

Inuvialuit Social Indicators: Applying Arctic Social Indicators Framework to Study Well-Being in the Inuvialuit Communities

Andrey N. Petrov

University of Northern Iowa, USA

Abstract: This study of the Inuvialuit Settlement Region (ISR) socio-economic well-being used the established indicators framework, which was developed by the Arctic Social Indicators (ASI) project under the auspices of the Arctic Council. The assessment was conducted for the following six domains: health and population, material well-being, cultural vitality, closeness to nature, education, and fate control. The analysis revealed considerable internal differences within the Inuvialuit Settlement Region in Canada's western Arctic, especially between Inuvik and other communities in the Northwest Territories (NWT). With respect to most indicators, the ISR was better off than other NWT regions—with the exception of the capital city Yellowknife (unemployment, engagement in traditional activities, land claims status, and fate control)—or close to average (incomes, dependency on government transfers, consumption of country food, and education). The ISR fared worse than other NWT regions with respect to language retention and out-migration rates. In comparison with Inuit communities in Nunavut, the ISR had a generally higher level of material well-being, but demonstrated low language retention, lower consumption of traditional food, and inferior fate control status. The analysis shows that although the Inuvialuit Settlement Region appears to have variable levels of socio-economic well-being across most of the six domains, with some positive trends, it still faces considerable social challenges and has to deal with interregional inequalities. The most important problems revealed in this study are a continuing gap between the ISR and Yellowknife with respect to material well-being; disparities among the ISR communities (Inuvik vs. all other); potential shortage and leakage of human capital in outlying communities; and low language retention compared to other Inuit regions.

Introduction

The Inuvialuit Settlement Region (ISR) covers 90,650 km² and has a population of 5,718 (2017) living in six communities—Inuvik (the capital and largest settlement), Aklavik, Paulatuk, Sachs Harbour, Tuktoyaktuk, and Ulukhaktok (Holman). More than half of the region's residents are Inuvialuit, and they constitute the majority in each community. Inuvik, the ISR capital, is the dominant settlement with 3,463 inhabitants (2011). The Inuvialuit Regional Corporation (IRC), created as a result of the Inuvialuit Final Agreement (IFA) with the Government of Canada, was established in 1986 as a recipient and manager of compensation payments stemming from the land claim agreement. The IRC is controlled by the Inuvialuit and is responsible for managing the affairs of the settlement region as described in the final agreement. Regional employment is heavily concentrated in public sector and services. In recent decades, the Inuvialuit region has been affected by a number of resource boom cycles associated with activities in the Mackenzie Delta and, more recently, in the Beaufort Sea (IRC, 2014).

The IRC has been collecting and publishing selected socio-economic data to aid in decision-making processes and to provide public access to IRC members. Given a growing interest in Arctic resources within the Inuvialuit Settlement Region, a social impacts monitoring team of polar scientists collaborated with IRC to initiate the development of a system of indicators based on past experiences in the ISR and across the Arctic, local relevance, and data availability. The Inuvialuit Baseline Indicators project, that this article is based on, has been a collaborative effort between Resources and Sustainable Development in the Arctic (ReSDA), Arctic Social Indicators (ASI), and the Inuvialuit Regional Corporation (IRC). The overall goal was to develop a set of measurable, reliable, and accessible indicators to monitor socio-economic conditions in the Inuvialuit Settlement Region, with an emphasis on tracking impacts of resource development. This effort was focused on creating a framework to be used by local actors to collect, manage, and analyze data.

This article reports on one of the parts of the Inuvialuit Baseline Indicators project that dealt with implementing the ASI framework for the ISR. The two objectives of the study included (1) using the ASI framework to provide a background baseline analysis of IRC socio-economic characteristics in comparison with other NWT and Nunavut communities; and (2) analyzing the dynamics of baseline social indicators in the post-IFA period from 1986 to 2009.

Methodology

Well-being is a complicated phenomenon to study using either quantitative or qualitative methods (Michalos, 2014). Although definitions of well-being vary, this article focuses on community well-being that is closely connected with quality of life—i.e., the “degree to which a person’s life is desirable versus undesirable, often with an emphasis on external components ... [It] describes the circumstances of a person’s life rather than his or her reaction to those circumstances” (Diener, 2005, pp. 401–402). This appears to be a practical approach adopted in other well-being assessments (e.g., McHardy & O’Sullivan, 2004; Larsen et al., 2010; Michalos et al., 2011). This study modified and applied the set of social indicators recommended by the Arctic Council’s Arctic Social Indicators Report (Larsen et al., 2010), which considers both general human development indicators and Arctic-specific indicator domains. To investigate socio-economic conditions and their dynamics between 1986 and 2009, the analysis relied on the Canadian Census (2006) and NWT Statistical Bureau datasets (2006–2010), and used available Inuvialuit data collected in the IRC database (<http://inuvialuitindicators.com/>). The purpose of applying a set of standardized indicators was to provide a baseline assessment of socio-economic conditions in the ISR. The study made comparisons between ISR communities and relevant settlements in NWT and Nunavut.

