14. Analyzing Arctic Social Realities – ArcticStat

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Up until recently, it was hard to make interregional or international comparisons concerning Arctic regions in the domain of social realities. When data existed, they were scattered, not always available, and their internal and external validity was not always explicitly proven. The standardization and computerization of data produced by national agencies have helped improve this situation. In response to the growing and specific requests from government organizations, in particular those of the United Nations and the Organization for Economic Co-operation and Development, a certain standardization of concepts and methods has gradually taken place, extending first to domains such as demography and the System of National Accounts. Moreover, the agencies have published methodological notes specifying the conceptual and methodological characteristics of their own production. Still today, the American and Canadians systems of national accounts exhibit differences, just as do the European systems. Work seeking to increase this standardization, under the additional impetus of continental unification in America and in Europe, is continuing and is giving rise to new classifications, for example.

Despite these efforts, comparisons were laborious, if not impossible, for a very long time. The first attempts that we made, beginning at the end of

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the 1980s, met with numerous obstacles. It was necessary to find a representative who would be willing to transmit, by mail or in person during scientific events, sets of data and metadata; a long and complex dialogue had to be maintained in order to render the data comparable. The secrecy surrounding the data emanating from the USSR made valid comparisons impossible, not because one could not gain access to statistics (in the years immediately following the collapse of the Soviet Empire, documents of this nature could be bought on the street), but mainly because it was virtually impossible to evaluate the validity of such data, because the conceptual differences underlying the calculations of the macroeconomic aggregates such as the Gross Domestic Product were fundamental and because, more often than not, the data concerning Arctic regions could not be found or were very fragmented.

The computerization of data produced by national agencies, which became generalized around the 1970s (in Canada, the first census, the data of which were available in electronic format, was that of 1971), but above all the availability of their socioeconomic databanks on the Internet, beginning in the mid–1990s, altered the ability to do research. Data and metadata gradually became more abundant and more readily accessible. But the burden had not been reduced decisively. To arrive at valid comparisons, the researcher had to complete a large number of long and complex steps, the success of which was still uncertain. Armed with patience, the researcher first had to find the web sites of each national agency. The situation was not as straightforward as one might think. In most countries, several agencies divvy up the work. In Canada, Statistics Canada produces multiple sets of basic data published on its site; these data are then reused and republished by provincial and territorial agencies, which also produce exclusive surveys. A similar situation may be found in the United States where it is even more complex. Not only does the U.S. Census Bureau supply data to state agencies, not only do state agencies produce their own exclusive data, there are also several other national agencies that are responsible for sets of specialized data in the economy, education and health fields, for example. Data concerning the Russian Federation are available not only on the web site of Rosstat (which used to be known as Goskomstat Russia prior to 2004), but also on para-State or even private sites, the validity of which is considered doubtful from the perspective of the national agency. Certain agencies occasionally experience partial service

interruptions for extended periods of time. Once the sites have been identified, the researcher must then navigate through these labyrinths, each having its own unique interface and occasionally being characterized by a disconcerting complexity, in order to find the data sets she needs for her work. Specialists sometimes get lost in these sites, much like archaeologists in the pyramids. Besides, the researcher does not always have the opportunity to dig very deeply, realizing that some sites produce data only in the national language. During the initial years of operation on the Internet of these sites, the researcher often had no other possibility than to transcribe by hand the data found or, in the best of cases, to print these data. Computer development had not yet made it possible to select, paste on a virtual clipboard and then copy these data into a spreadsheet program or a word-processing program. It was only exceptionally that the researcher was able to request custom-tailored compilations, for example isolating a given region in particular. The researcher often came to the realization that regional data did not exist. But when such data were indeed available, the absence of flexibility in the geographical divisions did not always allow the researcher to have access to the data covering Arctic areas, or on the contrary, the extreme dis-aggregation of data in census areas required almost monastic patience to combine all of the data concerning an Arctic region in particular. In Russia, the availability of data grew after the difficult 1990s. The web site of Rosstat is impressive, especially when one compares the abundance of data available on the site to the scarcity, even the secrecy, of the previous period. Nevertheless, data concerning the Arctic regions are not found on the site: to have access to such data, one still has to proceed by mail order and the data are delivered in Russian only. Up until just recently, the geographical division on the site reproduced the political division in "subjects of the Federation", with the end result that the researcher interested in the Arctic regions had to resign himself to including in his compilations what clearly were southern portions of republics overlapping the polar circle, comprised in the aggregate statistics (and then to overstate the results) or, conversely, to exclude them (and thus understate the results).

Today, several of these pitfalls have been partially lifted. But others remain. The conceptual and methodological differences have far from disappeared, and they are not likely to disappear over the short term. Rosstat announced major efforts to make the data dealing with the Federa-

tion more easily comparable with those concerning Europe. In the meantime, concordances help guide the data conversion work. Similarly, it is still impossible to obtain basic dis-aggregations in such domains as demography, health and education for example, in order to grasp the reality of the Aboriginal People inhabiting the North. This is particularly true in Finland and Sweden, where the national agencies are not authorized to gather data on ethnic affiliation. This situation is not limited to the Arctic. Indeed, the United Nations Permanent Forum described the improvement of the statistical coverage of the Aboriginal People as being an urgent priority on Indigenous Issues in 2004. A survey of statistical agencies publishing disaggregated data for the Aboriginal People, conducted by the Statistics Division of the United Nations Department of Economic and Social Affairs, concludes that barely 80 national agencies publish such data, and do so for three indicators only (ethnicity, language and religion). The situation is such that the Permanent Forum invited those national agencies that do not already do so to modify their practices so that, in the future, the data can be disaggregated to report on the situation of the Aboriginal People. A group of international agencies associated with the United Nations, the Inter-Agency Support Group, has undertaken work promoting the collection of social statistical data concerning Aboriginal realities.

Finally, other barriers have recently been erected. Certain agencies such as Statistics Finland and Statistics Canada now apply a cost recovery policy to the dissemination of some of their products. This policy limits free public access to data subsets and requires that the researcher purchase them. This obligation is frequent in the case of data dealing with specific regions and all the more so, for indicators that are not deemed to be of "sufficient generality" to be available free of charge. Hence, the difficulty of carrying out systematic comparative studies continues to be major.

That is why we began the construction of the ArcticStat databank in 2002. It was designed, within the context of a one-stop, systematic and easy-to-use framework, to help researchers identify all of the existing tables in the agencies in question dealing with the socioeconomic realities of the Circumpolar Arctic regions.

An experimental phase preceded the design and development of the actual databank. The purpose of this phase was to check if it was indeed possible, in a precise domain of human activity, to identify on the agencies" websites tables dealing with each of the Arctic regions of all the countries

in question, to process the tables in such a way as to make them comparable and from there, to produce a global description and analysis (where the Arctic can be considered as one "region" within the meaning of global geopolitics) and regional (where each of the regions can be compared to the others). We chose the measurement of the economy. To carry out the work, it was necessary to compile: demographic data, which are invaluable for making *per capita* calculations; economic data, measurements of the Gross Domestic Product according to various calculation methods, including the industrial distribution of economic activity; data on the industrial distribution of the labor force to make up for possible shortcomings in GDP data; data on exchange rates and price indices to convert data into a single reference currency, and to tie them to a single reference year. The initiative was conclusive, but took a long time: one year of work in all, most of which was devoted to the search for and the processing of data. It led to the publication of "Economics Systems", in the *Arctic Human Development Report* (Duhaime *et al.* 2004), the first comprehensive portrait of the economy of the Circumpolar Arctic based on rigorously comparable statistical data. Based on this experimentation, the construction of ArctiStat was carried out in the following years. Even before putting the databank into service, we had made sufficient progress to update this economic portrait, published under the title of "The Economy of the Circumpolar Arctic", in *The Economy of the North* (Duhaime & Caron 2006). This operation was also conclusive: it took only a few weeks to locate all of the necessary data.

