rural areas has been a driving force in policy development over a period of 20 years (29).

Marriage to outsiders plays a significant and under-studied role in northern out-migration. Locally-born women in many places are more likely to marry outsider men – often men who moved North, at least temporarily, for jobs in construction, resource and service-sector fields – than the reverse, local men marrying outsider women due to gender based patterns of mobility. Men from non-Arctic areas have, to a much larger degree than women, visited the Arctic regions, whether for military reasons or for natural resource exploitation. On the other hand, women from the Arctic tend to leave their birthplace more often than men for educational purposes. These gendered mobility processes expand the marriage market for women. Marriage to an outsider makes it both easier and more likely that someone will eventually move away, or not move back after graduation. Most women move to more urban areas in their home country but an increasing number of women, especially from Russia, find a life partner from another country, and move to his domicile. Mobility in the Arctic is thus both within and out of the area.

**Why?**

The motivation for female flight appears to be a complex of individual and structural push and pull factors, which disproportionately influence young women to choose town or city life over small villages (26, 29-34). These factors include the differential attractiveness of traditional, rural gender roles for men and women, as compared with their alternatives in the city, and major structural changes in primary traditional industries such as fisheries, herding or farming. Substantial downsizing of these industries makes women’s traditional roles redundant (35). What remains of the traditional lifestyle appears as a better choice, in some respects, for rural men than for rural women, and men remain in what’s left of the traditional industries. As these industries do not provide enough income for the survival of a household, women

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**Table:**

<table>
<thead>
<tr>
<th>Total population of place</th>
<th>Native males</th>
<th>Native females</th>
<th>Males per 100 females</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–999</td>
<td>6,071</td>
<td>5,389</td>
<td>113</td>
</tr>
<tr>
<td>999–9,999</td>
<td>3,587</td>
<td>3,456</td>
<td>104</td>
</tr>
<tr>
<td>10,000 or more</td>
<td>3,364</td>
<td>4,364</td>
<td>73</td>
</tr>
<tr>
<td><strong>All</strong></td>
<td><strong>13,022</strong></td>
<td><strong>13,479</strong></td>
<td><strong>97</strong></td>
</tr>
</tbody>
</table>

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*Human security and gender*

In 1994, the UNDP Human Development Report (18) chose as its focus the concept of “human security” indicating that security is integral to human development and, in an expanded definition, can be largely associated with human well-being. Human security was generally defined as “freedom from fear, and freedom from want”, and was further identified with seven broad categories of security: economic, food, health, environmental, personal, community, and political. Human security thus refers to the dynamic process through which basic material needs are met, while concurrently securing and realizing human digni-ty (19-20). The concept of human security coincides with much of feminist literature on what it means to be secure (21). Both the human security literature and gender literature argue that security is integral to who human beings are, and how they are allowed to develop and improve their well-being. Gender studies have argued that communities, states, men, women, and the environment are interconnected, and the security of one depends upon the securities of the rest. Security is not merely the avoidance of threats in these instances, but enabling and positive. To be secure means to feel secure, to feel enabled.
have to work in paying jobs (36). Some get these kinds of jobs locally, e.g. in the health care sector, at schools, in municipal administration. Others do not, and they tend to move out and seek higher education. Disproportionate numbers of women consequently go on for advanced education, which is more available in larger communities (36). Education tends to prepare them for more urban types of jobs, increasing both the attraction of cities, and the likelihood that an individual can successfully adapt to life there. Hub towns and cities also have relatively diverse secondary and tertiary economies, which open economic opportunities for women that cannot be found in small villages.

For Russian women, the situation is somewhat different, and more critical. Major political changes over the last 15 years have caused a deterioration in living conditions for the population in general but for women, and single mothers, in particular. The economic problems in the 1990s caused a reduction of employment opportunities, and women with family responsibilities were affected most. The paternalistic, “protective” ideology of the Soviet State resulted in women being regarded as unprofitable employees who became “a burden” for enterprises due to various entitlements and privileges. In the media, the image of women was more and more exploited within the domestic domain. The only positive representation of a woman was that of a good caring wife or mother. Thus the transformation period for women in Russia turned out to be a patriarchal renaissance. The opportunities for moving away from the deteriorating regions are limited but quite a few women do move, inter alia as a result of cross border marriages. More than 40% of women queried, in a study in the Arkhangelsk region, however, said they would leave the region if they had the means and opportunity.

Consequences

There are positive as well as negative aspects regarding women’s out-migration and desire for moving. For the individual woman, a move may open up new windows of opportunity, and increase freedom of choice. On the other hand, she may lose her close relations to place and culture, and may experience change of identity. The women who remain may also experience new windows of opportunity, because their presence becomes more highly valued. They may become more actively engaged in societal and political development in order to improve the situation in the local community. However, increased poverty is also a possible consequence of remaining. Out-migration has clear linkages to economic (in)securities experienced by many women, especially in areas where resource extraction industries, such as oil, gas, and mining, are prominent. These jobs offer some of the highest average earnings, but the vast majority of employees are male. Higher rates of female employment occur within the care-giving, education, and/or social services sectors. In many Arctic regions, economic cutbacks by national governments have often had a negative impact on rural and remote locations, reducing the standard of living and the quality of life in these areas through limited employment opportunities, low wage levels, and underdeveloped social services (37). Not only is access to services therefore limited for these women, but also sources of employment. Self-employment is often the only recourse for women living in remote areas, creating great insecurity if this employment is fundamental to a family or group of people dependent upon her income.

For men, the out-migration of women means that they are left with the opportunity to continue doing what they have always appreciated doing, maintaining their cultural and masculine identity. On the other hand, the experience of many is that they are not able to find women to share their lives with, or at least that they do not find women with the same cultural background as them and an understanding of the importance of their lifestyle. If that happens, they may also have identity problems to work on. We also see that men who are not in, or for some reason are excluded from the traditional industries of herding, hunting and fishing, become unemployed and stay unemployed due to the lack of new employment opportunities.

At the structural level, one may see the traditional industries become more economically and ecologically sustainable because fewer people are taking part in them. This could develop in a sound way whilst the cultures and knowledge are maintained, as long as men do the traditional work and women bring in the necessary cash (36).

In areas of depopulation and significant out-migration of women, there is justified worry about community stagnation due to lack of reproduction. We have also seen the development of “bachelor cultures” as a result of men’s
need for sustaining certain aspects of masculine identity.

The cross-cultural and even cross-border marriages may thus cause new societal dynamics and developments in the rural areas. This may, however, also be considered negative from a cultural heritage point of view, as women are often important for the transfer of cultural knowledge between generations.

A closer look at a rural community in northern Norway can illustrate some of the challenges that contribute to the out-migration of women, but also some opportunities that could help change the trend.

**Focus on Nordland, Norway (38)**

*Ingunn Limstrand and Marit Stemland (39)*

An analysis of the situation in the small community of Steigen, Nordland, shows a society with problems. Traditionally a fisherman-farmer community, Steigen with its 3,000 inhabitants faces the same challenges as many other small rural societies. Population and birth rates decline, and changes in the work force, production modes, and education patterns highlight a need for economic and political transformation. Specifically, men and women in the demographically very important 20-39 age group move to the towns and educational centers, and not all move back to where they came from or indeed seek the life offered there.

Strategies for rural development in Norway have traditionally focused on (low-level) blue-collar work and work that does not demand higher levels of education. Modernity, however, has introduced better telecommunications and infrastructure as well as a wider geographical distribution of social relations and of media, making it possible for people to stay in touch and connected independent of distance and location. Also, the dependency on primary resources in rural areas is lessened.

Some political strategies for rural development have focused on women. In the 1980s and early ‘90s, the strategy was to use affirmative action to give women the same opportunities as men. Focus was mainly on entrepreneurial training and job-creation, not on increasing formal competence. This strategy has been criticized because women were used to fulfill a pre-defined strategy, and were not given real influence in defining the content of the policy and the development (29). From the late 1990s, the ideals of gender mainstreaming and integration have dominated the picture. Strategies today are based on a gender perspective, and to a certain extent take into account a need for more formal capacity building, for decentralized education systems, and flexible models. However, in rural areas this strategy has been difficult to implement as the mainstreaming models maintain the imbalance in development between center and periphery. Rural development policy remains therefore an “in-spite-of” strategy to reduce the consequences of the mainstreaming strategy. As an alternative, we would like to suggest a focus on education.

Traditionally, settlement in the rural areas has been located where natural resources were available. In coastal areas like Steigen, fisheries and small-scale farming formed the basis for settlement. Exploitation of natural resources and to a certain extent subsistence economy did not require high academic or formal competence. In more recent generations, an increasing number of young people – many from rural areas – have sought higher education. These areas have not had a need for skilled labor, something that has led to a situation where rural areas find they are exporting youth out of the region. The young people who choose not to seek higher education remain in the local community, while those leaving to get more education never come back. This has created a view of “educating oneself away from the rural areas.” From this perspective, knowledge and education become a threat to the periphery.

As for the gender situation, jobs in resource-based industries have to a large extent become male professions, with women’s work being made “invisible” or given lower status. A typical example is that of fisheries. Today, the jobs that the local community can offer young women are mainly in health care services, schools, and public administration. But many young women have other educational plans and wishes for their lives. One illustration of this is the fact that municipalities in Nordland that have schools and university colleges also have more young women than men. In sum, the concept of educating oneself away from the rural areas is even more true for young women.

If the rural areas are to be sustainable societies, the economic, social and political situation in the rural areas needs readjustment and development. Readjustment is competence-intensive. With a higher level of education, both the society and the individuals will be more flexible. Flexibility means people will be more able to adjust to changes, for example in the market.
Also, as individuals they will be more able to influence the direction of these readjustments.

Quite a few young and highly educated people look to the periphery for a place to settle and develop what they see as “a good life.” The current generation seeks a diversity of job opportunities, a varied cultural life and a tolerance of different attitudes. Should they choose to settle in a small community, they still demand the right and possibility to be citizens of the world. This is a great challenge to a small-scale community, which traditionally has had the image of conformity, in the sense that most of the citizens have had the same background, and have worked in similar trades. From our point of view it is crucial to find a strategy to develop modern and inclusive societies in the periphery.

Gendered violences

Gunhild Hoogensen

Gendered violences are part of the broader issue of human security and gender (see box on page 192). In many gender analyses of security, it is made clear that articulations of what it means to be secure or insecure must also include personal, non-state levels of security (40-45). Biases towards state-based and militaristic notions are thereby reduced if not eliminated, and there is a recognition that security is not complete if not addressed at a variety of levels. This approach illuminates the interconnectedness of structure and agency, that one insecurity (such as violence) cannot be divorced in a categorical and masculinist fashion from other securities/insecurities, or from structural influences. This is well demonstrated when examining violences and the ways in which they arise and are subsequently handled.

The notion of violences has been recognized in gender analyses as a number of various, subtle, and nuanced manifestations, from “institutions that ‘beat your essence’ to a war that would blow your world apart” (46). These are often located in identity, such as gender and race (20, 46) and are often conditioned and created by social arrangements “that obstruct human development” and are therefore structural (47).

Gendered violences research in the Arctic context is still emerging as a field, but what has been accomplished to date demonstrates clearly that the collection and compilation of data (including structural and security data) cannot be divorced from gender analysis. They function simultaneously and thus go hand in hand. Statistics on gender violences must therefore be accompanied by a discussion of what these mean in the gendered context, both to understand what is happening and in moving towards solutions. This is exemplified by the approach taken in the “Taking Wing Conference Report” based on the Conference on Gender Equality and Women in the Arctic (3–6 August 2002). The section on violence against women addresses a wide range of violences, including spouse-beating, structural impediments, and access to proper health and economic services (37). Winberg notes that the patriarchal structure impacts other societal structures, such as racial, social and economic ones, thereby creating economic and personal insecurities by increasing the vulnerability of women, in particular through reduced power, access to resources, wages, and personal safety, as well as increasing discrimination on the basis of gender and race (48). Masculinist and patriarchal structural impacts on women and men of the Arctic take the form of prostitution and human trafficking (48-49) and also domestic violences, ranging from beatings to murder, and sexual and emotional abuse such as deprivation, shaming and stalking (50). It includes limited access to resources and health care services addressing gendered violences (50), as well as community and social censorship of discussions about such topics as spouse-beating, murder and incest. (51-52). Kailo provides an analysis of violences created by the globalizing and “othering” forces that dominate the Arctic through economic inequalities and imposed economic and social structures, which are not reflective of the needs and identities of the peoples of the Arctic. She notes the “near-legitimation” of male violence against women, and the conditioning of men towards violent, gendered behavior (53). This theme is also mirrored in other works, such as those by Sørensen, who notes that in Nuuk, Greenland, men’s violence towards women is often met with indifference or dismissal (54). This kind of indifference, particularly towards indigenous women, occurs both within and outside of indigenous communities as demonstrated by a recent Amnesty International report on the high rates of violence against indigenous women in Canada, claiming that both racial and patriarchal structures ensure that the deaths of hundreds of women remain unheard of and unsolved (55).

Gendered violences are not restricted to men’s violence against women, however.
Security and insecurity concerning identity, particularly within indigenous communities, have been shown to play a role in the development of violence (54, 56-60). Economic, identity, and personal insecurities intertwine to create a climate whereby a person's own coping strategies no longer suffice to combat these insecurities. For example, rates of suicide among indigenous peoples have been recorded at levels three to five times higher than within the non-indigenous populations, and although women attempt suicide more often, men are more effective in actually committing suicide (59).

Both quantitative and qualitative work still need to be done to examine more effectively and deeply the problems of gendered violence in the Arctic context. Resources are still limited, making such research logistically problematic as demonstrated by Amnesty International's own admission that they lack the resources to examine the structural and direct violence waged against women in the Arctic. The Taking Wing conference report provides a very good introduction to this research, however. And with analysis and data, action can be taken, such as that taken by the Swedish Government to curb the rapid expansion of the prostitution industry. By focusing efforts on criminalizing the men who are purchasing sexual services rather than the women providing them, Sweden has responded to the unequal power dynamics inherent within patriarchal structures and the insecurities caused by them.

**Political representation**

This section examines women's political voice by highlighting their representation in formal decision-making bodies. By focusing on the Archangelsk region in Russia and the Canadian North and with some reference to the Saami Parliaments and Greenland, it illustrates that there are still few women at the higher levels of politics, sometimes in spite of well-documented active involvement at the local level. Two other contributions bring attention to the need to look at women's participation in decisions on particular issues that are important in the Arctic, such as resource management and contaminant politics.

**Focus on the Arkhangelsk Region, Russia**

Natalia Koukarenko and Marina Kalinina

Women in the Arkhangelsk Region of Russia were traditionally strong, independent, and free. While men were out on sea to fish or to hunt, or to trade for long periods, women were
the heads (starostas) responsible for all decision making in the localities. When the men came back home, they had to accept all the decisions. In the 19th century, there was a higher rate of female literacy in Arkhangelsk than in Russia as a whole. In 1860, 3,619 northern women had their own enterprises and almost 17% of all sea industries were under the control of women.

During the Soviet period, women’s roles changed drastically. The young Soviet government granted Soviet women all political and civil rights, and the progressive legislation improved the position of many lower-class women (71-72). A 30% quota on women’s representation on all levels of politics was introduced (except for the Government’s Presidium), although they were admitted only to decision-making on “soft” issues (like social affairs) and were appointed only to “soft” ministries (culture, education, medicine, etc.). Work, however, became compulsory for every Soviet citizen. This new “right” to work for women made them less free, especially as they were not relieved of the heavy burden of housekeeping.