This study followed the general methodology proposed in the first ASI Report (Larsen et al., 2010). This approach has gained considerable attention and use in the Canadian North (Finnegan & Coates, 2015; Petrov et al., 2015). Although not without limitations (e.g., Ozkan & Schott, 2013), the main advantage of the ASI framework is its inclusiveness of various Arctic-specific domains, coupled with the relative simplicity of ASI indicators and their reliance on existing data (Larsen & Petrov, 2015; Vlasova & Volkov, 2016). The framework also provides linkages with the measurements of socio-economic impacts, benefit sharing, and “sustainability” with respect to resource development projects (Petrov et al., 2018; McGrath-Horn, 2017). However, as in other northern regions (e.g., Larsen et al., 2015), the data on the ISR present challenges to exact implementation of the ASI indicators. Whereas most ASI measures were followed very closely, there was a need to redefine or adjust several indicators to ensure compatibility with available data. Most datasets were acquired from the Canadian census. Additional information required for constructing certain indicators was obtained from Statistics Canada’s Aboriginal Peoples Survey and from data provided by the NWT Bureau

of Statistics (Community Survey and other periodic and occasional surveys). This approach allowed gathering the most replicable, detailed, and comparable data that have been collected in multiple years. For the longitudinal analysis, the years of 1986 and 2009 were used as the baseline.

Below are specific social indicators selected for each domain, given the data constraints.

Health and population: Infant mortality is the main indicator recommended by ASI (Larsen et al., 2010). However, it may not be a reliable indicator in sparsely populated areas since it suffers severely from the small numbers problem. Other possible surrogates (which can also suffer from this problem) include suicide rate, self-assessed health, obesity, and smoking rates. In addition, the ASI II (Larsen et al., 2015) team recommended utilizing the teenage birth rate as a possible surrogate. In this case study, we use the teenage birth rate, suicide rate, and self-assessed health. The first two indicators are taken as five-year averages to alleviate the data volatility problem stemming from small populations. Net migration is the indicator recommended by the first ASI report (Larsen et al., 2010) to characterize population dynamics. However, it is challenging to measure net migration directly from available statistics. Instead, we use population change as a proxy.

Material well-being: The first ASI report recommended using per capita household income as a core indicator of economic well-being alongside five other supporting indicators. Unfortunately, per capita household income is not directly available from the census or other surveys. However, it can be approximated by dividing total household income by population. Both datasets are readily available and regularly collected. Net migration rate, selected by the ASI as another core measure of economic vitality, can also be estimated from census and/or community surveys. This case study used per capita household income, net migration, and unemployment rate as indicators of economic well-being (unemployment rate, at least in the context of the Northwest Territories, may not be a very reliable indicator given the nature of the NWT labour market and the manner in which this rate is estimated). Participation rate is a more useful characteristic that demonstrates the degree of the population's engagement in the wage sector. Another option is a transfer income measure (which measures the relative share of the government transfer in residents' incomes).

Education: The first ASI (Larsen et al., 2010) recommended three main indicators, all of which are based on educational attendance (the proportion of students pursuing post-secondary degrees and completing education) or retention of educated people in a community (within ten years after graduation). Whereas these indicators are important and appropriate, in the case of the NWT the required data are difficult to obtain or not collected. At the same time, the Canadian census and NWT Community Survey contain extensive data on educational attainment, the level of education attained by residents. These data have been routinely collected (although with some definitional changes) and provide a variety of educational characteristics to choose from—in this application, the percent of population over fifteen years old who have graduated from high school.

Cultural well-being and cultural vitality: The composite indicator of cultural vitality suggested by the ASI incorporates cultural autonomy (an indicator of institutional arrangements for cultural self-determination), language retention, and belonging (measured in terms of engagement in traditional subsistence activities). The language retention data are available through the Canadian census. However, it only provides information for all persons who claim Aboriginal identity with no differentiation by ethnicity. This is a considerable limitation given that the ASI recommends using ethnic-group-specific language retention rates. The Aboriginal Peoples Survey (2001) included a question on engagement in subsistence activities (hunting, fishing, trapping, and gathering of wild plants) and therefore can be used to measure “belonging.” The cultural autonomy indicator is very complex and difficult to develop, especially at the community scale. We omitted this component at this stage of analysis, thus retaining only two indicators of cultural well-being/vitality.