The two publications just mentioned were the result of ambitious projects supported by the Arctic Council. From a methodological standpoint, our colleagues arrived in both cases at the very same conclusions that we had reached earlier. To carry out "Arctic Demography" within the context of the AHDR, Bogoyavlenskiy and Siggner (2004) had to devote most of the time and the resources allotted to them to collecting data. The same constraints were encountered by McDonald, Glomsröd and Mäenpää (2006), when working on "Arctic Economy within the Arctic Nations" as part of *The Economy of the North*. In short, they faced the same main obstacle to making systematic circumpolar comparisons based on official statistics: the difficulty of finding data.

These initiatives under the aegis of the Arctic Council represented important breakthroughs in the field of circumpolar social knowledge. How-

ever, the approach used in both cases was the same: the comparisons were conceptualized and carried out according to compartmentalized approaches, reproducing more or less the structure of the fields of state competence. AHDR proposes separate descriptions and analyses concerning demography, culture, economy, health, education; ECONOR proposes examining one of these fields in greater detail from a pronounced single-disciplinary standpoint. What are the relationships between demography and economy in the Circumpolar Arctic? Between economy and education? Between education and health? These works do not answer this type of question.

The existence of ArcticStat henceforth makes it possible to overcome these limitations, which up until now had been insurmountable. By radically reducing the time devoted to locating data, this bank offers a new research capacity, namely that of analyzing in an integrated manner a vast set of valid, easy-to-find and easy-to-process data, dealing with a diversity of fields of human activity.

14.1. ArcticStat an Overview

ArcticStat is a permanent, public and independent statistical database dealing with the countries, regions and populations of the Circumpolar Arctic. ArcticStat was born out of that vision to increase the research capacity by taking advantage of already existing data. It is an open-access web-based circumpolar socioeconomic statistical database bringing together in a systematic and coherent whole, data dealing with the population, language, health, education, economy, employment and other social realities. ArcticStat covers the Arctic regions of countries that are members of the Arctic Council: United States, Canada, Greenland, Iceland, Faroe Islands, Norway, Sweden, Finland and the Russian Federation.

ArcticStat was created by the Canada Research Chair on Comparative Aboriginal Condition of Université Laval in Québec, Canada. The core financial contribution was provided by the Canada Foundation for Innovation; the Louis-Edmond-Hamelin Chair provided additional financial contributions for Northern Research in Social Sciences, and Indian and Northern Affairs Canada.

ArcticStat was presented to the Arctic Council during the meeting of the Sustainable Development Working Group held in March 2006 in Salekhard in the Russian Federation. It was received very enthusiastically and obtained unanimous support. It was presented a second time to the Arctic Council during the Senior Arctic Officials" meeting held in May in Syktyvkar, Russian Federation. Once again, ArcticStat was fully supported and received special mention from Norway as being an "outstanding project". The Arctic Council officially endorsed ArcticStat during the ministerial meeting held in Salekhard at the end of October 2006. ArcticStat is also an official activity of the International Polar Year.

14.1.1. Design

ArcticStat operates mainly as a portal linking users directly to the relevant tables on the statistical agencies" web sites; when this procedure is not possible, users have access to tables directly stored in the ArcticStat database. The ArcticStat web site has been designed as a user-friendly tool, based on three simple indexes from which users can choose: countries and regions, indicators and sub-indicators, and different years. Map-based research is also offered through an interactive circumpolar map.

14.1.2. Geography

There are several different definitions of the Arctic according to whether one relies on physical, geographical, political or administrative characteristics. The territory chosen for ArcticStat draws inspiration from the regions covered by 3 scientific and political organizations dedicated to the Arctic: the Arctic Monitoring and Assessment Program (AMAP), the Barents Euro-Arctic Council (BEAC) and the Northern Forum (NF). The territory of ArcticStat is as inclusive as possible. It covers all of the populations living in an Arctic region as well as the populations having characteristics that are similar to those of Arctic populations or living in a similar environment.

14.1.3. AMAP (Arctic Monitoring and Assessment Program).

AMAP is an international organization concerned about the environment and based in Oslo, Norway. Its main objective is to provide the governments of the 8 countries having a portion of their territory in the Arctic regions with reliable and sufficient information on these regions as well as scientific opinions on the actions that should be taken to combat contaminants in the air, soil and the Arctic Ocean. Founded in 1991, AMAP is one of the 4 organizations that make up the Arctic Environmental Protection Strategy (AEPS)[121], an intergovernmental agreement seeking mainly to protect from pollution the ecosystems of the Arctic as well as the human, animal and plant populations that are part of these ecosystems. This agreement was passed in 1991 in Rovaniemi, Finland during the First Arctic Ministerial Conference[122] that was attended by the Ministers of the Environment of 8 Arctic countries. Since June 1997, it is the Arctic Council[123] which has been responsible for the continuity of the works undertaken within the context of the AEPS, including those of AMAP.

AMAP basically covers the land and marine regions located north of the 66th parallel (polar circle) as well as those located north of the 62nd parallel in Asia and north of the 60th parallel in North America. This extension to the south of the polar circle makes it possible to include the marine regions located north of the Aleutian Islands in Alaska; Hudson Bay in Canada and certain parts of the North Atlantic including the Labrador Sea (Tables below).

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[121] The three other programs making up the AEPS are: "Conservation of Arctic Flora and Fauna" (CAFF), dealing with Arctic wildlife and plants, "Emergency Prevention, Preparedness and Response" (EPPR), the objective of which is to provide a framework for future cooperation to deal with environmental emergencies, and "Protection of the Arctic Marine Environment" (PAME), which is in charge of taking preventive or restoration measures in relation to Arctic marine pollution.

[122] Afterwards, other ministerial conferences were held: in 1993 in Nuuk, Greenland, in 1996 in Inuvik, Canada and in 2002 in Inari, Finland. These meetings gave birth to a fifth organization, "Sustainable Development and Utilization" (SDU), the chief mandate of which is to propose strategies to governments to help them achieve their sustainable development objectives in the Arctic.

[123] The Arctic Council was created in September 1996 in Ottawa, Canada under the auspices of the Ministers of Foreign Affairs of the 8 Arctic countries. In June 1997, the Council took under its responsibility the organizations and programs created at the time of the adoption of AEPS (Arctic Environmental Protection Strategy) and set up the "Sustainable Development Working Group" (SDWG). The mandate of the Council is to promote cooperation, coordination and interaction between Arctic countries on common questions, in particular those that concern sustainable development and the protection of the environment. The Council endeavours to establish common policies on the basis of research and recommendations made by the 5 working groups as well as their subgroups.

14.1.4. BEAC

The Barents Euro-Arctic Council (BEAC) is an intergovernmental cooperation organization for the Barents Sea region. The European Commission created BEAC in January 1993 at the time of the signing of the Kirkenes Declaration by the various Ministers of Foreign Affairs of Northern Europe and the Russian Federation as well[124]. The main objective of BEAC is to promote sustainable economic and social development in the Barents Sea region and thereby contribute to the peaceful development of Northern Europe[125]. The territory covered by BEAC is the same as that making up the Barents Sea region (Tables below).

14.1.5. Northern Forum

The Northern Forum is a non-profit international organization located in Anchorage, Alaska and founded in November 1991 following a series of international conferences on northern questions[126]. The Northern Forum has given itself two missions: improving the quality of life of the inhabitants of the member regions by giving regional political leaders the means to take up common challenges; and supporting sustainable development as

[124] BEAC is made up of 7 participants: one representative of Denmark, Sweden, Finland, Iceland, Norway, the Russian Federation and the European Union as well as 9 observers from Canada, France, Germany, Italy, Japan, Holland, Poland, the United Kingdom and the United States.