Neither the women’s movement nor women themselves were the motivating force behind these changes, and the result was often apathy for political and social activities, and an inability to engage in political struggle or to organize themselves politically. Also, many problems (e.g. wife-beating, child-abuse, etc.) were dismissed as they were considered private or personal.

In the Russian North during the 1920s, women’s councils were created everywhere and women became actively involved in political life. These first appeared as non-formal and non-governmental volunteer unions, where women gathered to solve everyday problems. Women also initiated “illiteracy liquidation” activities, “Saturday collective” activities, and created children’s care-centers and canteens in schools. These active women were called women-delegates. There were 350 of these “women-delegates” in the Arkhangelsk Gubernia (Province) in 1920 and by 1929 the number had grown to 19,000. But their activities were under the control of the Communist Party and other state bodies.

In June 1930, there was an official decision that women’s issues were solved in the USSR, and women’s councils were abolished. Women’s activities instead became a part of the party activities. Still, in the 1960-70s, women’s councils were revived again. They became independent associations active in the social, cultural and everyday spheres, including health issues, environmental issues, children’s and teenagers’ leisure, etc. In 1979, there were 250 women’s councils and women’s trade-union committees in the Arkhangelsk region.

With perestroika and new market relations, the situation became complicated for both men and women. Problems in the economy caused unemployment. Both sexes were unprepared for this new reality but women having family responsibilities were most affected. In this market competition, women had more difficulties finding jobs as well as keeping them. The “protective” ideology of the Soviet state resulted in women being regarded as unprofitable employees who were “burdens” for enterprises because of their various entitlements and privileges. At the same time in the mass media, images of women’s lives were limited to the domestic domain. The only positive image of a woman presented was that of a good, caring wife and mother.

In the political sphere, this resulted in male domination in top-level politics. In addition to the abolishment of “paternalistic” quotas, women often lacked experience in competing. They were often indifferent to “conventional” politics, which did not appeal to their interests and experiences. Gender stereotypes and widespread mistrust toward politics, power institutions, and authorities also played a role. Still, the 1980s-90s turned out to be the period when women started to establish new kinds of associations and organizations for protecting the political, economic, and social rights of women and for representing their interests. By now there are more than 40 different women’s institutions, NGOs, networks, and associations.

At the same time there is an obvious contradiction between the general ideology that women do not need to go into politics and the real situation, as has become obvious in a series of studies of political representation in the Archangelsk region. In fact, one study from 2000/2001 showed that women were politically active at the local level and comprised the majority in the processes of preparing and running the elections (73). They are actively involved in forming the state, regional, and local authorities, as well as NGOs. Nevertheless, it is basically at the levels of region and municipality where women are better represented. One rea-
son might be the municipal and regional administrations are less desirable for men, and that there is thus less competition. The local level is also very time consuming and is not well paid. The higher the level of power, the fewer the number of women in authority. We do not imply that the local levels of decision making are less important than the national and the international ones but rather that the situation of women in Russia can hardly be changed unless women become equal partners, capable of decision making in all spheres of society, life and on all levels.

Other reasons explaining the lack of women in politics are conservatism of public opinion, lack of unity in the Russian women’s movement, and the unwillingness of political parties and movements to work with female voters and involve female leaders in their work. Poor access to information, lack of experience, and attempts to speak on behalf of all women without taking into account the differences among women are some factors that prevent women who go into politics from reaching top-level political positions.

Another 2001 study examined social politics in the Arkhangelsk Region. Based on questionnaires and an analysis of official documents, laws, and mass media sources, the study showed that women were not considered as a target group when social politics were being formulated. Their situation was not taken into account, and data on the situation of women was often lacking. Moreover, existing statistics show that women are discriminated against. To change this situation, they have to be perceived as active subjects of social policy and decision-making processes. A questionnaire showed that women were eager to participate in social, political, and economic life to a greater extent. They therefore represent a great potential for the region’s development but at the same time they have the lowest status in society and no mechanisms or opportunities to raise them.

In summary, neither regional nor state politics really welcome women. Moreover, women lack confidence in themselves and their ability to change anything in the political sphere in Russia, and they distrust authorities. Also, stereotypes about “natural” roles and missions of women are still very strong among women and these affect their life strategies. That is why women become more active in the political sphere only when they have “fulfilled” their “natural” mission and raised their children.

This was especially clear in a study focusing on the gender dimension in local rural development, where women are very active in creating local networks and have played very important roles in local development processes. There is thus an obvious contradiction: women consider the political sphere to be important and think that there should be more women in politics but they do not try to enter “conventional” institutions.

**The Nordic countries**

Since World War II, women in the Nordic countries have become more involved in politics. This can be seen from their representation in the regional parliaments and the indigenous institutions in the Nordic countries. But the development is not the same from country to country. Also, the numbers of women in the Saami parliaments in Finland, Sweden and Norway are all low, and there is no indication that this will rise to the level of the national parliaments in each country. The Saami Parliament in Finland has six women of a total of 21 representatives (2000-2004), the Saami Parliament in Sweden has eight women of a total of 31 representatives (2001 to 2005), and the Saami Parliament in Norway has seven women of a total of 39 representatives (2001 to 2005) (74). In Norway, this is a decline from previous elections (75).

**Greenland**

In Greenland, the franchise for women was not given until 1948. The first Home Rule Parliament, in 1979, had only 5 women, but since then there has been a clear improvement, with 35% women at the latest parliamentary election in 2002 (10 seats out of 31). This improvement is also reflected in the municipal councils where women comprised 19% after the 2001 election. The number of women is very limited in municipal councils in the hunting districts, however, and some of these municipalities have no women council members (76).

**Focus on Canada**

*Stephanie Irlbacher Fox*

This section provides a snapshot of the participation of women in key aspects of political decision making in the three northern territories of Canada (77). In the territories, indigenous peoples are either the majority or large minority
populations. Generally, the participation of women in institutions of public government is much lower than that of men. Since the 1970s, women’s participation in territorial legislative assemblies has hovered at about 10%. As of December 2003, there are three women serving in the Yukon legislature and two each in the legislatures of the Northwest Territories and Nunavut. Only in Nunavut do women enjoy cabinet responsibilities within the legislature. In both the Northwest Territories and the Yukon, women have held the post of premier. Information about local participation is incomplete, yet reflects a slightly higher participation of women in leadership roles, including as mayors, band councillors, and First Nation council chiefs.

The Northwest Territories: As of 2003, women’s participation in community politics in the Northwest Territories is marked by the disparity between the high numbers of women participating on community councils as councillors and the much lower numbers of women being elected to the top posts of mayor or chief. For example, in the 2003 municipal elections, 40% of the councillors elected were women. However, only 16% of the mayors elected were women. Indigenous women were even less likely to be elected to the top jobs in First Nation, Inuvialuit Community Corporation, and Métis Locals; of a total of 48 of these organizations, only 4 were headed by women.

The Yukon: The Yukon Legislative Assembly has 18 members, of which three are women. Information available regarding 13 of 14 Yukon communities indicates that three of 13 mayors in the territory are women, and that women hold 23 of 49 available councillor seats. Of the 11 First Nations in the territory, only one has a woman serving as chief.

Nunavut: There are 19 members of the Nunavut Legislative Assembly; two are women. Among the community leadership, women are less well represented: as of 2002, only two of the 25 mayors of Nunavut communities were women. Nunavut experienced extensive national media attention prior to the formation of the new territory when a proposal was put before the public to decide on whether the Nunavut Legislature should be designed to ensure a balance between male and female representatives. In a public referendum, the gender parity proposal was defeated, however. The referendum evoked extensive debate among Nunavummiut on the role of Nunavut women in politics, and the place of women in community and territorial political life.

In conclusion, in the legislative assemblies, women are vastly under-represented. However, an analysis must also take into account the fact that a significant share of each territory’s population is constituted by indigenous peoples, who do not necessarily accord elected leaders the same power or regard as non-indigenous political culture assigns. As a result, women in these communities may be part of an “unelected” leadership, operating within indigenous peoples’ own forms of governance, which exist outside of government-sanctioned and -imposed elected government institutions. The numbers of elected women often are not indicative of the role and quality of women’s contributions at the community or territorial levels.

Focus on contaminants
Joanna Kafarowski

Some contaminants are potentially harmful to women and children across the circumpolar North. Many studies have been conducted on the impact of persistent organic pollutants (POPs), toxic metals and radionuclides on Arctic environmental and human health. More recently, scientific interest has broadened to include socio-cultural effects on Arctic communities (79-80). Research suggests that women develop original solutions to complex environmental problems such as Arctic contaminants and that natural resource conflicts may be resolved more effectively with the active participation of women and men (81-82). Although not fully acknowledged in the relevant literature, the question of women’s access to and involvement in decision-making processes in the contaminant arena is critical, encompassing both reproductive health and environmental justice (83).

Some authors assert that, because indigenous women are not well-represented in high-profile leadership roles, they are denied access to decision-making roles and positions of influence (84). According to McIvor (85), this conclusion is reached by non-indigenous researchers who may inappropriately apply western concepts of gender equality. In fact, literature by indigenous researchers supports the claim that women do assume decision-making roles and hold positions of power at various levels within the community (86-88). In many communities, indigenous women act as respected advisors and their influence underpins vital decision and policy-
making processes (89-90). However, the degree to which women are able to assume these roles and positions varies both geographically and culturally and according to the specific resource-based sector. Further research is required particularly regarding the representation and participation of women in the management of natural resources as well as in emerging issues including climate change and contaminants.

At the grassroots level, women are prominent within social and environmental activism (91-92). The commitment of women to activism within the environmental justice movement is perhaps due in part to their roles of homemaker and nurturing mother (93-94). Environmental activism may be perceived as an extension of community life in which women have been traditionally involved. Within Canada, indigenous women have been active in this area. For example, Elizabeth Penashue and other members of the Innu Nation opposed low-level military flight training over Goose Bay, Labrador, Canada during the 1980s and 1990s (95).

Beyond the grassroots level, women are less visible in environmental politics. Men usually assume positions of responsibility and power in the public sphere and thus it is likely that environmental decision making itself is profoundly gendered. The contributions of women are valued less than the contributions of men in western, non-indigenous societies and women are less likely to attain decision-making positions (81, 91).

However, the international role of indigenous organizations in Canada including the Inuit Circumpolar Conference, Inuit Tapiriit Kanatami, the Arctic Athabaskan Council, and Pauktuutit Inuit Women’s Association is increasing. Current President of the Inuit Circumpolar Conference, Sheila Watt-Cloutier champions many contemporary issues including Arctic contaminants. Watt-Cloutier presented an Inuit carving of a mother and child to Klaus Töpfer, Executive Director of UNEP in 1999 and this powerful carving came to represent the conscience and heart of the negotiations that lead to the Stockholm Convention on Persistent Organic Pollutants. During the various international meetings of this global convention, Sheila Watt-Cloutier and other female indigenous leaders, including Cindy Dickson of the Arctic Athabaskan Council, successfully brought Arctic persistent organic pollutants to the forefront of the world stage. While the impact of persistent organic pollutants has largely been constructed by the media as an environmental issue, Watt-Cloutier and others identified the significant negative ramifications for indigenous cultures, health, and traditional ways of life.

In conclusion, gender is rarely highlighted in the contemporary discourse on environmental contaminants, but should be identified as a critical variable in decision and policy-making processes.

**Focus on fisheries**

*Lindis Sloan and Joanna Kafarowski*

Sustainable development in the Arctic depends on democracy in decision-making processes that affects diverse sectors including the management of natural resources. Fisheries are an increasingly significant economic activity in the circumpolar North. An Arctic Council Sustainable Development Working Group project has recently investigated gender and decision-making in Arctic fisheries (96). The aim has been to document and analyze women’s roles in Arctic fisheries in order to promote and support their participation in decision-making processes in this sector.

A general observation is that women participate in the fisheries, but that their contributions and efforts are to a large degree rendered invisible. Because participation is often organized within the family, women’s contributions to the economy of small-scale fisheries are often not officially recorded. Recent fieldwork indicates that “ground-crew efforts” constitute a major subsidy of the coastal small-scale fisheries. This work is kept out of the economic sphere by lack of formal recognition. In addition, many women do wage work outside the fisheries sector in order to provide the cash flow security that is lacking in the increasingly uncertain fisheries.

When women work directly with fisheries, they are seldom active fishers, and only as rare exceptions are they the bona fide owners or managers of plants or fishing boats. Instead, women often work in fisheries processing plants. Their levels of employment vary greatly from country to country. In the Nordic countries, increasing opportunities for education have given women a chance to seek professional careers in management or fisheries research, but only occasionally do they rise above mid-level positions. This also occurs in aquaculture, despite the more “modern” image of this sector of fisheries.

In the decision-making bodies that regulate quotas and their distribution, the fisheries
industry is generally well represented. Women are hard to find in these bodies, in many cases because they are not considered stakeholders, in direct contradiction of the recommendations of Agenda 21 and similar conventions on sustainable development. Women are more visible in governmental organizations at the community, regional and national levels although gender balance is rarely in evidence particularly in decision-making positions.

**Key conclusions**

This chapter does not provide an overall assessment of gender issues in the Arctic, therefore, it is difficult to draw any general conclusions. Nevertheless, several critical issues have been highlighted here.

There are many different starting points for an investigation of gender issues in the Arctic. These include defining power relationships based on the principles arising from various feminisms (western, non-western and indigenous alike), but also new analyses that take site-specific Arctic cultural contexts into account, including how colonial history and current trends of increased self-governance affect contemporary gender roles. It must additionally be acknowledged that the different feminist perspectives reflected in the Arctic experience are not reified products of one type of community versus another. Notions of western feminism are not shared amongst all those of western (or southern) origin, nor are notions of indigenous feminism shared amongst all indigenous communities. The examination of gender illustrates the complexity of communities in the differences of perspectives that abound within and among them.

There is a need to analyze men’s changing roles in society and how this affects social problems such as suicide and violence towards others. Violence against women has been identified as a significant problem in the Arctic and has been attributed in part to male loss of identity and self-worth, societal tension as well as issues of power and control. This has also resulted in increased human trafficking and prostitution.

Female out-migration is significant in many rural areas of the Arctic. It primarily occurs as a result of diminishing job opportunities in small communities. This creates a gender imbalance that may affect community viability in the future. Education plays a pivotal role both as a factor pulling women away from the North and as a potential strategy for reversing the trend of out-migration. In addition, women are poorly represented in many formal decision-making bodies, especially in natural resource management, which provides the socio-economic base for many Arctic communities.

**Gaps in knowledge**

Joanna Kafarowski

At the international and national levels, there is a paucity of data available that is disaggregated by gender and cultural group. Using disaggregated data means carefully examining data to ensure that analysts and policymakers understand the impact of any measure on various groups. This is particularly critical in the Arctic where the experiences of individuals and the impacts of policies and programs may vary dramatically according to whether one is female or male, old or young, claims kinship to one group or another and lives/works in the northern or southern regions of a circumpolar nation.

Collecting data that is sensitive to gender and cultural group goes beyond the simple disaggregation of data. Rather, it attempts to reflect the diverse and differentiated situation of women and men, their specific contributions and the consequences of their traditional roles in different socio-economic situations.