Contact with nature: The recommended indicator for contact with nature is the consumption and/or harvest of traditional foods. The measure has been computed using data from the 2008 NWT survey of country food consumption (NWT Community Survey, 2009). Unfortunately, the data for other years are not available.

Fate control: The ASI (Larsen et al., 2010) recommended using a four-component composite indicator of community fate control. This includes political power, economic self-reliance, cultural empowerment, and control over land. Two exact measures suggested in the report, the percent

of public expenses paid from locally generated funds (economic control) and the percent of people speaking their mother tongue (knowledge construction/human rights), can be estimated using proxies or direct measures from the census. We suggest using the percent of self-generated income in total household income to measure economic self-reliance. The language retention component is directly available from census data. For the indicator of political power (percent of local/Indigenous peoples in governing institutions and positions), we were able to develop a proxy using the percent of Aboriginal people in managerial and administrative occupations in the NWT. The indicator of land control, however, was difficult to determine at the community level. We therefore used provisions of the comprehensive land claims agreements (CLCAs), where applicable, to estimate the percent of land over which Indigenous communities exercise direct control. Albeit not a perfect measure, it gives an indication of the ability of local residents to have access and control over land. A composite index of fate control is calculated as the average of these four components.

Results

Regional Comparisons: Internal Inuvialuit Settlement Region Differences

The first part of the study used baseline indicators to compare communities within the ISR, to compare the ISR with other NWT regions, and to compare the ISR with other NWT and Nunavut communities (see Table 1). First of all, the data clearly illuminate considerable internal differences in the ISR. Most notably, there is a gap between Inuvik and other ISR communities, with Inuvik having a much stronger position with respect to many of the human well-being domains (material well-being, education, health, and population). The material well-being disparity (income, unemployment, and self-generated income) between the ISR capital and other communities was very substantial, indicating inequities within the region. For example, the per capita household income in Inuvik was almost three times as high as in Paulatuk, while unemployment was 11.2% in the former compared to 29.2% in the latter. The differences in social well-being also extended to population dynamics, health, and social cohesion, with high rates of teenage pregnancy and population losses in peripheral settlements. For instance, the five-year average teen birth rate was 8.4 per 1,000 in Paulatuk compared to 2.3 in Inuvik.

However, Inuvik was ranked lower, compared to other ISR settlements, with respect to the cultural vitality and contact with nature domains. The outlying communities, such as Sachs Harbor and Paulatuk, demonstrated

higher cultural well-being (higher language retention, more involvement in land and sea-based activities). Almost three-quarters of Paulatuk households consumed traditional food and participated in traditional activities on the land and sea, compared to just 25% and 40%, respectively, in Inuvik. The region's capital was also in the bottom of the language-retention ranking with merely 12.9% of Indigenous residents using their mother tongue.

All ISR communities demonstrated relatively high fate control (Table 1), i.e., economic, political, cultural, and legal abilities to define their own destiny. However, the components of the fate control index differed among settlements: Inuvik had stronger economic power (self-generated income), whereas Paulatuk, Aklavik, and other outlying communities scored high on Indigenous representation in leadership occupations.

Regional Comparisons: Inuvialuit Settlement Region vs. Northwest Territories

Comparing the ISR with NWT averages in 2009, the latest baseline year for this study, it can be seen that unemployment in the ISR was higher, wage economy participation rate was lower, home ownership and educational attainment (high school and above) were lower, while violent crime and percent of lone parents were substantially higher than the territory's average. Income was considerably below the territorial benchmark, while income support payments were much higher. This said, it should be noted that territorial averages were strongly affected by Yellowknife, and these comparisons may not correctly indicate the ISR's position against non-capital regions of the NWT. Most indicators associated with closeness to nature and engagement in traditional activities in the ISR were much better than the NWT average. At the same time, language retention (a core indicator of cultural vitality) was noticeably lower than across the NWT.