[125] Over the years, BEAC has broadened its activities by setting up several working groups. The main ones are: "Working Group on Economic Co-operation", "Working Group on Energy", "Working Group on Environment", "Programme Board on Exchange Grants/Higher Education and Research", "Ad Hoc Group on Health and Related Social Issues", "Working Group on the Northern Sea Route", "Steering Committee for the Barents Euro-Arctic Pan-European Transport Area", "Working Group on Youth Policy" and "Working Group on Emergency and Rescue Services Co-operation".

[126] The first international conference on northern questions was held in Japan in 1974. This conference allowed the participants, political leaders from several regions of Canada and the United States as well as representatives of three Scandinavian countries to ascertain that they shared several concerns and challenges that needed to be taken up. These stakeholders came to the conclusion that better communication and more cooperation could greatly help improve the quality of life of their fellow citizens. The second international conference was held in Alberta, Canada in 1979. This conference, in which 22 political leaders took part, dealt mainly with the interactions between the development of natural resources, the protection of the environment, and housing facilities. The third conference, which brought together some 600 delegates, was held in 1990 in Anchorage, Alaska. The participants recommended the setting up of a permanent organization that would make possible regular meetings between the leaders of the member regions in order to discuss common environmental, human, economic and technological concerns and to implement means to resolve them. The fourth conference was the one that officially inaugurated the Northern Forum. It took place in Anchorage, Alaska in 1991.

well as the setting up of socioeconomic cooperation initiatives between member regions and between these regions and the rest of the world. The Northern Forum is made up of representatives of 25 regional or provincial governments of 10 northern countries[127] which have in common several characteristics that distinguish them from the rest of the world: an economy based on the extraction of natural resources, limited development infrastructures, a lack of local capital, a harsh climate, vulnerable ecosystems, sparse, heterogeneous and largely Aboriginal populations.

The territory covered by the Northern Forum is vast and scattered: it does not include all of the regions located north of the polar circle (all of Northern Canada and Greenland are not members of this organizations) but it comprises several regions that are far away (Japan, Korea, Sakhalin region in Russia, Mongolia) (Tables below).

14.2. An inclusive approach

The combination of the territories covered by AMAP and BEAC made it possible to make a first geographical delimitation of the circumpolar world. The latter included all of the regions located to the north of the polar circle and a few regions located to the south. But this delimitation was not totally inclusive: the Svalbard Archipelago was absent as were four Russian regions contiguous to the polar circle. Out of a concern to include all of the populations having characteristics similar to those of Arctic populations or populations living in a similar environment, the Russian regions contiguous to the polar circle and covered by the Northern Forum were added. They include one administrative region (Magadan) and three autonomous districts (Koryak, Khanty-Mansii and Evenk). The Svalbard Archipelago, a Norwegian territory, was also added (See map 1 and tables below).

[127] They are Canada (Alberta), the United States (Alaska), the Republic of China (Heilongjiang), Finland (Finnish Laponia and Oulu), Iceland (Akureyri), Japan (Hokkaido), Mongolia (Dornod Aimag), the Republic of Korea, the Russian Federation (Arkhangelsk, Chukchi, St-Petersburg, Evenk, Kamchatka, Khanti-Mansii, Magadan, Nenets, the Republic of Komi, the Republic of Sakha, Sakhalin, Vologda, Yamal-Nenets) and Sweden (Norrbotten and Vasterbotten).

14.2.1. Assembling of maps

Identifying the regions that are a part of the chosen geographical delimitation, the boundaries of these regions and their respective capitals made a survey of the available geographical maps. Once this was done, a cartographer assembled a series of maps. The material put at the cartographer's disposal was made up of maps on which the chosen regions were identified, as well as a list of place names in English. This map was supposed to include countries, regions, capitals, oceans, seas, bays, straits and the polar circle. The result of this operation was an original map that is rather bare and that may be consulted on the ArcticStat site. The map was produced using the English version of the MapInfo Professional software.

14.2.2. Place names

The consulted sources (Internet sites, books, geographical maps, atlases, encyclopedias, scientific journals) use virtually all the same place names, except for the regions of the Russian Federation (Table 2 below). The place names used in *Territories of the Russian Federation 2001* were finally chosen as this publication presents the spellings most often found elsewhere.

14.3. General method for locating sources

14.3.1. Saturation method

The statistical data were located using the so-called saturation method applied to the Internet. For each country, the starting point was the national statistical agency. A first exhaustive search of the agency's site made it possible to locate and identify a list of available indicators. A search was done using each of the links proposed by the official statistical agency. A third search having the proposed links as its starting point was made, and so on, until the proposed links brought the researcher back to the starting point, or until they contained no statistical data, or their content strayed too far away from the subject matter of the search.


Koryak Autonomous Okrug
Palana
Magadan
Magadan Oblast
Yakutsk
Anadyr
Chukchi Autonomous Okrug
Republic of Sakha (Yakutia)
Bering Sea
Chukchi Sea
East Siberian Sea
Laptev Sea
Alaska
Tura
Evenk Autonomous Okrug
Taimyr (Dolgan-Nenets) Autonomous Okrug
Yamal-Nenets Autonomous Okrug
Juneau
Whitehorse
Beaufort Sea
Yukon Territory
Dudinka
Arctic Ocean
North Pole
Kara Sea
Salekhard
Khanty-Mansiisk
Northwest Territories
Nenets Autonomous Okrug
Khanty-Mansii Autonomous Okrug
Yellowknife
Naryan-Mar
Republic of Komi
Syktyvkar
Lincoln Sea
Nunavut Territory
Barents Sea
Svalbard
Murmansk Oblast
Arkhangelsk
Longyearbyen
Vadso
Arkhangelsk
Murmansk
Finnmark
Petrozavodsk
Greenland
Rovaniemi
Republic of Karelia
Greenland Sea
Tromso
Troms
Lulea
Oulu
Norrbotten
Oulu
Lapland
Boda
Umea
Nordland
Vasterbotten
Iqaluit
Nunavik
Kuujjuaq
Nuuk
Iceland
Norwegian Sea
Reykjavik
Thorshavn
Faroe Islands
Labrador Sea
Labrador
Happy Valley-Goose Bay
North Sea

Table 1. Geographical Divisions

Countries	AMAP	Barents Euro-Arctic Council	Northern Forum	ArcticStat
United States	Alaska	No	Alaska (whole territory)	Alaska (whole territory)
Canada	Yukon Territory	No	Yukon Territory	Yukon Territory
	Northwest Territories	No	No	Northwest Territories
	Nunavut Territory	No	No	Nunavut Territory
	Nunavik	No	No	Nunavik
	Labrador	No	No	Labrador
	No	No	Alberta	Alberta
Denmark	Greenland	No	No	Greenland
	Faroe Islands	No	No	Faroe Islands
Iceland	Whole Territory	No	Akureyri	Whole Territory
Norway	Finnmark	Finnmark	No	Finnmark
	Troms	Troms	No	Troms
	Nordland	Nordland	No	Nordland
	No	No	No	Svalbard
Sweden	Norrbotten	Norrbotten	Norrbotten	Norrbotten
	No	Vasterbotten	Vasterbotten	Vasterbotten
Finland	Lapland	Lapland	Lapland	Lapland
	No	Oulu	Oulu	Oulu
Russian Federation	No	Republic of Karelia	No	Republic of Karelia
	No	Republic of Komi	Republic of Komi	Republic of Komi
	No	Arkhangelsk O.	Arkhangelsk O.	Arkhangelsk O.
	Nenets A.O.	Nenets A.O.	Nenets A.O.	Nenets A.O.
	Murmansk O.	Murmansk O.	No	Murmansk O.
	No	No	Khanty-Mansii A.O.	Khanty-Mansii A.O.
	Yamal-Nenets A.O.	No	Yamal-Nenets A.O.	Yamal-Nenets A.O.
	Taimyr (Dolgan-Nenets) A.O.	No	No	Taimyr (Dolgan-Nenets) A.O.
	No	No	Evenk A.O.	Evenk A.O.
	Republic of Sakha (Yakutia)	No	Republic of Sakha (Yakutia)	Republic of Sakha (Yakutia)
	No	No	Magadan O.	Magadan O.
	Chukchi O.	No	Chukchi A.O.	Chukchi A.O.
	No	No	Kamtchatka O.	No
	No	No	Koryak A.O.	Koryak A.O.
	No	No	St-Petesbourg	No
	No	No	Sakhalin A.O.	No
	No	No	Vologda A.O.	No
China	No	No	Heilongjiang	No
Japan	No	No	Hokkaido	No
Mongolia	No	No	Dornod, Aimag	No
Republic of Korea	No	No	Republic of Korea	No

Notes:
O. = Oblast
A.O. = Autonomous Okrug

Table 2. Countries, regions and capitals. English Toponyms.