According to the Platform for Action in the Beijing Declaration (1995), insufficient mechanisms exist at all levels to promote the advancement of women. Modifications of the Platform for Action are worthy of further exploration.

Statistics should be collected, presented, and analyzed by sex, age, and cultural group and should reflect problems and questions related to women and men.

Women’s studies and research organizations should be involved in developing and testing appropriate indicators and research methodologies to strengthen gender analysis.

Data collection methods should be improved to reflect the full contribution of women and men to traditional and market economies by making visible their participation in the informal sector.

Statistical systems should incorporate gender analysis into publications and research.

There is a need to work with statisticians to identify the areas in which the social and economic realities of women and men, and of individuals from different cultural groups are differ-
ent and need to be addressed. Developing institutional capacity to recognize and address gender issues is an important element in creating and sustaining enabling conditions to advance policy goals for women’s participation.

In the Arctic, further research must be conducted into gender and natural resource management with special emphasis being placed on women’s representation, participation and involvement in decision-making processes. Additionally, future research into emerging environmental management issues such as the impact of climate change and contaminants should incorporate gender-based analysis.

The relationships between gender and security have been under investigation for over a decade now (21). Recognizing the non-state centered features of what it means to be secure, such as through human security, and examining these securities through a gendered lens, opens up new avenues for exploration and research (20, 97). This is particularly true for the Arctic context, where there exists a dearth of data and analysis on both gender and securities, as well as the relationships between the two. Through a gendered securities approach it is possible to make visible the interconnectivity and interdependence between societies, genders and environments, both natural and constructed (98).

References

6. F. M. Lekhanova, “The Role of Governmental Structures and NGOs in Forming New Types of

11. Macionis and Plummer, 1997 (10)
12. Ackerman 2002:33 (2)
13. Ackerman 2002:33 (2)
14. Frink, Sheppard and Reinhart, 2002:3 (5)


36. K. Folkenborg, “Kvinders økonomiske bidrag til reindeherdninga” (Women’s economic contribution to the reindeer herding industry in Norway) in Kvinner i reinbrua (Women in the reindeer herding industry in Norway), S. Karlstad, Ed. (Joint report from NIBR and Norut Social Science Research Ltd, Alta and Tromsø, 2002).


39. These authors are affiliated with the Northern Feminist University in Steigen, Norway. It is not a traditional university but a center of knowledge, focused on gathering and collecting the knowledge of women. It as established in 1991. Currently 12 people work there.


43. B. Reardon, Women and Peace: Feminist Visions of Global Security (State Univ. of New York, Albany, 1993).


62. M. Poppel, Ed., “Gender and violence in Greenland” (in progress)


64. C. Haywood and M. M. Ghaill, Men and Masculinities (Open Univ. Press, Berkshire, 2003).

65. More information about this project can be obtained at http://www.norfa.no/projektkatalog. See also references (76-80).


73. S. Aivazov, G. Kertman, “The results of the elections. Gender proportion of the state duma” (Moscow Centre of Gender Research, Moscow, 2000), pp. 174-176.


75. This box-text is based on material provided by Eva Josefsson, Norut/NIBR Finnmark AS, Alta Norway, and Jens Dahl, International Work Group for Indigenous Affairs, Copenhagen.

76. This box text is based on material provided by Jens Dahl, International Work Group for Indigenous Affairs, Copenhagen.

77. Please note that this paper does not cover Nunavik (Northern Quebec) or Labrador.


87. N. Byrne, C. Fouillard, Eds.) It’s like the legend-Innu women’s voices (Gynenergy Books, Toronto, 2000).

98. This paragraph contributed by Gunhild Hoogensen.

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The introduction to this chapter is based on a draft provided by Lindis Sloan, Northern Feminist University, Norway.
A key component of social welfare is a sense of economic, environmental, and political security. In today’s globalized world, cooperation across national borders is becoming increasingly important to foster this security. It may help to decrease political tension and military confrontation and thus increase stability in a region. It can also promote human development and democracy, strengthen the role of civil society, and it is a necessary part of environmental protection (1-2).

Starting in the late 1980s, international cooperation in the Arctic has increased to the extent that a new regional identity is emerging, with numerous political initiatives and new fora. This chapter describes this new “Age of the Arctic” (3) by focusing on three main themes. The first is the increasing circumpolar cooperation by indigenous peoples organizations and subnational governments: North meets North. The second theme is region-building with nations as major actors, focusing on the Arctic Council. The third theme is the relationship between the Arctic and the outside world. Two questions cut across these themes: How important are Arctic cooperation and the new international political structures for northern peoples and societies? And how can the new regional identity be used in facing globalization and in forming new kinds of north-south relationships?

**Historical background**

Relations between peoples across the Arctic started long before any state with national interests came to the North. National borders are a rather new phenomenon associated with the colonization and militarization of the region. Early networks and crossroads of cultures included frequent traveling, exchanges of goods and experiences, trade, marriages, migration, and mutual visits (4). For example, a thousand years ago Scandinavian peoples created networks of communication between the North Atlantic, northern Europe, and Russia, with east-west as well as north-south trade connections.

The European North has an especially rich tradition of regional social, cultural, and trade relations between indigenous societies and other settlements. People not only traveled between different parts of the region but also came from the North Atlantic and Western Siberia via the Northern Sea Route (5). Regional interaction continued after national borders were established, mostly independent of southern economic and political centers. One example is the local border peace treaties between Kainuu, Sweden, and Vienas Karelia, Russia, in the 17th and 18th centuries. Another is the Pomor trade between northern Norway and the White Sea area in the 18th to 20th centuries.

The Bering Strait area has also served as a crossroad of cultures and peoples for centuries. Interrupted only between 1948 and 1988 by the Cold War, frequent travels and mutual visits between the two continents, trade, marriages, and occasionally warfare created an interacting network between indigenous societies, which both the US and Soviet governments acknowledged.

**The Cold War period**

World War II brought more international activities to the Arctic, mostly based on the military. The Cold War period that followed effectively decreased circumpolar connections again as the region became divided between two rivals: the North Atlantic Treaty Organization (NATO), which includes five of the Arctic states: the United States of America, Canada, Denmark, Iceland, and Norway) and the Warsaw Treaty
Organization led by the Soviet Union. Finland and Sweden were non-aligned. During this period, state control also reached the northern seas, when the United Nations Convention on the Law of the Sea gave coastal states the right to establish exclusive economic zones up to 200 nautical miles out to sea and to protect ice-covered waters within them (6). Canada and the Soviet Union declared claims of sovereignty in the two northern passages, Canada over the waters of the Northwest Passage and the Soviet Union over the Northern Sea Route.

International cooperation in the North was not totally frozen, however. As is discussed later, indigenous cooperation continued and became more institutionalized. There was some international scientific cooperation, including the International Geophysical Year in 1957/8 and both the International Congress on Circumpolar Health and the Northern Sciences Network under UNESCO’s Man in the Biosphere Programme, which started in the early 1980s (7).

There was also some institutionalized inter-governmental and regional cooperation in the Arctic during the Cold War. For example, the North Calotte Committee within the Nordic cooperation brought together the northernmost counties of Norway, Sweden, and Finland to cooperate in trade and tourism. An example of civic activity was the triennial North Calotte’s Peace Days, which became a forum for cooperation between people in Norway, Sweden, Finland, and the Soviet Union aiming to promote peace and disarmament (8). In the North Pacific, transborder cooperation between countries and provinces started in the 1970s in the context of international conferences between Hokkaido in Japan, Alberta in Canada, and Alaska in the United States. One example of multilateral international treaties relevant to the Arctic is the Agreement on the Conservation of Polar Bears reached in 1973. The general state of the northern cooperation in the late 1970s is well summarized in the first comprehensive political and economic overview of the Arctic, “The Circumpolar North: A Political and Economic Geography of the Arctic and Sub-Arctic” (9) from 1978, which indicated that there was a “paucity of international relations in the Arctic” (10).

Emerging cooperation

Times were changing, however. Northerners began to consider the potential of the circumpolar North as a means of re-establishing horizontal connections across the Cold War political divide. The Arctic states also developed an interest in northern issues and Arctic cooperation. For example, in the 1980s, a number of bilateral agreements on scientific and environmental cooperation between the Soviet Union and other Arctic states were signed. In October 1987, a speech by the then Soviet president Mikhail Gorbachev in Murmansk gave the initial impetus for the current inter-governmental cooperation in the Arctic (11), leading to the so-called Rovaniemi process and the creation of the Arctic Environmental Protection Strategy (AEPS) in 1991.

The Murmansk speech

The so-called Murmansk Speech by President Mikhail Gorbachev of the Soviet Union is often regarded as the initiating event for current regional cooperation in the Arctic. It had still the Soviet rhetoric on peace but reflected more the processes of glasnost and perestroika in the Soviet Union through its six proposals. The first two were about establishing a nuclear-weapon-free zone in northern Europe and reducing military activities. The others discussed confidence-building measures in northern seas, civilian cooperation in developing natural resources, coordination of scientific research, cooperation in environmental protection, and opening the Northern Sea Route to foreign ships.

Many western leaders welcomed the spirit of the “Murmansk Initiative” but saw some of the proposals, especially those on arms control, as one-sided and therefore were suspicious (12). The speech, however, was an early indicator of change in the closed nature of the Soviet North and thus made possible a real turning point for the Arctic. For example, traveling across the Bering Strait recommenced with a friendship flight in June 1988 (13) and governments and civil actors were encouraged to consider a broader and more institutionalized pattern of international cooperation in the circumpolar North.

Partly due to the positive impact of the Murmansk speech, most of the proposals have been successful. As a result of this, the end of the Cold War was accompanied by the rebirth of connections between northern peoples and societies, and the dawning of a new era of Arctic international cooperation.
While the Murmansk speech opened a door for new connections, the collapse of the Soviet Union permitted a dramatic change in the circumpolar North, as Cold War tensions gave way to an atmosphere of eagerness, even excitement, to cooperate internationally and regionally. A new kind of regional dynamics was thereby created in which the state-centric and military issues that had dominated Arctic geopolitics ceded ground to more human-oriented concerns (14). When we include cooperation in environmental protection, indigenous peoples’ affairs, and science, this trend can be described as region-building. The transition since the Cold War has also involved large-scale utilization of natural resources and the globalization of the Arctic, with its relevant impacts, which have attracted the interest of major international environmental organizations towards the Arctic, with a right to self-determination. The Saami people is divided by the national borders across the national borders to reassert their identity as an indigenous people and to strengthen their demands for self-determination in order to achieve the “collective right to decide their own future” (16). Although this radical transnational movement lost its fight over the dam, it spawned a national awakening, especially among young Saami and Saami artists. One visible result can be seen in the national symbols shared by all Saami, including the Saami flag and the national day, symbolizing the determination that the national borders should not undermine self-interpretation (17). The Saami as one nation is thus a natural pan-national actor (18). This fits with the global trend towards treating indigenous peoples as international actors and subjects, with a population and a territory, and a right to self-determination.

There are more connections and deeper cooperation between the different indigenous peoples of the Arctic, for example between the Saami and the Inuit Circumpolar Conference. Another example can be found in the assistance across the Bering Strait initiated by the Inuit Circumpolar Conference (19). One institution

### Indigenous peoples as transnational actors

Most Arctic indigenous peoples are minorities in their countries. Therefore the trend of internationalization is logical when they want to make their legal position as an indigenous people clear and assert their right to self-determination against unified states (see also Chapter 6. Legal Systems).

For example, the Sápmi homeland of the Saami people is divided by the national borders of four different unified states. In 1980-81, the Alta movement against the harnessing of the Alta River in northern Norway mobilized Saami across the national borders to reassert their identity as an indigenous people and to strengthen their demands for self-determination in order to achieve the “collective right to decide their own future” (16). Although this radical transnational movement lost its fight over the dam, it spawned a national awakening, especially among young Saami and Saami artists. One visible result can be seen in the national symbols shared by all Saami, including the Saami flag.

### Categories of International Actors in the Circumpolar North (96)

1. Unified states (i.e. governments, parliaments and state organisations such as the army):
   - Canada, Denmark including the Faroe Islands and Greenland as Home Rule entities, Finland, Iceland, Norway, the Russian Federation, Sweden and the U.S.A.

2. Intergovernmental organisations (IGOs):
   - e.g. Arctic Council, Barents Euro-Arctic Council (BEAC) and its Regional Council, Conference of Parliamentarians of the Arctic Region (CPAR), Nordic Council and Nordic Council of Ministers, North Atlantic Marine Mammals Commission (NAMMCO)

3. International non-governmental organisations (INGOs):
   - e.g. Arctic Athabaskan Council, Arctic Leaders’ Summit, Greenpeace International, International Arctic Science Committee (IASC), International Federation of Red Cross and Red Crescent, Inuit Circumpolar Conference (ICC), Northern Forum (NF), Northern Research Forum (NRF), Saami Council, Winter Cities Association

4. Sub-national governments (i.e. provinces, counties and municipalities, indigenous peoples’ organisations and civil organizations in one country)
   - e.g. RAIPON

5. Trans-national corporations (TNCs): e.g. mining, and oil and gas companies

### North meets North

There is currently an intensive growth in cooperation involving indigenous peoples and sub-national governments across the Arctic. This is partly based on traditions of social and trade networks among northern peoples and can be interpreted as a renaissance of pan-Arctic cooperation. In the background is also the idea that northern regions share special features that set them apart from other areas of the world, making it important to have a dialogue among local and regional decision makers and with politicians at the national and international levels.
Indigenous peoples and the Stockholm Convention on Persistent Organic Pollutants

Stephanie Meakin and Terry Fenge,
Inuit Circumpolar Conference

On May 17, 2004 the Stockholm Convention on Persistent Organic Pollutants (POPs) entered into force and with this the obligations that a coalition of indigenous peoples from the circumpolar Arctic helped to craft will be implemented. The Stockholm Convention is a global treaty to protect human health and the environment from POPs – chemicals, such as PCBs and DDT – that persist in the environment for long periods, become widely distributed geographically, accumulate in the fatty tissue of living organisms, and are toxic to humans and wildlife. In implementing the convention, governments will take measures to eliminate or reduce the release of POPs into the environment.

Through research, public education, and coordinated advocacy and lobbying, Inuit influenced these international negotiations out of all proportion to their numbers. This fact is important internationally, for what Inuit and other indigenous peoples have done in the global POPs process can be repeated in additional global environmental negotiations that address Arctic concerns, such as climate change and ozone depletion, and perhaps even biodiversity conservation.

In 1988, there was little appreciation beyond the Arctic countries of the extent and significance of transboundary pollution relating to persistent organic pollutants. Together with the the United Nations Economic Commission for Europe’s (UNECE) Convention on Long-range Transboundary Air Pollution (CLRTAP) POPs Protocol, the Stockholm Convention reflects Arctic science and Arctic political concerns voiced nationally and internationally by Arctic residents, particularly indigenous peoples, and the collective and individual efforts of the eight Arctic states. The very existence of these instruments illustrates that Arctic indigenous peoples are capable of defending their ways of life through international environmental and public health negotiations between states. Their involvement in the Stockholm process is likely a harbinger of things to come as economic globalization and climate change bring the circumpolar Arctic to the attention of decision makers in states far to the south (28).