With respect to other NWT regions (see Table 2), the ISR generally fared better in terms of unemployment, engagement in traditional activities, and land claims status. It is interesting that a relatively high percentage of Inuvialuit residents participating in the traditional economy (48%) coincided with relatively high incomes, yet a low level of language retention (23%). This presents an interesting conundrum that needs to be further investigated. The high position of ISR among other NWT regions with respect to land claims status is not surprising. However, the overall fate control in the ISR appeared to be weaker than for most of its NWT counterparts due to the depressed levels of language retention, modest Aboriginal share in leadership and managerial occupations, and moderate economic self-sufficiency. This is despite the ISR holding the longest standing comprehensive land claims agreement in the territory.

Table 1. Social indicators for the ISR (in bold) and other communities in the NWT (cont'd on page 175).

| Community | ASI: Per Capita Household Income 2006 | Community | Unemployment | Community | Self-generated Income | Community | Traditional Activities |
|----------------------------|---------------------------------------|----------------------------|--------------|----------------------------|-----------------------|----------------------------|------------------------|
| Norman Wells | 44,311 | Yellowknife | 5.8 | Norman Wells | 97.7 | Trout Lake | 53.7 |
| Yellowknife | 39,414 | Norman Wells | 6.0 | Yellowknife | 96.2 | Lutselk'e | 74.7 |
| Hay River | 32,336 | Hay River | 6.4 | Inuvik | 94.7 | Sachs Harbour | 73.3 |
| Inuvik | 31,270 | Fort Smith | 8.3 | Hay River | 94.4 | Paulatuk | 72.6 |
| Fort Smith | 31,270 | Inuvik | 11.2 | Fort Simpson | 94.2 | Ulukhaktok (Holman) | 68.7 |
| Fort Simpson | 29,482 | Fort Simpson | 12.9 | Fort Smith | 93.4 | Colville Lake | 66.9 |
| Fort Resolution | 29,654 | Enterprise | 16.7 | Tulita | 87.3 | Fort Liard | 66.3 |
| Fort Good Hope | 19,628 | Tulita | 17.5 | Fort Liard | 86.9 | Nahanni Butte | 58.7 |
| Behchokò | 17,917 | Ulukhaktok (Holman) | 19.4 | Paulatuk | 86.8 | Jean Marie River | 57.6 |
| Lutselk'e | 17,883 | Colville Lake | 20.0 | Fort Good Hope | 85.8 | Wekweèti | 55.9 |
| Fort Providence | 17,806 | Nahanni Butte | 20.0 | Behchokò | 85.3 | Tuktoyaktuk | 55.6 |
| Fort McPherson | 17,135 | Tsiigehtchic | 21.4 | Whati | 84.7 | Aklavik | 53.7 |
| Fort Liard | 17,076 | Delinel | 22.2 | Ulukhaktok (Holman) | 84.6 | Kakisa | 51.2 |
| Tulita | 16,898 | Delinetah | 22.2 | Fort McPherson | 84.2 | Déline | 49.4 |
| Delinel | 16,753 | Hay River Reserve | 23.3 | Tuktoyaktuk | 83.9 | Whati | 47.2 |
| Aklavik | 16,325 | Fort Food Hope | 23.6 | Fort Resolution | 83.8 | Fort McPherson | 46.6 |
| Tuktoyaktuk | 16,114 | Whati | 23.7 | Lutselk'e | 83.8 | Fort Providence | 45.7 |
| Ulukhaktok (Holman) | 15,286 | Fort Resolution | 23.8 | Fort Providence | 83.3 | Fort Smith | 43.9 |
| Whati | 15,057 | Aklavik | 24.5 | Gamèti | 83.2 | Tsiigehtchic | 42.9 |
| Hay River Reserve | 13,829 | Jean Mean | 25.0 | Déline | 82.9 | Wrigley | 42.9 |
| Paulatuk | 13,725 | Sachs Harbour | 25.0 | Hay River Reserve | 82.9 | Fort Resolution | 42.6 |
| Gameti | 13,101 | Wekweeti | 25.0 | Aklavik | 82.5 | Norman Wells | 42.5 |
| | | Fort Liard | 25.5 | | | Fort Good Hope | 41.9 |
| | | Behchoko | 26.1 | | | Tulita | 41.7 |
| | | Fort McPherson | 28.4 | | | Fort Simpson | 41.5 |
| | | Lutselk'e | 29.0 | | | Inuvik | 40.8 |
| | | Paulatuk | 29.2 | | | Delinetah | 38.5 |
| | | Trout Lake | 30.0 | | | Gamèti | 37.9 |
| | | Wrigley | 30.0 | | | Behchokò | 37.5 |
| | | Tuktoyaktuk | 33.3 | | | Hay River Reserve | 35.5 |
| | | Gameti | 33.3 | | | Yellowknife | 34.5 |
| | | Kakisa | 40.0 | | | Hay River | 33.7 |
| | | | | | | | |