Countries	Regions	Capitals
United-States	Alaska	Juneau
Canada	Yukon Territory	Whitehorse
	Northwest Territories	Yellowknife
	Nunavut Territory	Iqaluit
	Nunavik	Kujjuaq
	Labrador	Happy Valley-Goose Bay
Denmark	Greenland	Nuuk
	Faroe Islands	Thorshavn
Iceland	Iceland	Reykjavik
Norway	Finnmark	Vadso
	Troms	Tromso
	Nordland	Bodo
	Svalbard	Longyearbyen
Sweden	Norrbotten	Lulea
	Vasterbotten	Umea
Finland	Oulu	Oulu
	Lapland	Rovaniemi
Russian Federation	Republic of Karelia	Petrozavodsk
	Republic of Komi	Syktyvkar
	Arkhangelsk Oblast	Arkhangelsk
	Nenets Autonomous Okrug	Naryan-Mar
	Murmansk Oblast	Murmansk
	Khanty-Mansii Autonomous Okrug	Khanty-Mansiisk
	Yamal-Nenets Autonomous Okrug	Salekhard
	Taimyr (Dolgan-Nenets) Autonomous Okrug	Dudinka
	Evenk Autonomous Okrug	Tura
	Republic of Sakha	Yakutsk
	Magadan Obalst	Magadan
	Chukchi Autonomous Okrug	Anadyr
	Koryak Autonomous Okrug	Palana

Source for the Russian Federation: Territories of the Russian Federation 2001. The national statistical agencies from which the data of ArcticStat are taken are: the U.S. Census Bureau, Bureau of Economic Analysis, Statistics Canada, Statistics Greenland, Statistics Faroe Islands, Statistics Iceland, Statistics Norway, Statistics Sweden, Statistics Finland and Rosstat.

Table 3. Sources of the data.

Countries and regions	Sources of the data ( )
United States	U.S. Census Bureau (Internet)
Alaska	Bureau of Economic Analysis (Internet) Alaska Department of Labor and Workforce Development (Internet)
Canada	
Yukon Territory	Statistics Canada (Internet)
Northwest Territory	Statistics Canada (Internet)
Nunavut Territory	Statistics Canada (Internet)
Nunavik	Statistics Canada (Internet)
Labrador	Statistics Canada (Internet), Newfoundland Statistics Agency (Internet)
Greenland	Statistics Greenland (Internet)
Faroe Islands	Statistics Faroe Islands (Internet)
Iceland	Statistics Iceland (Internet)
Norway	
Nordland	Statistics Norway (Internet)
Troms	Statistics Norway (Internet)
Finnmark	Statistics Norway (Internet)
Svalbard	Statistics Norway (Internet)
Sweden	
Norrbotten	Statistics Sweden (Internet)
Vasterbotten	Statistics Sweden (Internet)
Finland	
Oulu	Statistics Finland (Internet)
Lapland	Statistics Finland (Internet)
Russian Federation	
Republic of Karelia	Rosstat, NUPI – Center for Russian Studies Database (Internet)
Republic of Komi	Rosstat, NUPI – Center for Russian Studies Database (Internet)
Arkhangelsk Oblast	Rosstat, NUPI – Center for Russian Studies Database (Internet)
Nenets Autonomous Okrug	Rosstat, NUPI – Center for Russian Studies Database (Internet)
Murmansk Oblast	Rosstat, NUPI – Center for Russian Studies Database (Internet)
Khanty-Mansii Autonomous Okrug	Rosstat, NUPI – Center for Russian Studies Database (Internet)
Yamal-Nenets Autonomous Okrug	Rosstat, NUPI – Center for Russian Studies Database (Internet)
Taimyr (Dolgan-Nenets) Autonomous Okrug	Rosstat, NUPI – Center for Russian Studies Database (Internet)
Evenk Autonomous Okrug	Rosstat, NUPI – Center for Russian Studies Database (Internet)
Republic of Sakha (Yakutia)	Rosstat, NUPI – Center for Russian Studies Database (Internet)
Magadan Oblast	Rosstat, NUPI – Center for Russian Studies Database (Internet)
Koryak Autonomous Okrug	Rosstat, NUPI – Center for Russian Studies Database (Internet)
Chukchi Autonomous Okrug	Rosstat, NUPI – Center for Russian Studies Database (Internet)

14.3.2. Inclusion criteria

The saturation method made it possible to amass a large quantity of data. Only those statistics provided by national agencies were kept because they are public, available and, contrary to those found on other sites, recurrent

and of proven validity. These criteria are essential for the subsequent comparison work in space and time.

In those cases where the national statistical agencies did not provide the data sought, or where the data were not sufficiently detailed, use was made of the data of regional or provincial agencies. This is the case, for example, of the Alaska Department of Labour and the Newfoundland Statistical agency, which use the data provided by national agencies, by presenting them in a more detailed or more precise manner when processing regional data (See above table 3).

14.3.3. Importing data

The search for data was carried out as follows: (1) find the site of the national statistical agency; (2) use, where available, the English version of the site; (3) locate all the sections that present data on the site, (4) locate, in each of these sections, the general indicator sought (population, Gross Domestic Product, manpower); (5) locate the specific variables related to the general indicator (age and sex, region, year); (6) index the table in the administrative site, (7) append its URL address, (8) copy and append the table in PDF format. All of these operations are complex, in particular locating elements on the web sites of agencies and indexing. Indeed, each agency has a site having its own characteristics and which imposes diversified ways of doing research; while some sites permit easy and fast navigation, others are highly complex. As for indexing, it presupposes an exhaustive analysis of the content of each of the tables, and its categorization. The final list of indicators and sub-indicators is the result of these multiple analyses, and was developed after repeated work spanning more than two years. The refinement of the indicators and sub-indicators is an on-going operation, in particular within a context where indicators and tables are added to report on the pertinent statistical production of agencies.

14.3.4. Chosen indicators and sub-indicators

At the time ArcticStat was put into service on the Internet, it contained 8 main statistical indicators and 63 sub-indicators (Appendix 1). The prime goal of ArticStat is to facilitate comparative research on the demographical, social and economic characteristics of the populations of the Arctic

regions. The indicators and sub-indicators were chosen with this goal in mind. This section provides some examples of the selected indicators and sub-indicators, as well as the criteria used in their selection.

To permit comparative research concerning the population, which is namely a main indicator, two fundamental demographical sub-indicators were first chosen according to this goal: the number of people by age and sex. These are basics common to most statistical agencies and which are used in fundamental calculations such as the dependency ratio, the feminity ratio, and so on. Afterwards, the numbers of sub-indicators increased according to the existence and availability of data and access to data to better describe not only the demographic structure (civil status, density, ethnicity, citizenship, geographic origin, language, etc.), but also the movements of the population (mobility, migration).