Throughout the Saami Council and the Inuit Circumpolar Conference contributed to the Rovaniemi Process since almost its very beginning, the involvement of indigenous organizations was neither automatic nor clear for some time. For example, the indigenous peoples organizations that had participated in the AEPS were not made founding members in the September 1996 declaration establishing the Arctic Council as the AEPS’ successor (20). Rather, the ICC and the Saami Council, together with the Russian Association of Indigenous Peoples of the North (RAIPON), were designated Permanent Participants. The same position was later accorded to the Aleut International Association, the Arctic Athabaskan Council, and the Gwich’in Council International.

The status in international cooperation enjoyed by the Arctic Council’s Permanent Participants is rare, if not unique, for indigenous peoples. It has opened many doors and created a platform for discussing human development and sustainability with the governments of the Arctic countries. The indigenous peoples’ representatives, however, are not equal to the governments as they are also citizens of the states of those governments (21). Moreover, they have only very limited financial resources to support their participation in the meetings of the Council and its Working Groups.

Generally seen as peacefully inclined, northern indigenous peoples can thus be important actors in reducing tension in the Arctic, but their homelands are often of strategic importance, both in military terms and as a result of their natural resource endowments. These therefore attract actors with varying interests from outside the region. Environmental damage from past and present military and industrial activities, coupled with the fact that national interests often differ greatly from those of the indigenous peoples, have also made environmental protection a sensitive international issue in the Arctic and put it on the foreign policy agendas of the unified states (22).

The northern indigenous peoples have also actively pushed international work on environmental protection, in close collaboration with working groups under the AEPS and the Arctic Council. For example, they acknowledged the

responsible for this is the Indigenous Peoples’ Secretariat which supports their activities in the Arctic Council. Another is the Arctic Leaders’ Summit, which gathers indigenous leaders in common efforts on health, environment, and cultural diversity, as well as in pushing governments to take needed legislative and economic steps.

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work of the Arctic Monitoring Assessment Programme in identifying the impacts of pollution in the Arctic (23) and used it to push governments to sign the global Stockholm Convention on Persistent Organic Pollutants (see box on page 210 and Chapter 9. Human Health and Well-being). This can be seen as a success story of fruitful cooperation between northern indigenous peoples and the Arctic scientific community (24-25). Recently the Arctic Climate Impact Assessment and the effects of climate change on northern traditional livelihoods have featured prominently in this collaboration.

Not all efforts to highlight Arctic concerns in international fora have been particularly effective, however. This was the case, for example, with the negotiation of the recent Johannesburg Declaration of the World Summit on Sustainable Development, which does not include the Arctic (26-27). Moreover, competition, even conflicts, between indigenous peoples and particular member states may continue in the context of the Arctic Council, especially when trying to define “sustainable development” in the Arctic.

**Inter-regional cooperation**

Sub-regional governments have become increasingly active in developing contacts across national borders. One example is the International Association of Mayors of Northern Cities, connecting cities and towns from ten different countries. Another is the Northern Forum.

The Northern Forum was established in November 1991 and represents sub-national or regional governments. In 2004, this circumpolar organization had 19 member regions drawn from eleven countries including Mongolia, China, Japan and the Republic of Korea. This wide geographical coverage can generate controversy, as the Northern Forum is not an exclusively Arctic organization and it is sometimes difficult to identify interests shared by all member regions. Representation of northern indigenous peoples is weak within the organization, except from some of the Russian member regions. For example, Nunavut and Greenland, both of which have a majority of indigenous peoples, are not members of the Forum.

The Northern Forum represents its member regions in international fora. For example, the United Nations has officially recognized it as a non-governmental organization, and it is among the permanent observers of the Arctic Council. The Northern Forum and the Arctic Council can be seen as contrasting entities. The Arctic Council does not have a regional level or include representation of sub-national units of the circumpolar countries, unlike northern indigenous peoples organizations which have the status of Permanent Participants. In the Northern Forum, indigenous peoples constitute a small minority of both the constituency and their representatives. This discrepancy may limit the role that the Forum can play in deepening inter-regional cooperation.

Projects within the Northern Forum are aimed at sustainable development and cooperative socio-economic initiatives among northern regions. For example, the project on Reindeer Herding Management provides training to workers in order to improve the quality of reindeer meat and to develop related products. The project on a Sustainable Model for Arctic Regional Tourism, which collects and analyzes best practices relevant to sustainable Arctic tourism, is run jointly with the Arctic Council (29).

Governance, which deals with relations between regional authorities and central governments, is not discussed in the Northern Forum’s latest action plan, perhaps indicating that this is a sensitive question and also that the work of the Northern Forum is directed more at practical and concrete matters than at broader foreign policy concerns. This lack of experience of international relations may limit deeper international cooperation relevant to sustainable development. Some of the member-regions, such as Alaska and the Sakha Republic, however, have been very active on the international stage, acting in part independently of their countries, while the Finnish Province of Lapland has even manifested its own regional “foreign” policy (30).

A visible example of local bottom-up cooperation across the national borders is the close connections between the Finnish town Tornio and the Swedish municipality Haparanda creating the twin town, or Euro-City of Haparanda-Tornio. This can be seen as a laboratory on how a border, or a borderland, influences the identity and culture of a society and region. This cooperation has in fact promoted integration across the national borders in the Nordic countries and been used as a model for inter-municipality cooperation in Europe.
**Trend summary**

Arctic cooperation, including new international and regional organizations and fora, has offered northern peoples and societies useful channels for sharing information and platforms for discussing and planning activities together. Further, being active in international cooperation on many levels, the North is becoming better known and its voice more clearly heard in capitals and in other regions. The need to have a northern voice in international relations and southern capitals has been important in establishing cooperation among northern regions and for indigenous peoples working across national borders. These new forms of international cooperation outside national governments, however, highlight different interests and can sometimes cause tensions. Deeper pan-Arctic and inter-governmental cooperation is relevant for promoting sustainability and human development in the region, and can also create better capabilities for coping with the challenges of globalization.

**Region-building**

Since the late 1980s, there have been many attempts to define the Arctic as a distinct international region (31). This has involved establishing organizations and institutions that specifically deal with northern issues, often with the dual aims of building trust after the Cold War and promoting environmental protection and sustainable development in the Arctic. The initiatives fall into three categories: intergovernmental circumpolar-wide cooperation, subregional cooperation, and academic cooperation. The endeavor provides new platforms and channels for dialogue between the unified states and has the potential to secure a stronger voice for Arctic interests in a global context. Arctic region building is part of an important trend in international relations and represents a new geopolitical approach; rather than seeking to control through the exercise of power, it focuses on achieving a socially stable and environmentally sustainable order.

**The Arctic Council and its basis in the Rovaniemi process**

Intergovernmental Arctic cooperation officially started in 1989 with the Rovaniemi process in the wake of Mikhail Gorbachev’s Murmansk speech. At the first ministerial meeting in Rovaniemi, Finland, of the eight Arctic states, which also included three northern indigenous peoples organizations, the Arctic Environmental Protection Strategy (AEPS) was signed in June 1991 (32). The initial focus on environmental protection gradually expanded to related fields, notably sustainable development. In 1996, the Arctic states replaced the AEPS with the Arctic Council as a high-level intergovernmental forum for Arctic international cooperation that would include as Permanent Participants a certain number of transnational northern indigenous peoples organizations.

The idea of some kind of circumpolar political body had been suggested some twenty years earlier and was taken up again at the end of the 1980s in a study by Canadian non-governmental organisations. It proposed an umbrella-type political forum for governments, indigenous organizations, and different interest groups, and was paralleled by an official Canadian initiative to create an Arctic Council (33). However, the establishment of a functioning Arctic Council took longer than its supporters anticipated, due to divergent opinions over its structure, procedures and financing, and concerning the relative status to be accorded to different types of participant organizations. Debate also proved to be protracted over the Terms of Reference for the Sustainable Development Program, centered around how, if at all, to articulate a framework vision for the Council’s work on sustainability in the Arctic (34).

Almost concurrently, parliamentarians from the Arctic countries with an interest in Northern affairs began to collaborate and the first Parliamentary Conference concerning the Arctic regions and cooperation was held in 1993. One output was the Standing Committee of Parliamentarians of the Arctic Region (SCPAR). A primary aim of both the Conferences of Parliamentarians of the Region and the Standing Committee was to support the establishment of the Arctic Council, and later, to stimulate as well as promote its work in areas such as human development in the Arctic.

As the environment-related working groups of the AEPS were subsumed by the Arctic Council, one of its two main areas of attention would naturally be the health of Arctic ecosystems, including human populations, and thus the identification, reduction and elimination of pollution, as well as nature conservation. The previously uncertain future of the AEPS’s Task Force on Sustainable Development was eventu-
ally resolved with its transformation into the Council’s Sustainable Development Working Group (SDWG) (35), with the effect that promoting sustainable and human development became a new priority, expressed through activities such as disseminating information, encouraging education and research on sustainable development, and promoting interest in Arctic-related issues (36). This wider mandate also included discussion on transportation and communication, i.e. how to create a connected Arctic, and initiatives in telemedicine and infrastructure. In this way, the agenda has broadened considerably in a fairly short period of time,
with the Arctic Council and its working groups conducting a large number of projects covering many, diverse fields (37). This has, of course, created new challenges, as financial and staff resources for the projects and their coordination remain severely limited.

Although the Arctic Council is a high-level forum for international co-operation between governments and indigenous peoples organizations, little effort has been made, so far, to give the Council any regulative functions. Based on a soft-law agreement, it is essentially an international advisory body providing support to the governments that are seeking consensus-based solutions to common or shared problems in the Arctic. Sensitive issues, such as security policy, are excluded from the agenda of the Council, whose founding Declaration states that it “should not deal with matters related to military security” (38) (see box on page 215). Issues dealing with the utilization of natural resources, especially marine mammals, have also been avoided. The domination of the unified states in the Arctic Council and their continuing differences over these delicate issues largely explains their exclusion from the official agenda.

Protests and activities of environmentalist organizations directed against nuclear dumping and consumptive uses of marine mammals, and those of indigenous peoples against mining and forestry in the North, had already created conflicts between indigenous peoples’ organizations, national and regional authorities, local entrepreneurs, and industry in general. In this context, the Rovaniemi Process and the AEPS can be interpreted as a sophisticated mechanism whereby central governments could regain control over international cooperation and reassert the primacy of their interests as sovereign states (39). From the perspective of northern indigenous peoples, the Arctic Council can be seen as an international mechanism through which to connect circumpolar environments and thus understand them better (40).

There are some critical questions for the Arctic Council that could act as a barrier to deeper international cooperation. There has been concern about the balance between promoting environmental protection – in which the cooperation has its roots – and other goals, as witnessed by the protracted debate over adopting the Council’s Sustainable Development Programme. Another critical question concerns how the participation of both non-indigenous inhabitants and indigenous peoples of northern regions can be strengthened. Another important issue concerns the extent to which the Arctic Council
can, or indeed should, become the “voice of the Arctic” in global political fora – a matter of both capacity and political will.

Moreover, there has been neither real collaboration nor a division of labour between the Arctic Council and the interregional cooperations of the Northern Forum, merely a few joint projects. Though sharing similar aims, the interaction of the two bodies is affected by tensions in center-periphery relations in the Arctic states and differing attitudes towards the role of northern indigenous peoples’ organizations (43). Meanwhile, the activities of the Arctic parliamentarians and their gatherings have helped to draw some of the highest decision makers and lawmakers of the Arctic states into intensive international cooperation in, for example, considering human development in the region.

**Nordic cooperation: old tradition with new Arctic initiatives**

Region building is not a new activity in the North. Neither is it focussed only on circumpolar cooperation. For example, the five Nordic states started institutionalized cooperation in the 1950s based on a shared history and similarities in culture, as well as shared values on social and health security, equality, openness, environmental protection, and peace. The Nordic countries often work together in international fora and they created a passport union in the 1950s. In relation to the European Union, however, it has been split. Denmark, Finland and Sweden are EU member states, while Iceland, Norway and the Faroe Islands remain outside the union; Greenland was a member but has left. The Nordic states are also split in relation to NATO membership.

In relation to the Arctic, Nordic cooperation resulted in an initiative for inter-regional cooperation between the northern-most counties of Norway, Sweden, and Finland to promote the North Calotte as a political concept (44): established in 1967, the North Calotte Committee gained official status under the Nordic Council of Ministers in 1971, and is now called the North Calotte Council.

More recent is the cooperation between nations of the North Atlantic, with the Faroe Islands, Greenland, and Iceland affirming “Western Norden” as a region. It was institutionalized through the establishment of the West Nordic Parliamentarian Council in 1985, now called the West-Nordic Council.

According to the new common Nordic strategy, one of the main aims is to promote pan-Nordic interests, develop Nordic integrity and create higher Nordic utility, objectives which apply also to neighboring regions, including the Arctic (45).

**The Barents Region: an alternative to a military conflict zone**

The Barents Euro-Arctic Region was established in 1993 as a new kind of international forum for multilateral and bilateral cooperation. The Kirkenes Declaration (46), the founding document, is not a legally binding international
agreement and cooperation has focussed on practical issues along the national borders between the Nordic countries and Russia (47). The fields of cooperation are environmental protection, economy, science and technology, regional infrastructure, indigenous peoples, human contacts, culture, and tourism.

The main idea behind creating the Barents Euro-Arctic Region was to develop a new kind of cooperation in the former “military theater” of the European North that would cut cross the former Iron Curtain and create opportunities for cooperating with Russia (48-49). The ultimate aim was to increase stability in the aftermath of the Soviet Union’s disintegration, when Russia was still mostly seen as the “Other” (50).

This cooperation has a two-level governing structure: the Barents Euro-Arctic Council, and the Barents (Euro–Arctic) Regional Council. This was a new, even innovative, design in the Arctic when dealing with relations between states and regions, especially in light of the fact that the region was established by six state governments and the Commission of the European Union. The regional cooperation included a working group of indigenous peoples with the Saami, the Nenets and the Veps; this later became the common Working Group of Indigenous Peoples for both councils. However, the Saami were neither enthusiastic about the Barents Euro–Arctic Regional cooperation nor have they been active in it. The major reasons have been fears of neo-colonialism and their minor position in the cooperation (51).

The Barents Euro–Arctic Region (BEAR) includes 5,941 million inhabitants (in 2001), and 4,314 million of them live in the Russian side. The surface area of the Barents Region covers 1,755 million sq.km. (for more information see http://www.barentsinfo.org). The member states of the Barents Euro–Arctic Council are Denmark, Finland, Iceland, Norway, Sweden and the Russian Federation. The member sub-national regions of the Barents Euro–Arctic Regional Council are Finnmark, Nordland and Troms from Norway; Norrbotten and Västerbotten from Sweden; Kainuu, Lapland and Northern Otsrobothnia from Finland; and Arkhangelsk, Karelia, Komi, Murmansk and Nenets from the Russian Federation.

A major limitation of this initiative is that the official cooperation does not cover the Barents Sea, which makes the Barents Region some-what artificial as a region. This reflects the strong national interests of Norway and Russia in competition over the rich natural resources of the Barents Sea continental shelf. Bilateral negotiations in search of an agreed boundary line have continued for many years, and a bilateral agreement of the delimitation is possible in the near future. Security policy is also excluded from the cooperation, attesting to the legacy of the Cold War and the highly sensitive strategic role of the ice-free reaches of the Barents and Norwegian Seas. At the same time, many aspects of the practical cooperation do include the Barents Sea and address security-related issues such as nuclear safety.