Table 1, cont'd from page 174. Social indicators for the ISR and other communities in the NWT.

| Community | Language Retention | Community | Consumption of Traditional Food | Community | High School | Community | Fate Control |
|----------------------------|--------------------|----------------------------|---------------------------------|----------------------------|-------------|----------------------------|--------------|
| Wekweèti | 93.6 | Kakisa | 94.4 | Norman Wells | 85.7 | Déline | 2.84 |
| Trout Lake | 87.1 | Colville Lake | 94.3 | Yellowknife | 82.3 | Whati | 2.74 |
| Déline | 86.0 | Lutselk'e | 91.9 | Fort Smith | 71.4 | Gamèti | 2.70 |
| Whati | 83.7 | Jean Marie River | 90.0 | Inuvik | 68.5 | Behchokò | 2.61 |
| Wrigley | 80.7 | Trout Lake | 81.8 | Hay River | 68.2 | Fort Liard | 2.43 |
| Gamèti | 80.4 | Tsiigehtchic | 79.7 | Fort Providence | 60.0 | Ulukhaktok (Holman) | 2.43 |
| Kakisa | 78.9 | Tulita | 78.5 | Fort Simpson | 59.4 | Tulita | 2.41 |
| Behchokò | 78.0 | Whati | 78.0 | Whati | 47.6 | Paulatuk | 2.35 |
| Nahanni Butte | 69.9 | Nahanni Butte | 77.1 | Fort Liard | 47.4 | Lutselk'e | 2.36 |
| Fort Liard | 67.3 | Déline | 77.0 | Sachs Harbour | 47.1 | Fort McPherson | 2.31 |
| Lutselk'e | 66.7 | Fort Good Hope | 76.9 | Aklavik | 37.5 | Aklavik | 2.28 |
| Jean Marie River | 63.6 | Fort McPherson | 76.5 | Fort McPherson | 36.4 | Fort Providence | 2.25 |
| Detah | 59.9 | Paulatuk | 74.7 | Tuktoyaktuk | 35.2 | Hay River Dene 1 | 2.21 |
| Fort Providence | 58.6 | Wrigley | 73.8 | Fort Good Hope | 33.3 | Fort Good Hope | 2.19 |
| Ulukhaktok (Holman) | 51.4 | Gamèti | 73.2 | Paulatuk | 30.2 | Fort Resolution | 2.10 |
| Tulita | 49.5 | Behchokò | 73.2 | Ulukhaktok (Holman) | 29.1 | Inuvik | 1.97 |
| Colville Lake | 47.9 | Detah | 70.0 | Déline | 23.5 | Tuktoyaktuk | 1.98 |
| Fort Simpson | 43.0 | Fort Resolution | 69.4 | Tulita | 18.2 | Fort Simpson | 1.94 |
| Sachs Harbour | 40.0 | Fort Liard | 66.5 | Behchokò | 16.7 | Norman Wells | 1.68 |
| Hay River Dene 1 | 38.3 | Wekweèti | 65.7 | Fort Resolution | 15.4 | Fort Smith | 1.62 |
| Fort Resolution | 37.1 | Tuktoyaktuk | 63.3 | | | Hay River | 1.42 |
| Fort Good Hope | 36.9 | Ulukhaktok (Holman) | 62.9 | | | Yellowknife | 1.34 |
| Tuktoyaktuk | 24.0 | Sachs Harbour | 61.7 | | | Wekweèti | 1.00 |
| Fort McPherson | 21.8 | Fort Providence | 59.5 | | | Trout Lake | 0.87 |
| Yellowknife | 21.3 | Hay River Dene 1 | 56.4 | | | Wrigley | 0.81 |
| Paulatuk | 20.8 | Aklavik | 51.3 | | | Kakisa | 0.79 |
| Norman Wells | 19.7 | Fort Simpson | 34.4 | | | Detah | 0.75 |
| Fort Smith | 19.6 | Norman Wells | 29.3 | | | Nahanni Butte | 0.70 |
| Hay River | 16.3 | Inuvik | 25.2 | | | Sachs Harbour | 0.69 |
| Aklavik | 15.6 | Fort Smith | 22.2 | | | Jean Marie River | 0.64 |
| Tsiigehtchic | 15.2 | Hay River | 15.7 | | | Colville Lake | 0.63 |
| Inuvik | 12.9 | Enterprise | 15.0 | | | Tsiigehtchic | 0.55 |
| | | Yellowknife | 10.7 | | | Enterprise | 0.11 |