To permit comparative research concerning the economy of Arctic regions, the main indicator called "Regional Accounts" is declined into various sub-indicators among which the Gross Product (GDP). The GDP describes the economic structure of a country or a region and makes it possible to compare this structure with those of other countries or regions. There are three ways of calculating the GDP: by industries (what used to be at the cost of factors), by income and by spending. The GDP by industry allows researchers to compare the relative weight of the various branches of economic activity of two or more regions. The GDP by income is mainly useful for calculating income (personal and disposable) per inhabitant. The GDP by spending makes it possible to analyze the weight of the various economic agents, namely governments, enterprises and consumers.

ArcticStat also proposes a series of indicators and sub-indicators in other fundamental social fields, such as vital statistics, housing, households and families, education, labor force, personal income, etc. At the time that ArcticStat went into service, it did not have data specifically concerning the health field. Indicators and sub-indicators concerning this crucial and complex field will be added in the year following its entry into service.

14.4. Limitations of the data

While ArcticStat brings together data on a wide range of socioeconomic realities of Arctic regions, it does not cover all possible aspects. First, the

data included in the databank follow ArcticStat's editorial orientations. Secondly, these data are limited by the production of statistical agencies and the availability of data free of charge and accessible in English.

ArcticStat is updated periodically to contain, wherever possible, the most recent data available. However, ArcticStat is not responsible for the policies and practices of statistical agencies, the errors in the tables originating from these agencies, or the use made of such tables. The conceptual and methodological clarifications presented in the original tables from the national agencies have been kept in full and can be readily consulted. Moreover, the ArcticStat site will propose a page of meta-data, which will list, by country, the main concepts and methods applicable to the indexed tables. That way, the user can make an appropriate reading of each of the tables, adequately understand the content thereof, and carry out the necessary operations to reconcile the conceptual differences and make valid comparisons.

14.5. Analysis of the content of ArcticStat

A summary analysis of the content of ArcticStat at the time of its launching, on October 1, 2007, reveals several variations in the statistical coverage by national agencies.

14.5.1. Total number of tables per country

The total number of tables available in ArcticStat varies considerably from one country to the next: approximately 1,300 in Alaska and 57 in Finland (Table 4). This situation is explained in part by the different approaches of the agencies. The U.S. Census Bureau produces, for a specific indicator, a separate table each year. Statistics Canada, which ranks second in terms of the total number of tables in ArcticStat, produces a table per region, per census, with the end result that the same table appears at least 3 times in ArcticSat (once for the Yukon, once for the Northwest Territories and once for Nunavut), 4 times if the table is available for Labrador and 5 times if it is available for Nunavik. Other agencies, which *a priori*, are less well represented in ArcticStat, do not have fewer data in reality. For example, Statistics Norway makes available to its users pull-down menus making it

possible to build a single table which may contain, for the same indicator, the four Norwegian regions covered by ArcticStat and a large number of years. Statistics Iceland, Statistics Greenland and Statistics Faroe Islands have also adopted this method for presenting their data.

The great variation in the number of tables available in ArcticStat is also explained by the availability of data translated into English. In Alaska and in Canada, the data are produced directly in English (and also in French for Statistics Canada), which does not limit the number of potentially relevant tables for ArcticStat. On the web sites of Statistics Iceland and Statistics Norway, the number of tables translated into English is very high. The same cannot be said for other agencies. Statistics Sweden and Statistics Finland are agencies which produce a large quantity of data in the original language but which only a small percentage is being translated into English. That explains why Sweden and Finland are among the countries with the smallest statistical coverage in ArcticStat. As for Rosstat, it does not translate into English any regional data. The data that are available in English on the agency's site always deal with the Russian Federation as a whole. Yet the total number of tables coming from this agency is greater than that of Statistics Sweden, Statistics Finland, Statistics Greenland and Statistics Faroe Islands. This situation may be explained by the fact that the ArcticStat team took charge of their translation with the close collaboration of Rosstat; the end result of this procedure is that the Russian data included in ArcticStat are exclusive in terms of their availability of English.

A third reason explains the variation in the total number of tables in ArcticStat: data that are only available in return for payment. A significant portion of the production of Statistics Canada (mainly economic data) is not found in ArcticStat because these data are only available for a price, which is often high, and because agreements must be reached with this agency concerning the large-scale distribution of these data. The same is true for certain data produced by Statistics Finland, but to a lesser extent.

Finally, the resources available to the agencies explain the variation per country of the number of tables found in ArcticStat. The U.S. Census Bureau and Statistics Canada are agencies that have considerable human, material and financial resources in comparison with European agencies (with the exception of Rossat which employs more than 10,000 people) and in particular Statistics Greenland and Statistics Faroe Islands. The

latter have very few resources and employ a very small number of individuals (only 15 people worked for Statistics Faroe Islands in 2006). As a result, the production of these agencies is very limited; Statistics Greenland produced its last Statistical Yearbook in 2001–2002, and Statistics Faroe Islands withdrew the English version of its web site for more than three years.

Table 4. Number of tables by indicator and country. First Version of ArcticStat, October the 1st 2007.

	Alaska	Canada	Faroe Islands	Finland	Green-land	Iceland	Nor-way	Swe-den	Rus-sia
Total	1306	630	70	57	75	279	275	74	108
Dwellings	255	54	0	11	6	2	21	2	18
Education	84	97	19	6	13	89	93	7	44
Households and Families	269	89	0	5	0	4	30	0	0
Labour Force	162	117	13	7	9	28	30	16	33
Personal and Household Income	555	174	1	1	5	20	28	10	23
Population	220	215	24	25	29	63	57	25	28
Regional Accounts	9	2	6	4	5	34	12	9	22
Vital Statistics	8	13	10	10	14	46	15	10	23

In summary, despite a significant variation in the total number of tables, the Arctic regions of North America, those of Norway and Iceland are represented in a similar manner in ArcticStat and benefit from good statistical coverage. As for the other Arctic regions, they are much less documented, particularly the Finnish regions, as the data are often limited by the policies of the agencies that produce these data and the resources available to them.

14.5.2. Statistical coverage of indicators and sub-indicators

The statistical coverage of the indicators and sub-indicators found in ArcticStat are also characterized by a major variation from one country to the next (Appendix 2). There is an abundance of data on households and families for Alaska and to a lesser extent for Canada, but such data are lacking for the Faroe Islands, Greenland, Sweden and the Russian Federation. There is also a great variation in the data on housing ranging from over two hundred tables for Alaska to only two tables for Iceland and Sweden, and no table for

the Faroe Islands. The incomes of individuals and households generally benefit from a better coverage, but there is only one table of this category for Finland and the Faroe Islands. Regional economic data have only a minimal coverage everywhere and in particular in Canada. This situation is the result of a combination of factors, some being due to editorial decisions made by the ArcticStat team and others being attributable to the policies of the agencies. All of the tables produced by an agency concerning an indicator are not necessarily found in ArcticStat. Not only must they have been translated into English, they must also contain data aggregated at a regional level and be compiled on an annual basis. These three criteria dictate the selection of the tables that will be included in ArcticStat. It follows that a more or less significant number of tables is rejected, depending on the agency. For their part, agencies do not place the same importance on all indicators. Statistics Canada produces many statistics on the income of individuals and households but much less information on vital statistics. Statistics Iceland produces extensive data on education and vital statistics but few data on housing and households. Rosstat places great importance on data related to education but not on the realities concerning families and households. Statistics Norway generates much more data on education that it does on manpower. Statistics Greenland is more interested in vital statistics than statistics dealing with housing. Clearly, the statistical production of the various agencies is not uniform and this is reflected in the content of ArcticStat.