If the main aim of the initiative was to decrease tension through transboundary cooperation, then the first ten years of cooperation can be taken as a success as the Barents Sea has emerged from a period of high tension into a phase of international, mostly inter-regional cooperation (52). Other more concrete achievements include the opening of a new international border crossing between Finland and Russia, and the framework agreement reached in May 2003 on a Multilateral Nuclear Environment Programme in the Russian Federation (53). Environmental cooperation has been rather successful in terms of agreeing on environmental action programs and allocating funding, while progress in business and economic cooperation has been slow.

The Barents Euro–Arctic regional cooperation has attracted many civil organizations and voluntary groups as an avenue for bottom-up activities across national borders in various areas including culture and the media, and women’s issues such as, a network of crisis centres for women. Recently, official cooperation has also focused more on trans-boundary issues relevant in everyday life, such as organized crime and the trafficking in drugs and humans (54). That some regional and indigenous actors feel they have no real means to influence the process, however, complicates its consolidation at the popular level. Moreover, many of the regional actors involved have been frustrated by the many dreams and the barriers to achieving concrete results.

**The Bering Strait: indigenous initiatives paved the way**

Cooperation in the Bering Strait provides quite a contrast with the Barents Region. The cooperation between Alaska and Chukotka and other parts of the Russian Far East started in the late
1980s as non-governmental and local community initiatives, which was supported by the governments of both sides, on not only common political, economic, and cultural issues, but also facilitating people-to-people and family connections across the Bering Strait. The indigenous peoples and their organizations played a key role (55) with events on traditional knowledge and on stewardship of the Bering Sea environment. One of the basic ideas is to promote resource management in indigenous communities in Chukotka, especially of whale, polar bear and fisheries, and to help scientists to collect data, for example on the harvesting of whales (56). One concrete result of the cooperation is the 1992 Alaska-Chukotka accord for visa-free travels for Inuit of the region (57).

Environmental protection was another driving factor, and includes an agreement on the conservation of polar bears and an idea to create an international park in the Bering Strait area. The National Park Service’s Shared Beringian Heritage Program was initiated but an agreement to establish a Beringia Park has not yet been signed. There are also several structures for scientific cooperation in the region, including the Barrow Arctic Science Consortium to support research infrastructure on both sides. The University of Alaska has been active in promoting the transition to democracy and a free market of the Russian Far East economy through the training of entrepreneurs, business managers, and government leaders (58).

The initial euphoria over the Bering Sea collaboration, especially at the political level, decreased in the mid-1990s when Chukotka experienced political changes and severe economic problems. The process now involves mainly economic cooperation, and that between peoples. Infrastructure improvements, particularly in communication and transportation, are important for trying to improve relations across the Bering Strait, especially from the point of view of Alaska, which for 40 years has been boundary rather than a crossroads (59-60). Although the tradition of contacts has been important, the main driving force, at least from the US side, has been commercial interests in tourism and trade between the two continents (61).

Unlike the Barents Euro-Arctic Region, there is no international body for an institutionalized inter-governmental or regional cooperation in the Bering Strait region. On the other hand, there is an intercontinental network for contacts and cooperation that is flexible and based on bottom-up local and regional activities. These contemporary contacts represent both a revival of pre-Cold-War indigenous contacts of the first half of the 20th century, as the awareness of those travels plays an important role, and also as an innovation (62).

The Arctic as a knowledge-based region

In addition to political cooperation, the end of the Cold War made possible increased scientific cooperation across borders. Earlier activities, such as the Second International Polar Year in 1932-33, did not leave any permanent institutionalized arrangement, and the current international scientific work in the circumpolar North began in the 1980s. At first it was mostly based on bilateral cooperation and international research projects on the Arctic. There was also some university cooperation in the context of the North Calotte Universities and the Circumpolar Universities Conferences.

Closely connected to the Murmansk Speech and its call for scientific co-operation, the International Arctic Science Committee (IASC) was founded in 1990. As the first circumpolar scientific organization, its aim was to encourage and facilitate international cooperation on Arctic research in all disciplines. The IASC was

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**The International Arctic Science Committee**

*Boris Segerståhl*

The International Arctic Science Committee (IASC) is a non-governmental organization with members from 18 countries. The members are national science organizations covering all fields of Arctic research. Each national member provides ongoing contact with its Arctic science community and draws on this structure to identify scientific priorities. IASC does not provide direct funding for research projects, but supports networks to implement international projects. An important feature of many projects is that they are multidisciplinary. Once a year, the International Arctic Science Summit Week is organized in one of the member countries.

IASC’s influence on research planning and priorities is not based on economic power but on scientific credibility, and recommendations are evaluated nationally before funding decisions are made in member countries. However, a growing need for international collaboration has led to a situation where priorities set by IASC have a fairly strong influence on research policies in many countries.
followed by other international scientific and academic fora, such as the International Arctic Social Sciences Association, the University of the Arctic and the Northern Research Forum.

Scientific assessments conducted by the working groups of the AEPS/Arctic Council activities have also brought together scientists from different countries using the Arctic as a common ground for cooperation. Another International Polar Year is planned for 2007-08, with a focus on the importance of the Arctic and Antarctic in the Earth system and their connections, for example to global climate.

Trend summary

Region-building in the circumpolar North is taking place both regionwide and in several sub-regions. At the pan-Arctic level, the Arctic Council serves as a governmental platform for discussing environmental cooperation and sustainable development. Correspondingly, the Northern Forum gathers regional and local governments across the Arctic but has limited indigenous participation. Promoting civility and sustainability, region-building is relevant both Arctic-wide and at the sub-regional level in the North. It might even be one of the most relevant new trends in international relations, and thus the most important observation of this chapter. It includes a range of actors and can be taken as a step towards regionalization, based on bottom-up activities. A common theme in all these efforts is the desire to create a new approach to the geopolitics of the North.

The Arctic and the outside world

Traditional security policy, especially military security, and issues surrounding natural resource exploitation dominated the relationship between the Arctic and the outside world during the Cold War. With its end, global geopolitics entered into a new phase, with implications for the Arctic. This changed situation has contrasting features. While a single superpower now enjoys a hegemonic position amongst states, we also see the rise of new international non-state actors, including non-governmental organizations, and ethnic and religious groups, which act globally and challenge the unified state system.

The Arctic is also affected by intensifying globalization. Earlier influences in areas such as the utilization of marine mammals, trade and control of that, militarization, and long-range pollution combine with several newer factors. For example, large-scale hydrocarbon exploitation has increased and brought the transnational corporate presence to the Arctic. Advances in information flow and communication technology make the region less “remote,” while climate change illustrates the Arctic’s vulnerability to global environmental change. Northern indigenous peoples are being integrated into the global indigenous world.

The Arctic retains its high strategic significance in security matters for key military powers like the United States, the Russian Federation, and the United Kingdom. Its rich natural resources and potential transportation routes also make it strategically relevant economically for many other countries. However, by the turn of the millennium, intergovernmental and regional cooperation had largely replaced military competition as the defining feature of circumpolar geopolitics.

From military confrontation to international cooperation

The 20th century brought the first wars into the circumpolar North and with them a general militarization of the Arctic. The Cold War transformed the region first into a military flank, then a military front or even a “military theater,” denominated by the nuclear weapons systems of the United States and the Soviet Union. For example, the maritime strategies of the two superpowers made the northern seas, especially the ice-free reaches of the Barents, Norwegian, 

The Northern Research Forum

Boris Segerståhl

The Northern Research Forum (NRF) started in 1999 as a forum for dialogue on northern issues between politicians, civil servants, business people, NGO-activists, and academics. It is based on ad-hoc work rather than an organizational structure. Discussions on relevant contemporary issues take place at biennial open meetings. These have discussed themes such as “Northern Economies in the Global Economy”, “Innovation in Northern Governance” and “Applying the Lessons of History.” The aim is to avoid dividing issues along traditional sectors or disciplines and also to deal with delicate issues. Other aims are to promote policy-relevant discussion and to emphasize the social role of research (63).
and Greenland Seas, not only a military front but also a target of both the Soviet and the US militaries (64-66).

The Arctic situation illustrates the use of geography for military purposes, which is often called the technology model of geopolitics (67). The Arctic was a critical area as it offered the shortest flight routes for US and Soviet long-range bombers and missiles between Eurasia and North America. Sparsely populated, it was, and still is, also attractive as an area in which to test new weapons systems and conduct military training exercises – for example, low-level flights - thereby serving as an arena for the high technology arms competition of the Cold War period (68-69).

Against this background, numerous ideas and proposals for arms control and confidence-building in the Arctic and northern seas were put forward, but formal East-West agreements rarely embraced this region in any direct way, as illustrated by the lack of any concrete negotiations in response even to the military security aspects of Gorbachev’s 1987 “Murmansk Initiatives” (70).

The end of the Cold war period and the collapse of the Soviet Union, with the consequent dissipation of East-West tension, were followed by cooperation and partnership, even some sort of euphoria of peace and friendship. This enthusiasm was strengthened by concrete actions for arms control, such as the Comprehensive Test Ban Treaty. In the 1990s, global and regional security arrangements were in transition. Though there were quantitative reductions in the armouries, especially nuclear, of the major powers, economic and technical developments led to an emphasis of quality over quantity.

By the turn of the century, the military presence in the Arctic had contracted, and there was less tension; meanwhile, increasing international cooperation on civilian and some military-related issues generated a greater sense of stability and cooperative security (71). The very meaning of security was also being extended beyond traditional concerns with “military” threats to focus on environmental and societal problems such as health, cultural survival, freedom of expression and security of communication (72). Security is complex, however, and still includes nationalistic and militaristic aspects (73), as can be seen in dealing with actual or potential environmental problems stemming from military activities (see box).

Despite the end of the Cold War, and the increase in regional cooperation being crafted in the region, the Arctic has retained its high military-strategic significance, especially as an under-ice deployment and hiding area for submarines carrying ballistic missiles and for those that “shadow” them. These guarantee the possibility of revenge strikes by nuclear weapons,
and could transfer tensions or armed conflict in other parts of the world to the Arctic. Additionally, climate change in the future will increase the ice-free areas of the Arctic and create new possibilities for military patrolling, for example in the Canadian Arctic archipelago.

The phenomenon of “less quantity and more quality” is a relevant factor in the large and sparsely-populated northern regions. It has led to fewer military bases, troops and radar stations. In parts of some regions such as the Barents Sea, the Kola Peninsula, and northern Norway, however, the military presence has intensified, and includes nuclear-weapon deployments and military activities such as intelligence work, training, and testing (80-81). Also, Alaska has come to play a strategically key role as a deployment area for the underground silos of missile interceptors and associated communication systems of the United States’ National Missile Defense system (82). There are also plans for more intensive use of the US air base and radar installation in Thule, Greenland. These developments can be interpreted as a re-militarization of the Arctic.

The Arctic in global environmental issues

The Arctic has been described as an environmental linchpin (see Chapter 1. Introduction). This vision seems relevant at a time when global problems, such as long-range air and sea pollution, radioactivity, and climate change create challenges for northern peoples and communities, for example concerning food security. The vision is even more relevant because potentially effective responses to such global challenges can only be realized through international cooperation between governments and sub-regional and civil actors. This is not an easy task, however. Both global and Arctic-based environmental problems are closely connected to industrialization, the utilization of natural resources, and the military, and thus with fundamental interests of the unified states such as welfare, economic growth and security.

The Arctic could play a critical role in global environmental issues for two reasons: First, the Arctic has been a “laboratory” for science, including research on the environment, for several decades. The emerging intercourse between science and traditional knowledge may further strengthen the knowledge base this provides. Second, the current inter-governmental Arctic cooperation started with environmental protection and has already created some useful models for future action, as mentioned earlier in this report. The global relevance of this knowledge and “know-how” in region-wide decision making is sufficient to merit sustained efforts to communicate it to the outside world.

Northern dimensions

During the late 1990s, the “Northern Dimension” became a political term and policy focus in both the European Union and Canada. There has also been a corresponding political discussion in Russia about the need for a long-term northern policy (83) as well as a more academic one about the need to redefine the role of the Russian North as a geographically important resource reserve (84-85). The Northern dimension is thus becoming a metaphor for new kinds of relations between the capitals and the northern peripheries of the Arctic states.

Initially adopted in 2000, the EU’s Northern Dimension Action Plan is a framework and a process for continuing dialogue on cooperation between the EU and its neighbors, especially the Russian Federation, and for co-ordination, even management, of cross-border cooperation across the EU borders (86-87). The main aim is to increase stability and civic security, to enhance democratic reforms, and to create positive interdependence and sustainable development. Special focus is on the threats posed by pollution to Arctic nature and the health problems affecting people living in the North (88). The EU framework covers a geographically broad and diverse area, ranging from Greenland in the west to Northwest Russia in the east, and from the Arctic to the southern extremity of the Baltic Sea. The Second Action Plan – for 2004-06 focuses more on human resources and social issues, such as education and public health, and on the environment than was the case with the first action plan.

Canada launched the Northern Dimension of its foreign policy in 2000. The main objectives are to enhance the security of Canadians and northern peoples, to ensure Canada’s sovereignty in the North, to establish the circumpolar North as an integrated entity, and to promote human security and sustainable development (89). These objectives are well in line with other discussions on northern issues in Canada, such as the role of indigenous governance and the geopolitical, legal and economic implications of climate change (90-91).

The processes of the two Northern
Dimensions are different. In Canada, its procedure is based on three simultaneous consultation processes: in the federal government, between that and territorial and provincial governments, and with non-governmental organizations and stakeholders (92). The EU’s Northern Dimension has been mostly developed by the EU institutions in a process between the EU member-states and partner countries, each with their particular emphases. In this process, the partner countries and Greenland have had an almost equal voice and have been able to take initiatives (93).

The northern dimension has also been adopted as a new item in the political dialogue between the EU and Canada, which signifies at least a potential for using these initiatives as a way to cooperate on global and regional challenges (94). Both Northern Dimensions, however, are basically constrained by limited funding. In the EU, the enlargement of 2004 may mean less interest toward the North (95). Another challenge for the EU’s Northern Dimension is its lack of strategic priorities.

**Trend summary**

The Arctic is still of high strategic importance but there has been a shift from quantity to quality in military strategy and presence and greater emphasis on the region’s rich natural resources in the global scale. Climate change and related sea ice thinning will probably bring intensified civilian transportation and military activities in the Arctic Ocean, complicating the security situation. The new international Arctic cooperation has had little direct bearing upon traditional security policy. It has, however, much greater importance in relation to the challenges and opportunities presented by economic development and climate change.

“Northern Dimension” policies carry the potential for a new kind of relationship between the Arctic and political centers in the south, even if the concept is still in a formative stage. To have the Arctic as a “cross-cutting issue, mainstreamed within each key-priority” would emphasize the role of northern societies and thus form new and more fruitful kinds of north-south relations.

**Key conclusions**

The circumpolar North cannot be insulated from developments at the global level but it also has its own special regional dynamics based on post-Cold-War political changes. International relations in the Arctic are based on both intergovernmental and inter-regional cooperation. Consequently, the region deals closely with internationalization and globalization at the same time as it shows strong signs of region-building and regionalization. Its many international institutions create possibilities for the North to become an active player in world politics with constructive ways to implement its experiences and fresh ideas.