Table 2. Social indicators for Northwest Territories regions (ISR in bold)

| | | | | | | | | | |
|---------------------------------|-------------------|----------------|----------------|-------------------|-------------------|-------------------|-------------------|------------------|------------------|
| Fate Control Index | 2.60 | 2.12 | 2.07 | 2.05 | 2.05 | 1.83 | 1.79 | 1.49 | 1.27 |
| Region | Ticho | Deh Cho | Kasho Got'ine | Sahtu | Tullita-Deline | Gwich'in | Inuvialuit | South Slave | Yellowknife area |
| High School | 80.5 | 67.8 | 60.1 | 55.3 | 55.0 | 48.9 | 45.9 | 37.5 | 32.7 |
| Region | Yellowknife area | South Slave | Gwich'in | Inuvialuit | Tullita-Deline | Sahtu | Deh Cho | Ticho | Kasho Got'ine |
| Consumption of Traditional Food | 79.7 | 73.7 | 60.9 | 54.5 | 52.4 | 38.5 | 37.7 | 25.5 | 11.3 |
| Region | Kasho Got'ine | Ticho | Sahtu | Tullita-Deline | Deh Cho | Inuvialuit | Gwich'in | South Slave | Yellowknife area |
| Language Retention | 90.4 | 58.2 | 56.9 | 53.3 | 45.6 | 25 | 23 | 20.1 | 17.1 |
| Region | Ticho | Deh Cho | Tullita-Deline | Sahtu | Kasho Got'ine | South Slave | Inuvialuit | Yellowknife area | Gwich'in |
| Traditional Activities | 48.4 | 46.7 | 45.7 | 44.7 | 44.3 | 43.3 | 40.0 | 39.5 | 34.5 |
| Region | Inuvialuit | Deh Cho | Kasho Got'ine | Sahtu | Tullita-Deline | Gwich'in | Ticho | South Slave | Yellowknife area |
| Self-generated Income* | 89.9 | 88.5 | 86.9 | 85.4 | 84.9 | 83.7 | 82.4 | 80.2 | 77.2 |
| Region | Yellowknife area | Tullita-Deline | Sahtu | Gwich'in | Inuvialuit | South Slave | Deh Cho | Ticho | Kasho Got'ine |
| Unemployment | 5.8 | 10.0 | 13.1 | 14.8 | 16.5 | 16.7 | 17.1 | 23.3 | 26.9 |
| Region | Yellowknife area | South Slave | Tullita-Deline | Inuvialuit | Sahtu | Deh Cho | Gwich'in | Ticho | Kasho Got'ine |
| Per Capita Income | 43,261 | 37,456 | 31,941 | 30,806 | 27,586 | 27,014 | 23,097 | 19,827 | 14,658 |
| Region | Yellowknife area | South Slave | Tullita-Deline | Gwich'in | Sahtu | Inuvialuit | Deh Cho | Ticho | Kasho Got'ine |

For the population and health domain, this study used the teen birth rate as a proxy indicator. Social well-being does not seem to be distinguishably different from the rest of the NWT. The teen birth rates varied from 0.7 in Normal Wells to 8.8 in Yellowknife, and within the ISR from 1.7 in Sachs Harbour to 8.4 in Paulatuk. The range is notable, so are the very high values in Yellowknife and many NWT and ISR settlements (eleven of them had a rate > 3.0). While in small communities even a five-year averaged rate may be problematic to properly interpret, Yellowknife and Inuvik were both most certainly dealing with an issue of elevated teenage pregnancy, which may indicate serious social problems.

The ISR was close to the middle with respect to income, dependency on government transfers, consumption of country food, and education. Overall, material well-being was moderate, but the gap with the Yellowknife area was quite substantial, indicating a problematic spot in NWT economic development. In fact, Yellowknife topped all other regions in all material well-being indicators. It is also indicative that the ISR was worse than other regions with respect to language retention and population dynamics (high out-migration). Taken overall, it does not seem that any of the non-capital regions in NWT emerged as a clear “second.” Regions with CLCAs do not perform significantly better than areas without land claims in most indicators except for fate control.