These policies particularly impact the data on Aboriginal populations (Appendix 2). An examination of the content of ArcticStat reveals that these data are characterized by a clear split between North American and European Arctic regions. Indeed, while there are numerous data for Alaska and Canada, they are almost non-existent for the other countries. The U.S. Census Bureau inserts in its questionnaires several questions, which are intended to isolate the characteristics of the Aboriginal populations living on its territory. The results include the Census American Indian and Alaska Native Summary File, which are entirely devoted to Aboriginal realities. Statistics Canada carries out, on a recurrent basis, several surveys specifically intended to better document Aboriginal realities, the most important of which is the Aboriginal People Survey. The European agencies, for their part, show little or no interest in this question. To learn about the realities of the Aboriginal people who inhabit their territories, it is necessary to resort to the data produced within the context of scientific research, which

most of the time tends to be limited to a specific aspect and which are non-recurrent in nature.

In summary, despite all the efforts made by the ArcticStat team to "exhaust" the data produced by the agencies concerning a given indicator, major gaps remain with the end result that the circumpolar comparison of certain realities remains difficult or can only be achieved by comparing certain regions, or should rely on other sources from monographs and scientific literature.

14.6. Precautionary remarks concerning circumpolar comparative research

In an ideal world, all data would be available, both those concerning local populations and those specifically applying to Aboriginal peoples, and they would be available for all regions; each indicator would be based on an identical concept regardless of the population or the region to which it applies. However, not all of the data are available; those dealing specifically with Aboriginal populations are missing; the indicators are characterized by significant conceptual differences. All of these limitations must be considered when processing data to permit their comparison, and at the time of their interpretation. In this section, we will illustrate the type of difficulties that a user encounters when making international comparisons, by taking as an example the data concerning the population, economic activity and manpower.

14.6.1. Analysis and interpretation of demographic data

Most of the population data come from national censuses. The other data come from specific surveys, for example the Aboriginal People Survey carried out by Statistics Canada in 2001 and in 2006.

It is relatively easy to find data on total populations, but for various reason this is not the case for Aboriginal populations (Appendix 2). The Norwegian and Swedish national agencies do not record data on their Aboriginal populations with the end result that these data are included in those

related to the total population[128]. The Finnish national agency reports on the Aboriginal population according to mother tongue[129]. In Greenland, the data do not distinguish the ethnic affiliation, but rather the fact of whether or not the person was born in Greenland. In the Russian Federation, the ethnic composition of each of the subjects of the Federation is not very detailed and is presented in percentage only. To obtain a more precise statistical description, it is necessary to call on other sources, such as those existing at the Center for Russian Studies[130], a research group attached to the Norwegian Institute of International Affairs (NUPI)[131].

Moreover, the "Aboriginal" concept, when used, differs from one country to the next. The consequence of this situation may be to overestimate the number of Aboriginal people (this would be the case for Greenland) or to underestimate it (this would be the case for Finland). The total or near-total absence of data on the Aboriginal populations of northern Norway and Sweden limits the circumpolar comparisons to the total populations and prevents a systematic circumpolar comparison on Aboriginal populations. The demographic data of the Russian Federation date back to the last census conducted in 1989. Since then, there has been an exodus of Arctic populations to the south, which results in an over-estimate of the current

[128] Statistics Norway recently made available on its web site data on the Sami population but these data are limited in number and, for the most part, are presented in the form of texts or illustrations (except for the data on the Sameting Election).

[129] According to a representative of the Finnish agency, this approach significantly underestimates the likely number of Aboriginal people of this country. AMAP (1997) emphasizes that it is difficult to account for the Sami population because ethnicity is not always part of the concepts used in national population censuses and because there are several definitions of Sami ethnicity. On the basis of mother tongue, AMAP reports that there were approximately 35,000 people who spoke one of the Sami dialects: 20,000 in Norway, 10,000 in Sweden, 3,000 in Finland and 1,000 in Russia (AMAP, 1997). In its 2002 report entitled "Human Health in the Arctic", AMAP estimates that this number is between 50,000 and 70,000 people. These figures are greater than what we obtained: none in Norway and in Sweden and about 1,600 in Finland. According to the Center for Russian Studies, there are approximately 1,600 in Russia.

[130] The Center for Russian Studies was created in 1995 with the financial support of the Norwegian Ministry of Defence and Foreign Affairs. The creation of this working group was based on the need to produce more knowledge about Russia. This need emerged following the development of bilateral relations between Russia and Norway and multilateral relations between the Barents Region and the Baltic Region.

[131] The NUPI was created in 1959 by the Norwegian Parliament in order to promote a better understanding of international questions on the part of leaders and the general public. The NUPI has prepared and set up a wide range of research activities and has published extensive information on international questions. The institute is independent of Norwegian foreign policy and the government's economic relations.

number of inhabitants in these regions, Aboriginal and non-Aboriginal inhabitants combined.

14.6.2. Analysis and interpretation of economic data

The economic data come from various surveys conducted by national statistical agencies: Gross Domestic Product, labor market, education and employment, provincial or regional economic accounts. When the national agencies do not offer the information sought, monographs must be used. This is the case notably of Nunavik. However, this situation is exceptional.

The most frequently used economic indicator at the national level is the Gross Domestic Product (GDP). The GDP describes the economic structure of a country or a region and makes it possible to compare it with those of other countries or regions.

Comparative research based on measurements of the GDP pose two major difficulties. The first difficulty concerns the three calculation methods commonly used to determine the GDP. An exhaustive search revealed that only Statistics Canada provides the data calculated according to these three methods, with the other countries providing one and occasionally two methods. The second difficulty concerns the regional aspect of the data. The national GDP is an indicator calculated by all of the national statistical agencies, but this is not the case for the regional GDP. The latter is either absent from the available economic data, or provided in its entirety without details on the branches of economic activity, or available on a sporadic basis rather than recurrently.

Research on manpower is also characterized by a major limitation: national agencies rarely provide economic data concerning the Aboriginal population. The number of jobs by branch of economic activity refers, in most cases, to the total populations of the regions. Consequently, the comparison of the standards of living between the Aboriginal people and the rest of the population is not possible by resorting solely to the available sources. As the case may be, more refined analyses must report on the data available elsewhere, notably in the scientific literature.

Research on income poses the same type of difficulties as those noted for research on the GDP: absence of data, data calculated at the national level only, data available for only one of the indicators, non-existence of data by ethnic group.

Moreover, the interpretation of economic data calls for far greater caution since the conceptual differences require that choices be made and these choices affect the results. Some countries propose branches of economic activity that are the aggregation of activities, some of which traditionally belong to the primary sector and others to the secondary sector. For example, Statistics Sweden aggregates the manufacturing sectors and natural resource extraction activities. This approach occasionally makes the detailed analysis of either one of these activities impossible and limits the comparison of the results without resorting to other sources. These national specificities force the researcher to re-categorize the data originating from the national accounts system. To perform this task, the researcher can use concordance tables that are or will be available on the meta-data page of ArcticStat.

Economic data are characterized by another major limitation: they only concern total populations. National statistical agencies do not generally provide economic data that apply specifically to population segments, such as Aboriginal populations. To obtain such data, it is necessary, most of the time, to resort to monographs that are limited in space and time. Occasionally, the researcher will be able to opt for the examination of "control" regions whose population, for example, would be Aboriginal in the majority, in order to check if there are specificities. Consequently, the examination of the Arctic economy must be made cautiously since numerous research initiatives have shown that everywhere the standard of living of the Aboriginal populations is lower than that of the rest of the population on the territory. If this is true, the available data will underestimate the economic well-being of non-Aboriginal populations whereas it will overestimate that of Aboriginal populations.

14.7. Conclusion

The added value offered by ArcticStat includes: greatly facilitating fact-finding in the field of Arctic statistics; drastically reducing the time required to identify sources and to navigate through them, a process that is often complex and that differs from one statistical agency to the next; and permitting systematic and valid comparisons at the level of the circumpolar

regions (such comparisons were very difficult in the past owing to the wide dispersion of data).