Three main themes define the current stage of international relations and geopolitics in the Arctic. The first is the intensive inter-regional and often circumpolar collaboration amongst indigenous peoples, sub-national governments, and civil organizations. This can be seen as a renaissance of pan-Arctic cooperation as it builds on traditions of social contacts and trade networks between northern peoples and societies. The new international actors have created special regional dynamics in which transborder cooperation is a realistic possibility and constitutes a new resource for development. This is partly connected to political and institutional changes in northern governance, bringing more self-determination and autonomy. As both a precondition and a result of these developments, Arctic geopolitics have moved from state domination and militarization towards a more human orientation.

The second theme is region-building, which includes defining the Arctic as a distinct, comprehensive region. This has mostly been a top-down, state-dominated activity aimed at relieving tension and fostering stability, but it also includes bottom-up initiatives, illustrated by activities in the Bering Strait area. Preconditions for region-building have been the declining relative importance of military-based security and the more acute awareness of the often common objectives of environmental protection and human development.

The third theme concerns the changing nature of relations between the Arctic and the outside world as the military significance of the region is being supplemented by its strategic role in the global economy, based on its rich natural resources. Northern economies are increasingly integrated into the globalized world economy and the importance of northern regions may grow with the increased demand for strategic minerals and oil and gas, with larger companies with more capital taking an interest in the region, and with technology creating
easier access to raw material sources. This integration is driven more by major states and transnational corporations than by regional actors. Within a broader concept of security that includes the environment and economy, security policy retains a critical role. It includes issues related to the sovereignty of unified states and the maintenance of their jurisdiction over natural resources and transportation, as well as the Arctic’s continuing military-strategic significance.

In summary, globalization is increasingly bringing new actors to the Arctic at the same time as international cooperation is becoming more intensive in northern regions. Together with new Northern Dimension initiatives, these raise the possibility of changes in circumpolar geopolitics by the 2010s. Defining the new relationships between the Arctic and the outside world and finding new approaches are politically important as well as scientifically interesting.

Gaps in knowledge

The two most important gaps in knowledge of the subject of this chapter are the following:

First, despite slowly increasing attention to regional cooperation in the literature on Arctic development, there is a need for more research adopting a comprehensive circumpolar approach that would complement the still dominant national perspectives.

Second, there has been similarly little debate amongst scholars or other stakeholders over how human and environmentally sustainable regional development are facilitated or constrained by security policies and military activities in the region. Even though it might usefully inform our understanding of sustainable development in the Arctic, defining and addressing security from a regional perspective has been a difficult, or even taboo, issue.

Chapter summary

International cooperation in the post-Cold-War Arctic has increased at many different levels. This includes governmental cooperation in the Arctic Council but also new fora for cooperation among indigenous peoples, sub-national governments, parliamentarians, civil organizations and in research and education. Since the late 1980s, the Arctic has increasingly been recognized as a distinct region. This region-building is one of the most important trends. Its focus on social stability and environmental sustainability can be seen as a wish to create a new geopolitical approach. It also helps to secure for Arctic concerns a visibility and arguably even a voice on the international scene, especially in environmental matters. The Arctic is still a theatre of military preoccupations, but these now have to share center stage with the often common predicaments of its inhabitants, embedded as they are in the region’s rich yet vulnerable environment.

References

6. It is relevant to mention that the Treaty of Spitzbergen, the first international agreement dealing with the Arctic, was signed in 1920 already.


31. e.g. Working Group on Arctic International Relations run by Dartmouth College, the USA and University of Toronto, Canada, and International Research Project on Sustainable Development and Security in the Arctic by the Tampere Peace Research Institute, Finland.

32. The Rovaniemi Declaration, signed by the Eight Arctic Nations, June 14, 1991 in Rovaniemi, Finland.


37. See for example, Ministry for Foreign Affairs of Iceland, Program for the Icelandic Chair of the Arctic Council 2002-2004.


41. A decade under the sign of the environment. Norway and Russia co-operating on environmental protection (Miljøverndepartementet, Norge).


53. Declaration of Principles Regarding a Multilateral Nuclear Environmental Programme in the Russian Federation at the Sixth Session of the Barents Euro-Arctic Council, Bodø, 4-5 March 1999.

54. For example, the Anti-Crime Conferences in 2003 and 2004 in Rovaniemi, Finland.

55. V. S. Gofman, A meeting with experts on the Bering Strait area cooperation (V. S. Gofman, L. Huskey, W. B. Palmer, G. Protasal, J. Tichotsky) in May 19, 2004 at the University of Alaska, Anchorage, Alaska. personal notes.


58. Since 1993, the American Russian Centre at University of Alaska Anchorage has run over 500 courses and seminars training more than 18,000 entrepreneurs, teachers and government officials.


65. S. E. Miller, “The Arctic as a Maritime Theater“, a background paper for the international project on Arctic development and security of the Tampere Peace Research Institute (December 19, 1989).


70. This is the case especially in the 1980s, when there were more than 230 of these kinds of proposals (R. G. Purver: *Arctic Arms Control: Constrains and Opportunities* (Canadian Institute for International Peace and Security. Occasional Papers 3, February 1988).

71. Østreng 1999: 48-51.


79. AMAP 2002:59-76.

80. e.g. P. Salminen (Director of Department of Military Stations in the Canadian Arctic – Its Relevance to Antarctica), in Canadian Antarctic Research Network, Newsletter Vol.13. (November 2001), pp. 4-5.

81. e.g. C. Nelleman, “New Bombing Ranges and their Impact on Saami Traditions”, POLAR Environmental Times 3, 1 (October 2003).


89. The Northern Dimension of Canada’s Foreign Policy. Department of Foreign Affairs and International Trade, Canada, May 2000.


91. See also Presentation Abstracts “On Thinning Ice: Climate Change and New Ideas about Sovereignty and Security in the Canadian Arctic” in January 25-26, 2002, Ottawa, Canada (Canadian Arctic Research Committee, Centre for Military and Strategic Studies, Centre for Military and Strategic Studies, Canadian Polar Commission).


96. There is no official or commonly accepted list of International Actors in International Relations, but there are different ways to categorize them, and a common way to divide them into inter-governmental and non-governmental actors. The enclosed list is based on the categories of J. E. Dougherty and R. L. Jr. Pfaltzgraff, Contending Theories of International Relations. A Comprehensive Survey, Third Edition. Harper Collins Publishers, U.S.A, 1990, pp. 22-28), which also includes individuals and the international system per se, and has been applied by the author (see L. Heininen, Euroopan pohjoisen alueen ympäristöpolitiikka, 2001).

97. (The compilation of these individuals and organizations is based on the categories of J. E. Dougherty, C. S. Browning, P. Jorreniemi, R. L. Jr. Pfaltzgraff, and L. Heininen.)

98. The enclosed list includes different categories of international actors, such as governments, non-governmental organizations, and individuals. The list is not exhaustive and is based on the categories of J. E. Dougherty, C. S. Browning, P. Jorreniemi, R. L. Jr. Pfaltzgraff, and L. Heininen.

99. The enclosed list includes different categories of international actors, such as governments, non-governmental organizations, and individuals. The list is not exhaustive and is based on the categories of J. E. Dougherty, C. S. Browning, P. Jorreniemi, R. L. Jr. Pfaltzgraff, and L. Heininen.

100. The enclosed list includes different categories of international actors, such as governments, non-governmental organizations, and individuals. The list is not exhaustive and is based on the categories of J. E. Dougherty, C. S. Browning, P. Jorreniemi, R. L. Jr. Pfaltzgraff, and L. Heininen.
In this final chapter, we single out major conclusions drawn from the substantive chapters of the AHDR that merit attention on the part of the Arctic Council and its Sustainable Development Working Group as a matter of priority. The chapter directs attention to some success stories regarding human development in the Arctic and also identifies areas in which there is a need for more and better knowledge. In addition, it presents some reflections regarding the nature of human development as seen from a regional perspective. The chapter reemphasizes the character of the Arctic Human Development Report (AHDR) as a scientific assessment and makes some suggestions regarding appropriate follow-up activities.

The chapter is designed to serve as a self-contained summary of the AHDR’s main findings accessible to policymakers and members of the attentive public interested in contemporary Arctic issues. It rests firmly on materials presented in the previous chapters of the report. We urge readers who want to learn more about the nature of the evidence and the analysis underlying specific conclusions to turn to the relevant chapters for more detailed accounts.

Policy-relevant conclusions

This section presents the most striking findings of each of the AHDR’s substantive chapters as seen from a policy perspective. This procedure runs the risk of ignoring or glossing over some important points and failing to present a well-rounded account of the full array of concerns pertaining to human development in the Arctic. Yet it does have the virtue of drawing attention to a limited set of issues we believe deserve special attention (1).

Demography

- The human population of the Arctic is sparse, unevenly distributed, and skewed in terms of both age structure and gender balance.

In demographic terms, the Arctic is a land of contrasts. Approximately 4 million people live in the Arctic. Almost half of them are residents of the Russian Arctic, despite the exodus of non-indigenous residents from this region in recent years. There are a number of sizable cities (e.g. Murmansk, Norilsk, Reykjavik, Anchorage) coupled with vast sparsely inhabited areas. The density of population in the Arctic varies from 0.025 per square kilometer in Greenland to 4.3 per square kilometer in the northern counties of Norway and 34 per square kilometer in the Faroe Islands.

Relative to the population of the non-Arctic sectors of the Arctic countries, human population in the Arctic is miniscule. But there is considerable variation in these terms as well. Only 0.2% of Americans live in Alaska, 0.4% of Canadians in the Canadian Arctic, and 1.4% of Russians in their country’s northern areas. By contrast, 10.2% of Norwegians live in the country’s three northern counties, a situation that may account for the fact that Norway devotes more attention to northern issues than many of the other Arctic countries. Even so, population has tended to decline in the northern hinterlands of Finland, Norway, and Sweden, a matter of serious concern to policymakers throughout Fennoscandia where the maintenance of a significant human presence in the North is regarded as a high priority.

Perhaps the most important inference we can draw from these observations of contrasts and diversity in demographic patterns is that it is risky to generalize when it comes to assessing the relative merits of policy options relating to
matters such as health, education, and welfare. A second inference concerns the ease with which it is possible to overlook Arctic issues in the national capitals of the Arctic states. There are exceptions. The American constitution accords Alaska the same representation in the US Senate as it grants to California. Nevertheless, it is a struggle to project the voice of the Arctic into policymaking processes in the Arctic states, even in cases like climate change where the impact on the region is expected to be particularly severe. Because northern issues differ markedly from those of southern regions and often call for Arctic-specific solutions, this tendency to ignore the Arctic at the national level is a matter of genuine concern. It suggests, among other things, that proposals calling for the creation of bodies dedicated to the articulation of Arctic concerns in the national capitals may have merit.

**Societies and cultures**

- Human societies in the circumpolar North are highly resilient; they have faced severe challenges before and adapted successfully to changing conditions.

The Arctic is a melting pot of cultures. The region’s indigenous peoples are highly diverse. Perhaps the most fundamental division among these peoples separates those adapted to the tundra and the coastal margins of the Arctic seas, on the one hand, and the peoples of the subarctic or taiga, on the other. To this mix we must now add several later waves of immigrants, ranging from the agriculturalists who settled Iceland and the Faroe Islands more than 1,000 years ago to the Filipino fishermen who have immigrated to Alaska in recent decades. The growing cultural diversity of the Arctic is apparent to anyone who has travelled in the region over the past few decades. This diversity, to take a single striking illustration, is reflected in the international cuisine now available in Arctic communities, ranging from Thai restaurants in Isafjörður, Iceland, to pizza parlors in Iqaluit, Nunavut. For the most part, residents of the Arctic celebrate this diversity; the idea of preserving cultures frozen in time as they appear in the dioramas of southern museums belongs to the past.

Arctic societies and cultures – especially those of indigenous peoples – have a long history of resilience based on their ability to adapt quickly to changes in the ecosystems on which they depend and even to profit from changing biophysical and social conditions to improve their circumstances. The ability of these peoples to take advantage of the introduction of modern practices and technologies (e.g. snowmobiles, helicopters, the internet) should be viewed as a sign of cultural vitality rather than as an indicator of cultural decline. Traditions are dynamic. We must not allow nostalgia for social practices of the past to cloud our assessment of the integrity of Arctic cultures today.

At the same time, it would be a mistake to assume that Arctic societies and cultures can remain resilient in the face of all biophysical and social changes. Today, Arctic societies face an unusual combination of biophysical and socioeconomic stresses. The onset of climate change is not only generating concrete problems (e.g. the impact on infrastructure of increases in the active layer of permafrost). It is also eroding the confidence of local leaders in their judgments about climate-related matters, such as when and where to hunt and when it is safe to travel on sea ice.

Nor is climate change the only threat to Arctic societies and cultures. On the contrary, there is also a growing need to respond effectively to fast changes in economic, legal, and political systems as well as to changes in other biophysical systems. To meet this challenge, Arctic societies will have to balance the retention of long-standing social practices with the introduction...
of new forms of knowledge and innovative technologies or, in other words, find the right mix of continuity and change.

**Economic systems**

- Arctic economies are narrowly based and highly sensitive to outside forces, including market fluctuations and political interventions.

Some observers regard Arctic economic systems as backward, marginal, and unable to cope with the competitiveness of today’s world. However, if the Arctic is treated as an integrated region, the “Gross Arctic Product” surpasses the gross domestic product of Sweden, rivals that of Belgium, and amounts to about one-fourth of Canada’s gross domestic product.

Transfer payments from national governments are of great importance in many parts of the Arctic. For example, Denmark underwrites about half of the annual budget of the Greenland Home Rule and Canada covers some 85% of the cost of running Nunavut. Yet it is easy to misinterpret the significance of these observations. Large quantities of profits and rents, arising mostly from the extraction of natural resources on a large scale, flow out of the Arctic, depriving public authorities in the region of potential sources of revenue. A comparison of outflows in the form of profits and rents and inflows in the form of transfer payments shows that the Arctic as a whole is a net exporter of wealth. Of course, there is a great deal of variation across the circumpolar North. Deposits of oil, gas, and minerals are sprinkled here and there across the region. Still, it is time to abandon the fallacious idea that the Arctic is unable to pay its own way in today’s world.

What is true is that Arctic economic systems are often narrowly based and therefore highly vulnerable to both market fluctuations and political interventions. In the wake of the emergence of cash economies, many Arctic systems have taken on the character of monocultures, depending on one or a few products, such as lead, zinc, natural gas, oil, shrimp, or marine mammal products. When these resources are exhausted (e.g. hydrocarbons), experience sharp declines (e.g. fish stocks), or are affected by bans
or boycotts (e.g. seal skins), individual communities in the Arctic suffer severely. The affected communities are miniscule in terms of their economic and political power. Outside actors, including NGOs, multinational corporations, and governments, can and often do act with little awareness of or even concern for the impacts of their actions on Arctic communities. Under these circumstances, a major challenge is to devise ways for Arctic economic systems to diversify and to protect themselves from the effects of actions taken in ignorance of their consequences for human development in the Arctic.

**Political systems**

- The devolution of political authority to regional and local governments in the Arctic has not been accompanied by significant reallocations of material resources.

There are exceptions to every generalization. The victory of Alaska’s North Slope Borough in its legal battle to win the authority to levy property taxes on the oil development infrastructure at Prudhoe Bay constitutes an exceptional situation in the Arctic. Far more common is the transfer of authority over a wide range of functional concerns (e.g. health, education, and welfare) to newly created Arctic local or regional governments without providing them with independent sources of revenue needed to discharge their responsibilities effectively. The result is a heavy reliance on bloc grants, as in the case of Danish funding of the Greenland Home Rule, or transfer payments, as in the case of funding for a variety of welfare organizations serving the population of rural Alaska. These forms of support are of critical importance. But they are controlled by central governments that can alter or even discontinue them at will.