Regional Comparisons: Inuvialuit Settlement Region vs. Nunavut

When compared to Inuit communities in Nunavut, the ISR settlements were better off in material well-being, but worse off in language retention and consumption of traditional food—i.e., closeness to nature (see Table 3). Both capitals, Inuvik and Iqaluit, were best in terms of material well-being (income, unemployment), as well as educational attainment. The ISR communities were generally more prosperous if compared with Nunavut, although a number of Nunavut settlements, such as Cambridge Bay and Rankin Inlet, had higher per capita household incomes and lower underemployment than the ISR communities with the exception of Inuvik. Non-capital ISR communities, however, demonstrated lower levels of educational attainment than similar places in Nunavut. This poses a question about a dwindling human capital, since population dynamics patterns were also not favourable for the ISR, with Inuvik as the only consistently growing community. The lack of human capital in smaller settlements is an important impediment for economic development of the ISR in the future.

Table 3. Social indicators for the Innuvialuit Settlement Region (in bold) and Nunavut (cont'd on page 179).

| Community | Per Capita Household Income 2006 | Community | Unemployment | Community | Self-generated Income |
|----------------------------|----------------------------------|----------------------------|--------------|----------------------------|-----------------------|
| Iqaluit | 34,199 | Iqaluit | 7.9 | Iqaluit | 95.40 |
| Inuvik | 31,270 | Cambridge Bay | 9.7 | Inuvik | 94.70 |
| Cambridge Bay | 25,838 | Whale Cove | 10.0 | Cambridge Bay | 93.00 |
| Rankin Inlet | 23,337 | Rankin Inlet | 10.2 | Rankin Inlet | 91.80 |
| Kugluktuk | 18,654 | Inuvik | 11.2 | Chesterfield Inlet | 87.40 |
| Chesterfield | 18,120 | Resolute | 11.5 | Paulatuk | 86.80 |
| Pond Inlet | 16,738 | Arviat | 13.8 | Kugluktuk | 86.30 |
| Qikiqtarjuaq | 16,478 | Chesterfield Inlet | 15.6 | Pond Inlet | 85.10 |
| Aklavik | 16,325 | Igloolik | 16.1 | Ulukhaktok (Holman) | 84.60 |
| Pangnirtung | 16,266 | Hall Beach | 16.2 | Tuktoyaktuk | 83.90 |
| Tuktoyaktuk | 16,114 | Sanikiluaq | 17.6 | Pangnirtung | 82.90 |
| Ulukhaktok (Holman) | 15,286 | Pangnirtung | 18.0 | Aklavik | 82.50 |
| Baker Lake | 14,882 | Baker Lake | 18.9 | Kimmirut | 81.90 |
| Gjoa Haven | 14,863 | Ulukhaktok (Holman) | 19.4 | Qikiqtarjuaq | 80.80 |
| Kimmirut | 14,699 | Coral Harbour | 19.4 | Whale Cove | 80.40 |
| Arctic Bay | 14,515 | Kimmirut | 20.0 | Arviat | 79.90 |
| Cape Dorset | 14,495 | Cape Dorset | 21.2 | Cape Dorset | 79.90 |
| Igloolik | 13,838 | Kugaaruk | 21.7 | Baker Lake | 79.60 |
| Paulatuk | 13,725 | Kugluktuk | 22.0 | Igloolik | 79.10 |
| Arviat | 13,483 | Arctic Bay | 22.6 | Arctic Bay | 79.10 |
| Hall Beach | 13,423 | Pond Inlet | 23.0 | Coral Harbour | 78.80 |
| Whale Cove | 13,213 | Clyde River | 24.2 | Hall Beach | 78.00 |
| Taloyoak | 12,682 | Aklavik | 24.5 | Kugaaruk | 77.60 |
| Sanikiluaq | 12,665 | Sachs Harbour | 25.0 | Clyde River | 77.30 |
| Kugaaruk | 12,593 | Taloyoak | 28.1 | Sanikiluaq | 77.20 |
| Clyde River | 12,277 | Paulatuk | 29.2 | Gjoa Haven | 75.70 |
| Coral Harbour | 11,723 | Gjoa Haven | 29.3 | Repulse Bay | 73.10 |
| Repulse Bay | 9,192 | Qikiqtarjuaq | 33.3 | Taloyoak | 71.50 |
| | | Tuktoyaktuk | 33.3 | | |
| | | Repulse Bay | 35.2 | | |