The simple concept developed for the construction of ArcticStat may offer replicable solutions to the problem of gathering multiple data. Its indexation procedure, which is systematic and exhaustive, offers a major potential, as does its map-based research device.

ArcticStat facilitates research for the scientific community. Moreover, it enables national, regional and local governments, as well as the Arctic Council to rely on updated, valid and potentially comparable information to guide public policies. This clearinghouse may increase information exchanges between Arctic researchers and countries. Finally, ArcticStat is being used as a pedagogical resource for teaching, research and dissemination, especially for those stakeholders involved in Arctic programs, such as the universities affiliated with the University of the Arctic.

Challenges have been successfully dealt with over the last years, such as raising core funding, data identification, indexing procedures, design and development of a user-friendly searchable web page including a map-based interface, design and development of a fully functional and adaptable administrative section.

But other challenges still lie ahead. The main challenge that ArcticStat faces is to successfully hold discussions with all the data-providers, mainly the national statistical agencies of the eight Arctic countries. These discussions are important, since they can ensure the long-term sustainability of the database.

These discussions should lead to permanent collaboration between ArcticStat and each statistical agency. They should also lead to the creation of an Advisory Board, where the ArcticStat management team and participant agencies can meet on a regular basis to discuss all methodological and conceptual orientations of the database. The Advisory Board would be responsible for studying and proposing solutions to the problem of translating the tables that are already available in their original language, of producing new data, particularly on Aboriginal populations, that would be needed to better understand the realities of the Arctic population and of trying to overcome the conceptual differences between the national statistical agencies.

But the discussions are complex, just as are the solutions required to ensure the sustainability of ArcticStat. All of the agencies with which we

have held discussions, have given their consent, allowing ArcticStat to make use of their databases. However, certain agencies have imposed at times significant restrictions, which will also need to be discussed: for example, some tables of fundamental interest are only available on a pay-per-use basis. In the meantime, we have set up a monitoring program in order to keep the database as up to date as possible. That way, the progress for research that has come with the creation of ArcticStat should be maintained and gradually improved.

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Appendix 1 (continued over the next pages)

Indicators and sub-indicators. First Version of ArcticStat, October the 1st 2007

Dwellings

Characteristics of Occupants
Refers to the characteristics of individuals or households that occupy the dwelling: age, sex, civil status, worker status, type of family or household, income of the occupants, year in which they moved in, etc.

Ethnicity
Refers to the ethnic affiliation or the nationality or the immigrant status of the individuals who occupy the dwelling.

Number of Occupants
Refers to the number of individuals who live in the same dwelling or to the individual/room ratio.

Number of Rooms/Floor Space
Refers to the number of rooms in a dwelling or its size measured in square feet or metres.

Tenure Status
Refers to the status of the occupants of the dwelling in terms of ownership: owner, tenant, etc.

Type
Refers to the type of dwelling: detached house, apartment, rooming house, social, municipal, public housing, etc. This sub-indicator also includes data dealing with the occupancy, the location and the condition of the dwellings.

Year of Construction
Refers to the year in which the dwelling was built.

Education

Accounts
Refers to the costs related to education, all data combined, private or public sector.

Age
Refers to the breakdown of students or staff according to their age. This sub-indicator is also indexed to identify the tables containing data on adult education even if there is no age as such in the table.

Educational Attainment
Refers to the breakdown of students, staff or the population as a whole according to the highest level of schooling attained or completed.

Enrolment/Drop-Out
Refers to the number of enrolments or students or to the number of persons who drop out, whatever the level of education, the type of program or the type of school.

Ethnicity
Refers to the ethnic affiliation or the nationality or the immigrant status of students or teachers. This sub-indicator also refers to any other information – number of enrolments, number of teachers, success rate, drop-out rate – related to ethnicity, nationality or immigrant status.

Field of Study/Program
Field of Study refers to the breakdown of students or staff in the different study programs: social studies, cabinet-making, electricity, language and literature, accounting, etc. Program refers to general, vocational or professional programs.

Language
Refers to the language of instruction or the language spoken by students or staff.

Level of Education
Refers to the level of instruction: preschool, elementary, secondary, tertiary, etc.

Sex
Refers to the breakdown of students or staff according to their sex.

Staff
Refers to staff – teachers, directors, specialized staff, support staff – all data combined.

Type of School/Ownership
Type of School refers to the various types of schools regardless of the level of instruction offered: specialized schools, popular education, remote education, grammar schools, comprehensive school, etc. Ownership refers to the ownership status of schools: private, public, municipal, county, state or other schools.

Households and Families

Age
Refers to the age of the head of the household or family. This sub-indicator is also indexed to identify the tables containing data on children or seniors even if there is no age as such in the table.

Ethnicity
Refers to the ethnic affiliation or the nationality or the immigrant status of the individuals who make up a household or a family.

Sex
Refers to the sex of the head of the household or the family. This sub-indicator is also indexed to identify the tables containing data on families headed by women.

Size
Refers to the number of persons per household or per family or to the average number of persons per household or per family.

Type
Refers to the types of households: person living alone, married couple with or without children, single-parent family, etc.

Labor Force

Age
Refers to the age of employees, unemployed persons, retired persons, volunteers, etc.

Class of Worker
Refers to employees according to whether they work full time or part time, whether they are salaried employees, self-employed workers, business owners, seasonal workers, contract workers, temporary workers, supernumerary employees, etc.

Education
Refers to the level of schooling attained or completed or the educational training of employees, unemployed persons, retired persons, etc. This sub-indicator is also indexed to identify the tables dealing with work/studies.

Ethnicity
Refers to the ethnic affiliation or the nationality or the immigrant status of employees, unemployed persons, retired persons, etc.

Industry/Agent
Industry refers to the distribution of jobs, employees or unemployed persons in the various economic activities: agriculture, forestry, commerce, transportation, food service industry, education, health, etc. Agent refers to the public administration, all levels combined: municipal, provincial, federal, etc.; and to businesses, all types combined: private, public, cooperatives, corporations, non-profit organizations, etc.

Labor Status
Refers to the status of an individual in relation to the labor market: unemployed person, retired person, volunteer, housewife, etc.

Occupation
Refers to the distribution of jobs, employees or unemployed persons in the various types of jobs: manager, health care worker, store employee, teacher, mechanic, etc.

Sex
Refers to the breakdown of employees, unemployed persons, retired persons, volunteers, etc., according to their sex.

Personal/Household Income

Age
Refers to the age of individuals or that of the head of the household.

Education
Refers to the income of individuals according to their level of schooling.

Ethnicity
Refers to the ethnic affiliation or the nationality or the immigrant status of the individuals or households.

Households/Families
Refers to the income of households or families.

Industry/Occupation
Refers to the income of individuals according to the type of industry in which they work or the type of job that they hold. This sub-indicator also includes incomes earned from jobs related to the public administration, all levels combined.

Labor Status/Class of Worker
Labor Status refers to the income of individuals according to whether they are employees, retirees, unemployed persons, volunteers, housewives, etc. Class of Worker refers to the income of individuals according to whether they work full time or part time, to whether they are salaried employees, self-employed workers, business owners, seasonal workers, contract workers, temporary workers, supernumerary employees, etc.

Person
Refers to the income of individuals.

Poverty Status
Refers to the poverty status of individuals, households or families.

Sex
Refers to the breakdown of individuals or heads of households according to their sex.

Source
Refers to the various sources of income of an individual, a family or a household: earnings, transfer income, interest, rent, business income, pension income etc.

Population

Age
Refers to the breakdown of individuals according to their age regardless of the unity of the age groups.

Civil Status
Refers to the breakdown of individuals according to their civil status: single, married, common law spouse, divorced, etc.