Are there realistic alternatives to this state of affairs in the Arctic? Two solutions are possible: a return to a more traditional, self-sufficient subsistence life style or changes in the rules of the game to allow Arctic communities to capture a share of the profits derived from the exploitation of the region’s natural resources. A strengthening of traditional subsistence practices appeals to some and may prove necessary in parts of Russia hit hard by the impacts of the economic collapse of the post-Soviet era. Still, few are prepared to turn the clock back to an earlier era. The only real alternative to continued dependence on transfer payments, therefore, is to change the rules of the game to ensure that more of the profits remain in the Arctic.

Similar concerns have arisen in many other parts of the world endowed with an abundance of natural resources. In general, the results have not been encouraging. Many analysts actually talk about the “curse of resource abundance.” Yet some effective responses to this conundrum are surely possible. The taxing authority of the North Slope Borough offers an interesting precedent. So does the creation of Community Development Quotas in some fisheries under federal control in Alaska and the income security program under which the government of Canada supports active trappers. Finding ways to address the imbalance of authority and resources is a matter of the utmost importance throughout the Arctic today. In Russia, efforts to address these concerns are complicated by the continuing struggle over the allocation of authority between the central government in Moscow and regional authorities in many parts of the North.

**Legal systems**

- There is a growing dualism between the legal rights of indigenous peoples and the authority of public governments in the Arctic.

Although those working on behalf of indigenous peoples are justifiably frustrated by the time and energy it takes to advance their issues on national policy agendas, the past three decades have witnessed significant gains in the recognition of indigenous rights throughout the Arctic. These gains take a variety of forms, including the entrenchment of aboriginal rights in national constitutions (e.g. Article 35 of the 1982 Canadian constitution and Article 69 of the Constitution of the Russian Federation), the creation of new political bodies (e.g. the Saami Parliaments in Finland, Norway, and Sweden), the transfer of property rights to Native entities (e.g. the corporations set up in Alaska under the terms of the Alaska Native Claims Settlement Act (ANCSA) of 1971), and the strengthening of usufructuary rights (e.g. harvesting rights built into a number of comprehensive land claims settlements in the Canadian Arctic). However, new public governments (e.g. the Greenland Home Rule, Nunavut, the North Slope Borough) have also emerged in the Arctic. They exhibit the natural tendency of such governments to assert authority over all the activities occurring in areas under their jurisdiction, without regard to how these activities relate to indigenous rights.
Are these concomitant trends on a collision course? Dealing with the tensions arising from legal dualism surely presents a challenge, but there are signs of innovative responses arising in the Arctic. In Alaska, there are cases in which public governments, Indian Reorganization Act Councils, and village ANCSA corporations cooperate in the interests of devising mutually supportive divisions of labor. Efforts have also begun to devise an arrangement that will allow the Norwegian Saami Parliament and the county government of Finnmark to exercise concomitant jurisdiction regarding matters of conservation and sustainable development in North Norway, even if the current proposal is a focus of intense controversy. These innovations are far from ideal; there is a need to entertain more far-reaching changes before we can feel satisfied about the interplay between indigenous peoples’ desire for self-determination and the natural propensity of public governments to exercise authority within their jurisdictions. But the Arctic could well emerge as a leader in the worldwide effort to accommodate both sides of this growing political dualism.

**Resource governance**

- Many new and promising systems of resource governance have arisen in the Arctic, but little has been done so far to assess their performance using common criteria of evaluation.

A striking development in the Arctic over the past decades is the establishment and implementation of a diverse collection of new resource regimes. What has emerged from this dynamic process is a tendency to pigeonhole arrangements into a few overarching categories (e.g. co-management) and to concentrate on the processes involved in creating these arrangements rather than assessing their performance. Partly, this is a function of the relative newness of most of these arrangements; many of those involved are still investing their energy in getting new environmental and resource regimes up and running in contrast to taking a step back to contemplate how well they are performing. In part, it is attributable to the fact that we do not have well-developed methods for assessing the performance of management regimes.

One highly useful initiative in this context would be to develop a well-defined and unbiased set of criteria of evaluation and then to conduct comparative assessments of arrangements already in place or emerging in various segments of the Arctic. This would make it possible to pose and begin to address the following sorts of questions. What can we say about the relative performance regarding land use and the exploitation of natural resources of the Alaska Native corporations established under the provisions of ANCSA and the various organizations set up under the terms of comprehensive claims settlements in Canada? How effective is the system in place in Greenland in which there is no well-defined concept of private property and decisions about the development of many natural resources are made by a joint Greenlandic and Danish council? Are there lessons to be drawn from North American experiences that are relevant to current efforts in the Russian Arctic to restructure existing practices dealing with land ownership, use, and occupancy? How have various limited entry programs fared when applied to Arctic fisheries? Here, there are opportunities to address issues that are not only critical in the Arctic but also matters of growing concern in other parts of the world.

**Human health**

- Telemedicine has been highly successful in the Arctic, but effective responses to problems involving mental health, violence, and accidental death require the development or strengthening of community-based health services. Also, dietary concerns arising from changing lifestyles and responses to contamination have to be addressed.

There have been undeniable gains in human health in the Arctic over the past several decades. Although life expectancy in the Arctic—especially in Russia—is lower than life expectancy in other parts of the Arctic countries, it is substantially greater today than it was in the years following World War II. In most Arctic areas, tuberculosis is a thing of the past. The introduction of innovative technologies in such
forms as telemedicine has been a striking success. Although diabetes, tooth decay, and other conditions associated with shifting dietary habits and lifestyles are on the rise in some parts of the region, the overall picture of human health in the Arctic is markedly brighter now than it was even two or three decades ago.

Even so, this picture does not justify the inference that everything is fine regarding human health in the circumpolar North. Two sets of problems present particularly serious challenges: One is mental health, alcohol and substance abuse, violence, and accidental death. The other is dietary issues arising from concerns about the contamination of country foods together with increased consumption of fast foods. What is needed to address the two challenges differs dramatically. Suicide, homicide, and other forms of violence are closely tied to rapid social changes that erode a sense of being in control of one’s own destiny and of being embedded in an intact culture. Solutions lie in strengthening the viability of Arctic communities and, above all, finding ways to allow the Arctic’s residents to play active and effective roles as players in programs designed to improve their own health.

The problem of contaminated food is entirely different. It arises from industrial activities occurring far beyond the confines of the Arctic and can only be alleviated through effective initiatives on the part of distant policy makers. Over time, it may be possible to educate southern policy makers about the seriousness of this issue. In the immediate future, however, Arctic residents need advice about the risks of consuming contaminated food firmly grounded in the best available science and traditional knowledge. The work of the Arctic Council’s Arctic Monitoring and Assessment Programme (AMAP) has been particularly helpful in this respect.

Education

• Although education in the hands of missionaries, economic entrepreneurs, and colonial administrators has been a vehicle for assimilation, there are opportunities today to develop education systems well-suited to the needs of Arctic residents.

Traditionally, education in the Arctic featured the transmission of useful skills and values through experiential learning and the passing on of oral traditions from one generation to the next. The onset of western colonization in the North led to profound changes in the educational systems. Missionaries seized opportunities to spread the gospel of Christianity. Trading companies found it expedient to teach local people to hunt and trap for commercial purposes rather than to fulfill subsistence needs. Eventually, the state assumed responsibility for educating the residents of most areas in the Arctic. But given the great distances and sparse populations characteristic of the Arctic, this often led to the use of curricular materials developed for communities located far to the south and to the gathering of students in boarding schools far from their home communities. Frequently, this process included active efforts to suppress distinctive cultural practices (e.g., use of native languages, the passing on of oral traditions) in the interests of equipping students with the skills and overall perspectives needed to live successfully in mainstream societies.

Today, the mindset underlying these practices has changed. But there is much to do to create education systems that are sensitive to Arctic conditions and that are designed to provide students with the knowledge and skills required to thrive in the Arctic. Partly, this is a matter of providing instruction in native languages, developing curricular materials designed for use in the Arctic, and training Arctic residents themselves to become teachers in local schools. In part, it is a matter of taking advantage of new technologies that make it possible to deliver distance education of a quality good enough to make it unnecessary for students to leave their home communities for long periods of time. Above all, it is a matter of sorting out cross-pressures affecting school attendance on the part of young people and finding appropriate mechanisms to enhance local control of schools, without compromising the quality of the instruction and the discipline needed to ensure that graduates will be able to perform well in the kinds of jobs likely to be available in northern communities during the foreseeable future.

Community viability

• Maintaining the viability of Arctic communities requires an enhanced ability to take advantage of interactions among governmental, corporate, organizational, and personal networks from the local level to the global level.

Viable communities are places where people find it attractive to spend their lives and build a
future for themselves and their families. Such communities provide not only economic opportunities but also a meaningful cultural and social existence for their residents. Although some Arctic communities have suffered from a drain of talented people who have moved to the cities in search of better employment opportunities, others have found a variety of ways to provide sustainable livelihoods to their inhabitants.

Part of the variance in these terms is a function of ensured access to natural resources, sustainable markets for these resources, and the development of effective local governments. But it also depends critically on the emergence of entrepreneurship at the local level, the presence of political leadership, and the ability of individual residents to form appropriate partnerships with outsiders. Proper infrastructure and effective public services, including the development of information and communications technologies, are important in this regard. A recurrent theme among viable communities is the coupling of local, regional, and even global systems. There is a need for local businesses and governments not only to adapt to the conditions arising from these linkages but also to find ways to use them to their advantage.

Gender issues

- Recent developments in the Arctic have generated new concerns about gender roles, without alleviating pre-existing problems.

Traditional Arctic social systems exhibited sharp differences in the roles assigned to men and women but relatively few conflicts framed in terms of gender issues. Survival in the Arctic required a partnership between men and women; severe friction in this realm could lower the prospects of surviving in this environment. Yet the Arctic today features most of the concerns about gender that have arisen in more mainstream societies. These range from problems involving the physical security of women to questions about opportunities for women to hold public office and to rise to positions of leadership in the private sector. Some of these concerns, such as spouse abuse, child abuse, and parent abuse, have become particularly prominent in certain parts of the Arctic.

At the same time, the Arctic has given rise to a number of issues relating to gender roles that are specific to the region. These include the lack of satisfying employment opportunities for women in small Arctic communities as well as a loss of efficacy on the part of men. On average, Arctic women acquire more education than men, experience frustration at the lack of opportunities at the local level, and often migrate out of their communities of origin and even out the Arctic altogether. Faced with the changing nature and lowered status of subsistence hunting, Arctic men often experience a declining sense of self-worth, a condition that is implicated in some of the health issues discussed in Chapter 9.

The result for many men and women is an erosion of important elements of human development, especially when it comes to matters of fate control, cultural identity, and a sense of place. There is no comprehensive solution to this set of problems. Rather, a piecemeal approach emphasizing the maintenance of cultural integrity and community viability and requiring a common effort on the part of both men and women will be needed to make headway in addressing these issues.

International relations

- The impacts of both global environmental change and global social change threaten to overwhelm efforts to carry out regional initiatives and to forge a strong sense of regional identity in the Arctic.

There is a sense in which the ongoing emergence of the Arctic as a distinct region is counterintuitive. Not only is the region composed in large part of sparsely inhabited sectors of states whose centers of economic and political gravity lie far to the south, but also the various components of the region differ substantially in terms of factors ranging from their biophysical environments to their historical experiences. Still, there is no denying that region building in the form of efforts to forge a sense of regional identity in the circumpolar North and to devise a common policy agenda for this region has proven remarkably effective during the past two decades. Notwithstanding their obvious limitations, both the Arctic Council and the Northern Forum have struck responsive chords. And the rise of solidarity among indigenous peoples organizations in the region is surely a development to be reckoned with by all those interested in policy issues in the Arctic.

Nevertheless, the forces of global change – social as well as biophysical – are powerful determinants of the course of Arctic affairs. As the report of the Arctic Climate Impact
Assessment (ACIA) documents, climate change and variability are already producing huge challenges for Arctic communities, including growing pressure to relocate entire communities in extreme cases. Market fluctuations affecting the price of natural resources – from oil to salmon – produce a kind of roller-coaster effect in communities that have narrow economic bases. The efforts of environmental and animal welfare groups seeking to preserve wildlife can seriously harm communities dependent on outside markets for living resources. And there is always the prospect that public policies adopted in national capitals for reasons having little to do with the Arctic (e.g. decisions about the procurement and deployment of military weapons systems) can sideswipe Arctic communities in dramatic ways.

There are no simple ways to avoid these dangers. But part of the solution, in almost every case, is to find and exploit opportunities to coordinate and amplify the voice of the Arctic in broader policy arenas. The role of the Arctic in the process of negotiating the 2001 Stockholm Convention on persistent organic pollutants exemplifies this strategy. More generally, bodies like the Arctic Council and the Northern Forum have achieved significant results in this realm, especially considering the fact that the region’s population is small, highly dispersed, and poorly endowed with most conventional sources of influence.

**Arctic success stories**

There is a tendency to adopt a tone of gloom and doom in discussions of human development in the Arctic. Rates of suicide, homicide, and accidental death are abnormally high throughout the region. Family structures are crumbling in some communities. Language loss is a severe problem in certain parts of the Arctic. Out-migration, especially among settlers and better-educated indigenous women, is a common occurrence.

Our analysis confirms that these problems are real and not to be dismissed lightly. But they do not tell the whole story regarding human development in the Arctic. Many individual Arctic residents are highly successful. There are sharp differences among the communities of the region with respect to any number of measures of viability. The Arctic’s residents have a long history of successful adaptations, even in the face of rapid and far-reaching changes of the sort that are impacting them today. Iceland, the only country located wholly in the region, has literally transformed itself since achieving independence in 1944. Although it shares many Arctic characteristics, Iceland today ranks near the top with regard to indicators like the UN Human Development Index and has been remarkably successful in the area of language protection.
To provide a proper balance between the identification of problems and the recognition of more positive developments, this section comments on three distinct areas in which remarkable success stories have emerged in the Arctic: the maintenance of cultural integrity in the face of a variety of external pressures, the adoption of technologies in such forms as telemedicine and distance education, and the development of innovative systems of governance.

**Cultural integrity**

- The experience of the Arctic demonstrates that cultures can remain viable even in the face of rapid and multi-dimensional changes.

In the years since the close of World War II, the residents of Arctic communities have experienced cascades of social changes affecting most aspects of their daily lives. Cash economies have emerged throughout the region. New forms of land ownership have arisen. Popular culture emanating from the southern metropoles has made itself felt everywhere in the North. Indigenous languages have come under increasing pressure in many sectors of the Arctic. But as Chapter 3 makes clear, “traditional” cultures in the Arctic have survived, adapting continuously but retaining the features that make them distinctive. They continue to constitute a significant force in the lives of those who belong to them. Of course, the picture is not uniform across the Arctic. Some groups, such as the Nenets of Russia’s Yamal Peninsula, have proven remarkably successful in protecting their cultures, while others are encountering more or less severe cultural erosion. But generally, indigenous cultures are not on the way out. Many are resilient and well-equipped to integrate change and to embrace beneficial aspects of modernity without losing their essential core or behavioral compass. Those located in other regions may be able to learn from the experience of Arctic cultures, as the need to come to terms with rapid social change intensifies.

**Political and legal innovations**

- The Arctic has become a leader in the development of innovative political and legal arrangements that meet the needs of the residents of the circumpolar North without rupturing the larger political systems in which the region is embedded.

Some new political and legal arrangements address desires for local control and self-determination. Examples include home rule systems, such as in the Faroe Islands and Greenland, and other decentralized political arrangements, such as the North Slope Borough and the Northwest Arctic Borough in Alaska, Nunavut in Canada, and even the self-governing townships in Russia. Success in political and legal arrangements has also taken the form of governance systems addressing human uses of living resources in ways that are well-adapted to the biophysical and socioeconomic settings in which they operate. The Arctic has been in the forefront in the development of various forms of co-management that allow for meaningful participation of a variety of stakeholders in formulating the rules and implementing them effectively. There are many specific types of co-management, and not all of them have proven successful. Nonetheless, it is undeniable that the Arctic has provided an arena for institutional experimentation and emerged as a leading source of innovative approaches to governing human-environment interactions.

**Technological advances**

- Evidence from the Arctic demonstrates both the feasibility and the desirability of applying advanced technologies to address social problems.

Because the Arctic is so sparsely populated, many support systems (e.g., hospitals, colleges and universities, various types of nongovernmental organizations) that are taken for granted in other parts of the industrialized world are not available within close geographical proximity. As a consequence, Arctic residents have developed a noticeable ability to solve problems and to get along on their own. But the lack of such services in the past also has often led to sending Arctic residents far away - even outside the region - to address issues of health, education, and welfare at high costs both in material terms and in human terms. Under these circumstances, success in the development of telemedicine as described in Chapter 9 and distance education of the sort referred to in Chapter 10 looms large in the Arctic. With respect to the application and adaptation of these emerging technologies to local circumstances, the Arctic is today a global leader. The result is not only a significant contribution to human development in the Arctic but also a source of important insights about the use of these technologies that are relevant throughout the world.
Gaps in knowledge

This scientific assessment has made us aware of numerous gaps in our understanding of human development at the regional level. As Chapters 10 and 11 point out, our efforts to come to grips with issues of education and gender were constrained by the lack of well-developed bodies of research that take a circumpolar perspective. There is clearly more to be done in addressing these subjects.

It would be easy to point to a long list of specific matters that should be examined systematically in an ideal world. Some of them are discussed in the individual chapters. In this section, we direct attention to a five specific gaps that cut across many subjects and that need to be addressed with high priority: Arctic demography; the determinants of cultural and social integrity in the Arctic; the experiences of settler populations; modern industrial development, and the performance of new institutions in the Arctic.

Demography

• We need to collect more and better information on the Arctic’s residents using common data protocols.

The AHDR’s demographers have struggled long and hard to produce a relatively straightforward demographic profile of the Arctic as a distinct region. As a reading of Chapter 2 makes clear, they have had considerable success. But the results are still rather limited, and they have become available late in the process of assembling this report. The simple fact is that the Arctic is not a distinctive region in terms of the collection and integration of demographic data; individual Arctic states collect data regarding their northern regions on the basis of data protocols they have developed and refined for use in areas outside the Arctic.

One immediate consequence of this fact is that it would have been impossible for the authors of the AHDR to compute the UN Human Development Index for the Arctic as an integrated region, even if the Report Steering Committee had called for such an effort as a high priority. We are convinced that it would be desirable to make the effort to compute an Arctic or circumpolar version of the Human Development Index and to compare the results to the scores of each of the eight Arctic countries by itself. The Sustainable Development Working Group may wish to identify this task as a matter of some priority. But no one should be under any illusions about the time, energy, and material resources needed to carry out this task.

Cultures and Societies

• We need a better understanding of the effects of cumulative changes on cultural and social well-being in the Arctic.

The cultures and social systems of the Arctic have experienced rapid and profound changes throughout the period since the close of World War II. Residence in fixed, year-around settlements has become the norm rather than the exception. Individuals must cope with mixed economies that affect traditional subsistence practices in a variety of ways. Many Arctic residents are now shareholders in corporations and voting citizens of new political systems (e.g. the North Slope Borough, the Greenland Home Rule, Nunavut). The erosion – in some cases amounting to a severe loss – of Arctic languages has proceeded throughout this period. Yet, as Chapter 3 argues forcefully, there is a sense in which many of the cultures of the Arctic remain vigorous and continue to exercise a strong influence in people’s lives. The argument here is that cultures are deeply rooted and capable of persisting, even in the face of changes that outside observers are apt to see as destructive of local or regional cultures. How is this possible?

The challenge is to find ways to assess the impact of cumulative changes and to identify conditions that are conducive to the survival of the Arctic’s cultures and societies under these conditions. Can we identify conditions that are either necessary or sufficient to ensure that cultures remain viable? If the answer to this question is negative, can we nonetheless find conditions or combinations of conditions that can account for a considerable portion of the variance in the ability of cultures and societies to tolerate change? Equally important, can we deepen our understanding of the processes that allow cultures to adjust to both biophysical and social changes while remaining whole? Because language retention is both a major component and a key indicator of cultural diversity, we recommend that the Sustainable Development Working Group focus attention and resources on the status of the languages of the Arctic and the prospects for their survival and, in some cases, revival.
Settlers

- We need to learn more about the experiences of recent settlers in the Arctic and their interactions with the region’s indigenous peoples.

There is merit to comments offered by some reviewers of drafts of the AHDR concerning the need for a better understanding of the experiences of settlers in the Arctic. Chapter 3 on Arctic cultures and societies directs attention primarily to indigenous peoples. Chapter 9 on human health emphasizes the growing importance of telemedicine in remote areas, because the delivery of health services to people living in Anchorage or Reykjavík poses no special problems. Chapter 8 on community viability in the Arctic focuses on relatively small communities in which indigenous peoples make up a sizable fraction of the population in contrast to larger settlements or cities, a fact that skews the emphasis of the report somewhat.

We agree that there is a need in the future to devote more attention to human development among the non-indigenous residents of the Arctic, as well as to the complex interactions that occur between indigenous and non-indigenous inhabitants throughout the circumpolar North. There is a significant, though scattered, literature on this subject. Although it would require a considerable effort, this literature could be tracked down and synthesized as a follow-up to this report.

At the same time, it would be a mistake to carry this critique too far. The distinction between indigenous residents and settlers is not as sharp in reality as it may seem on paper. Many Arctic residents are of mixed ancestry. Under the Alaska Native Claims Settlement Act, for instance, individuals are eligible to enroll as Natives if they are one-quarter indigenous. Other arrangements do not make use of any quantitative measures to determine who can qualify as indigenous. What is more, some of the most interesting chapters of the AHDR (e.g. the chapters on political and legal systems and on resource regimes) focus explicitly on issues involving the interface between indigenous and non-indigenous residents of the circumpolar North.

Industry

- We need to improve our understanding of the roles that modern industrial activities play in the pursuit of sustainable development at the regional level.

The Arctic today is the site of world-class industrial activities. Typically, these activities involve the extraction of non-renewable resources or industrial harvesting of living resources. The Prudhoe Bay oil field is the largest ever discovered in North America. The super giant gas fields of northwestern Siberia are critical to Russia’s efforts to reconstruct the country’s economy. Nickel and lead/zinc mines located in the Arctic are among the largest in the world. The industrial fisheries of the Bering, Norwegian, and Barents Seas figure prominently in the world harvest of marine living resources. Diamonds from Siberia and Canada’s Northwest Territories now account for a sizable share of the world market.

Taken together, these enterprises have become prominent symbols of the new North. They provide employment opportunities for Arctic residents, tax revenues for local governments like the North Slope Borough, and sources of income for regional governments like the State of Alaska and the Sakha Republic. At the same time, these industrial activities introduce more or less severe instabilities in many parts of the region. Non-renewable resources like oil and gas are not only exhaustible, but the income they produce is also subject to the volatility of world markets. Extractive industries are generally controlled by multinational corporations that are more responsive to global forces than to local concerns. The activities of industrial fishers can conflict with the needs of subsistence harvesters. We need to learn more about feasible responses to these sources of instability. Innovative arrangements like Alaska’s Permanent Fund created by diverting a percentage of oil revenues as well as various programs to protect the interests of local fishers (e.g. community development quotas) are worthy of more systematic evaluation in this context.
Governance

- We need to do more to compare and contrast new institutions in the Arctic and to distil lessons relevant not only to the Arctic itself but also to other areas of the world characterized by an abundance of natural resources and sparse and culturally diverse populations.

As we have stressed throughout this report, the Arctic has emerged in recent years as an arena for experiments with institutional innovations ranging from the development of new forms of public government to more specialized regimes dealing with specific issues (e.g. the Porcupine caribou herd that migrates annually across the Alaska/Yukon border). Efforts are underway in certain areas (e.g. the Commission on Self-Governance in Greenland) to evaluate the performance of these arrangements and to arrive at carefully crafted recommendations calling for adjustments and, in some cases, more substantial changes in existing institutions.

Still, these efforts merely scratch the surface of a much larger issue domain focused on the performance of governance systems. Analysis of these arrangements requires a willingness to set aside conventional wisdom, such as the idea that what is needed in the Arctic is a region-wide and legally binding regime of the sort operating in the south polar region under the terms of the Antarctic Treaty System. Unlike the challenge of computing an Arctic Human Development Index, efforts to evaluate the performance of institutions can be approached on a piecemeal or more incremental basis. This may make this topic appealing as a theme for future work under the auspices of the Sustainable Development Working Group.

Human development in perspective

The preparation of this report has brought to our attention some broader observations pertaining to the nature of human development. This section presents some reflections on the idea of human development as seen from a regional perspective and draws some inferences from our study of the Arctic that may prove useful to those concerned with human development in other regions of the world.

Nothing in this report should detract from the proposition that the UN’s Human Development Index (HDI), with its emphasis on longevity, education, and material success, constitutes a major advance over gross domestic product per capita alone as a measure of human development. However, as the United Nations's annual Human Development Report itself suggests, there is much more to human development than the factors included in the HDI. For instance, the 2004 volume in this series draws attention to cultural diversity and calls for “… multicultural policies that recognize differences, champion diversity and promote cultural freedoms.” (2) In this spirit, we offer the following observations about the meaning of human development drawn from our study of the Arctic.

Residents of the Arctic – settlers as well as indigenous peoples – regularly emphasize the importance of at least three dimensions of human development over and above those included in the HDI:

- Controlling one’s own destiny
- Maintaining cultural identity
- Living close to nature.

The evidence regarding the importance of fate control is both negative and positive. Those who feel unable to control their own destiny are commonly afflicted by feelings of helplessness and dependence. In some, this leads to passivity and a sense of lassitude that result in an inability to participate actively in social activities. In others, it generates anger and leads to various forms of violence, including self-destruction as well as the abuse of others. Those who feel empowered to control their own destinies, by contrast, are energized to take the initiative and acquire the skills needed for a successful life. Both conditions are present in the Arctic. But the erosion of a sense of fate control is widespread and severe, especially among young adult males living in remote communities.

Related to this is the importance of cultural identity. Those who suffer from a loss of cultural identity regularly experience feelings of anomie or, in more familiar terms, a lack of social norms that serve to channel behavior into socially acceptable outlets and give meaning to life. The challenges facing Arctic residents – and especially indigenous peoples – in this realm today involve rapid transformations in subsistence practices (e.g. the introduction of snowmobiles and helicopters in reindeer herding) and the survival and preservation of distinct languages. Our findings indicate that a significant measure of cultural integrity can survive these changes. But there can be no doubt about the
stress and strain such rapid changes engender for residents of the Arctic.

Arctic societies are place-based systems; they feature human adaptations that are closely tied to local environments. It is no accident that Arctic residents – including settlers as well as indigenous peoples – regularly say that “our land is our life” and that “we belong to the land” rather than claiming the land as belonging to them. A failure to stay close to nature results in a loss of roots and various forms of alienation from the natural world. Separation from productive contact with nature also gives rise to a detached view of the natural world in which humans are perceived as alien and unwanted intruders in a pristine wilderness. Such attitudes pose severe problems for those whose livelihood is based on harvesting living resources in a manner that is important both culturally and economically. In the resource-based cultures of the Arctic, we find beliefs and values essential to sustainability, including respect for the natural world and the animals that inhabit it as well as an approach to life based on spirituality and limited material needs.

More generally, our study has directed attention to a distinction between two fundamentally different perspectives on human development. One approach – we may call it the western approach – starts with the individual and asks how individuals are faring in terms of any number of criteria like life expectancy, education, material well-being, and so forth. An alternative approach – reflected in many indigenous cultures – starts with the community or the social group and views human development through the lens of community viability. Successful individuals are those who make major contributions to the well-being of their communities. This is not to say that standard indices, such as the HDI or even gross domestic product per capita, are of no value as measures of human development. But it would be a mistake to ignore other perspectives on human development, especially in areas of the world like the Arctic where distinctive cultures remain influential.

Conclusion:
The AHDR and the future

As we have emphasized throughout this report, the AHDR is a scientific assessment. Unlike projects featuring original research (e.g., the Survey of Living Conditions in the Arctic (SLiCA)), our project has had neither the mandate nor the resources to generate new data concerning the wide range of topics addressed in the individual chapters. Rather, we have sought to synthesize existing knowledge, draw inferences
from this knowledge regarding many aspects of human development in the Arctic, and identify areas where we need to know more.

An important function of an assessment is to document the state of play regarding matters of interest at a particular point in time. This is one of the central objectives of the AHDR. Particularly with regard to crosscutting themes that are seldom looked at from a regional perspective (resource governance, community viability, human health, education, gender, and international relations), the report breaks new ground. The results are not only interesting in their own right; they also provide a starting point for future comparisons.

What concrete recommendations regarding follow-up activities can we offer in closing? Based on the efforts of all those who have contributed to the report as well as initial responses to its major findings, we can offer a number of suggestions:

- **Dissemination** – The AHDR should be translated into other languages – Russian first and foremost – and made available electronically to members of the attentive public and to students,
- **Monitoring** – The Sustainable Development Working Group should organize a workshop to begin the process of devising a small number of tractable indicators to be used in tracking changes in key elements of human development in the Arctic over time,
- **Gaps in knowledge** – The Sustainable Development Working Group should organize an off-the-record brainstorming seminar or workshop to set priorities and to identify practical procedures for addressing the gaps in knowledge described in the AHDR,
- **International Polar Year input** – The findings of the AHDR should be used in developing research plans and setting priorities for the 2007-2008 polar year,
- **Arctic Human Development posters and pamphlets** – The Sustainable Development Working Group should arrange for the production of one or more posters and pamphlets that would encapsulate the major findings of the AHDR and be available for display and distribution in a variety of forums.

Many of the concerns addressed in the AHDR resonate with the thinking of those who are dealing with other resource rich but socially and politically peripheral regions of the world. As a result, the insights of this report regarding both basic systems and crosscutting themes will not only help to shape the policy agenda of the Arctic itself; they will also be of intense interest to many whose areas of interest extend far beyond the confines of the circumpolar North.

**Notes**

1. Because Iceland lies wholly within the Arctic region, some issues discussed in this section do not apply to that country. Iceland is also the only Arctic nation that has no indigenous population.