Density
Refers to the population density, namely the number of persons per square kilometer or per square mile.

Ethnicity/Citizenship
Refers to the breakdown of individuals according to their affiliation with an ethnic group or according to their citizenship. This sub-indicator also includes the breakdown of the population according to nationality or race.

Geographic Origin
Refers to the breakdown of the population according to the place of birth of individuals. This place may be a country or any other geographical division of the world, as well as the categories: born in, born out, place of birth, native, foreign born.

Language
Refers to the breakdown of individuals according to the language(s) understood, written, spoken and used.

Mobility/Migration
Refers to the tables dealing with population movements containing the following categories: internal migration, immigration, emigration, residence one year ago, moved, entered, etc.

Projection
Refers to the changes in the size of the population. This sub-indicator is based on projected data and refers to the future.

Religion
Refers to the breakdown of individuals according to their religion including atheism.

Sex
Refers to the breakdown of individuals according to their sex.

Territorial Subdivisions
Refers to the breakdown of individuals – not that of households – on the territory: municipalities, settlements, capital and regions, densely populated regions and sparsely populated regions, etc.

Regional Accounts

Economic Activity
Refers to the breakdown of sectors, branches and industries that make up the economic activity of a country or a region. This sub-indicator also comprises the Four Pillars of Greenland.

Gross Product
Refers to the Gross Domestic Product of a country or a region. This sub-indicator comprises various calculations methods: revenue method, expenditure method, at the cost of factors, etc. various monetary bases: in constant money, in current money, etc. This sub-indicator also includes the Gross National Product.

Output
Refers to the value of production of industrial branches and sectors.

Value Added
Refers to the value added in the economy by industrial branches and sectors. This sub-indicator also includes the gross value added.

Vital Statistics

Adoption
Refers to the number of children adopted, whether officially or unofficially.

Age
Refers to the age of individuals in relation to vital statistics. This sub-indicator is also indexed to identify the tables dealing with infant mortality.

Birth
Refers to the number of births and the fertility rate.

Death
Refers to the number of deaths and life expectancy.

Divorce and Separation
Refers to the number of divorces or separations or to certain related characteristics: presence or absence of children, custody of children, etc.

Ethnicity
Refers to the ethnic affiliation or the nationality or the immigrant status of the individuals in relation to vital statistics.

Marriage and Cohabitation
Refers to the number of marriages or common law unions or to certain related characteristics: duration of the union, type of marriage, etc.

Population Change
Refers to changes in the size of the population. This sub-indicator is based on real data and refers to the past. It also comprises data dealing with increases and decreases of population.

Sex
Refers to the sex of individuals in relation to vital statistics.

Appendix 2 (Continued over the next pages)

Number of tables by indicator, sub-indicator and country. First Version of Arctic-Stat, October the 1st 2007

	Ala-ska	Ca-nada	Faroe s	Fin-land	Green-land	Ice-land	Nor-way	Swe-den	Rus-sia
Total	***1306***	***630***	***70***	***57***	***75***	***279***	***275***	***74***	***108***
Dwellings	**255**	**54**	**0**	**11**	**6**	**2**	**21**	**2**	**18**
Characteristics of Occupants	95	7	0	0	0	0	6	0	0
Ethnicity	33	5	0	0	0	0	0	0	0
Number of Occupants	54	18	0	1	1	0	2	0	0
Number of Rooms/Floor Space	46	8	0	2	2	2	5	0	13
Tenure Status	194	36	0	1	0	0	11	0	1
Type	56	26	0	5	2	2	10	2	3
Year of Construction	39	20	0	4	2	0	5	0	1
Education	**84**	**97**	**19**	**6**	**13**	**89**	**93**	**7**	**44**
Accounts	0	5	2	1	2	0	6	0	0
Age	37	84	2	0	0	39	30	2	0
Educational Attainment	52	75	1	2	4	27	4	4	5
Enrolment/ Drop-out	44	46	14	2	8	51	72	3	31
Ethnicity	13	17	0	0	1	1	4	0	0
Field of Study/Program	0	36	8	0	6	15	20	0	17
Language	4	2	0	1	0	6	9	0	0
Level of Education	34	2	16	3	7	82	78	3	37
Sex	50	84	12	1	1	60	26	5	0
Staff	0	1	1	0	2	26	8	0	0
Type of School/ Ownership	14	0	13	2	1	31	49	3	40
Households and Families	**269**	**89**	**0**	**5**	**0**	**4**	**30**	**0**	**0**
Age	157	33	0	1	0	2	16	0	0
Ethnicity	53	5	0	0	0	0	0	0	0
Sex	147	24	0	0	0	4	1	0	0
Size	78	37	0	1	0	2	6	0	0
Type	190	70	0	3	0	4	24	0	0
Labour Force	**162**	**117**	**13**	**7**	**9**	**28**	**30**	**16**	**33**
Age	31	67	8	0	2	9	6	3	2
Class of Worker	9	61	3	2	1	0	6	2	0
Education	55	24	0	0	4	6	7	0	2
Ethnicity	21	17	0	0	0	1	2	0	0
Industry/Agent	47	48	3	2	6	6	11	8	17
Labor Status	63	54	7	4	6	13	6	0	22
Occupation	33	46	0	0	0	4	5	5	0
Sex	120	107	12	1	5	26	15	12	3

	Ala-ska	Ca-nada	Faroe s	Fin-land	Green-land	Ice-land	Nor-way	Swe-den	Rus-sia
Personal and Household Income	**555**	**174**	**1**	**1**	**5**	**20**	**28**	**10**	**23**
Age	109	54	0	0	1	4	6	0	0
Education	18	33	0	0	1	0	1	0	0
Ethnicity	91	35	0	0	0	0	0	0	0
Household/ Families	361	58	0	0	2	6	12	4	13
Industry/ Occupation	14	1	0	0	1	8	4	1	0
Labor Status/ Class of Worker	99	49	0	0	0	1	3	0	1
Person	193	132	1	1	4	16	18	8	21
Poverty Status	156	0	0	0	0	0	0	0	15
Sex	204	125	0	0	0	13	6	2	0
Source	204	107	0	1	1	16	14	5	17
Population	**220**	**215**	**24**	**25**	**29**	**63**	**57**	**25**	**28**
Age	90	122	13	12	16	39	28	7	4
Civil Status	59	46	1	0	1	4	6	2	0
Ethnicity/ Citizenship	104	55	4	3	1	17	6	3	1
Geographic Origin	60	42	3	3	16	12	3	0	0
Density	3	14	0	1	1	1	3	3	1
Language	37	88	0	6	0	0	0	0	1
Mobility/ Migration	53	94	7	8	12	11	19	10	3
Projection	0	0	0	0	3	3	4	0	0
Religion	0	28	0	0	0	5	0	0	0
Sex	99	135	16	12	16	53	23	12	14
Territorial Subdivision	1	19	10	3	10	12	21	8	4
Regional Accounts	**9**	**2**	**6**	**4**	**5**	**34**	**12**	**9**	**22**
Economic Activity	8	0	1	1	3	19	8	2	16
Gross Product	4	2	6	0	4	28	3	8	19
Output	0	0	1	1	1	6	5	0	14
Value Added	0	0	1	4	0	8	6	0	1
Vital Statistics	8	13	10	9	14	46	15	10	23
Adoption	0	0	0	0	0	6	1	0	0
Age	2	1	5	2	10	30	3	2	3
Birth	6	9	6	7	6	15	4	6	15
Death	0	8	7	4	9	16	7	7	17
Divorce and Separation	0	1	1	2	0	17	3	1	3
Ethnicity	1	0	0	0	0	0	0	0	0
Marriage and Cohabitation	2	1	1	2	0	14	2	1	3
Population Change	0	0	3	5	3	3	1	4	16
Sex	2	5	6	2	9	30	5	6	14