Table 3 cont'd from page 178. Social indicators for the Inuvialuit Settlement Region (in bold) and Nunavut

| Community | Language Retention | Community | High School | Community | Fate Control |
|----------------------------|--------------------|----------------------------|-------------|----------------------------|--------------|
| Qikiqtarjuaq | 100.0 | Inuvik | 68.5 | Clyde River | 3.77 |
| Clyde River | 100.0 | Iqaluit | 64.4 | Kimmitut | 3.69 |
| Arviat | 99.7 | Pond Inlet | 61.1 | Chesterfield Inlet | 3.69 |
| Pangnirtung | 99.6 | Cambridge Bay | 50.0 | Coral Harbour | 3.68 |
| Igloodik | 99.3 | Sachs Harbour | 47.1 | Sanikiluaq | 3.64 |
| Sanikiluaq | 99.3 | Rankin Inlet | 46.6 | Hall Beach | 3.63 |
| Arctic Bay | 99.2 | Pangnirtung | 40.0 | Igloodik | 3.63 |
| Hall Beach | 99.2 | Kimmitut | 38.8 | Pangnirtung | 3.62 |
| Pond Inlet | 98.8 | Kugluktuk | 38.5 | Pond Inlet | 3.61 |
| Kimmitut | 98.7 | Aklavik | 37.5 | Whale Cove | 3.59 |
| Cape Dorset | 98.7 | Cape Dorset | 36.4 | Repulse Bay | 3.56 |
| Whale Cove | 98.5 | Tuktoyaktuk | 35.2 | Gjoa Haven | 3.55 |
| Chesterfield Inlet | 98.3 | Arctic Bay | 34.4 | Arviat | 3.55 |
| Coral Harbour | 98.0 | Clyde River | 33.7 | Rankin Inlet | 3.47 |
| Repulse Bay | 97.2 | Coral Harbour | 33.7 | Arctic Bay | 3.45 |
| Rankin Inlet | 92.8 | Baker Lake | 33.6 | Cape Dorset | 3.43 |
| Kugaaruk | 90.6 | Kugaaruk | 33.3 | Qikiqtarjuaq | 3.41 |
| Baker Lake | 88.8 | Igloodik | 33.1 | Kugaaruk | 3.40 |
| Iqaluit | 87.8 | Taloyoak | 31.3 | Baker Lake | 3.36 |
| Taloyoak | 83.9 | Gjoa Haven | 30.3 | Taloyoak | 3.27 |
| Gjoa Haven | 79.0 | Qikiqtarjuaq | 30.3 | Iqaluit | 3.24 |
| Kugluktuk | 51.9 | Paulatuk | 30.2 | Kugluktuk | 3.16 |
| Ulukhaktok (Holman) | 51.4 | Arviat | 29.1 | Cambridge Bay | 3.02 |
| Cambridge Bay | 48.6 | Ulukhaktok (Holman) | 29.1 | Ulukhaktok (Holman) | 2.43 |
| Sachs Harbour | 40.0 | Sanikiluaq | 27.5 | Paulatuk | 2.35 |
| Tuktoyaktuk | 24.0 | Whale Cove | 26.2 | Aklavik | 2.28 |
| Paulatuk | 20.8 | Hall Beach | 25.3 | Inuvik | 1.99 |
| Aklavik | 15.6 | Repulse Bay | 20.0 | Tuktoyaktuk | 1.98 |
| Inuvik | 12.9 | | | Sachs Harbour | 0.69 |
| | | | | | |

The data on cultural well-being and the traditional economy were more limited for this comparison, but generally the ISR suffered from low language retention, while Nunavut residents in many settlements demonstrated a near-absolute fluency in Indigenous languages (nearly 100% of Indigenous residents used their mother tongue). In the ISR, only Ulukhaktok (Holman) was at 40%, while most places reported language retention below 25%. Even in Iqaluit, the language retention was 87.8%, compared to a mere 12.9% in Inuvik.

Finally, Nunavut communities had stronger fate control as a result of the combination of their legal power (CLCA and territorial status), cultural vitality (language), and prevalence of Indigenous people in leadership and managerial occupations. The only fate control component for which Nunavut settlements were seemingly worse off than the ISR was the economic self-sufficiency.

Dynamics of Inuvialuit Settlement Region Well-Being 1986–2009

This study also analyzed the dynamics of well-being using ASI variables from the Inuvialuit Regional Corporation database. Most data covered the period between 1986 and 2009, which is after the conclusion of the final agreement. Therefore, this analysis allowed assessing, to a certain degree, the dynamic of social and economic well-being in post-IFA years. The general picture is presented in Table 4. Overall, there was a positive mobility in most of the relevant categories. Specifically, considerable gains were made in home ownership, education, wage economy, and some land- and sea-based traditional activities (hunting and fishing). The upward trend in both of these indicators is an important sign of positive economic changes in the ISR. This is notable since both wage-related and traditional sectors experienced positive dynamics (interestingly, though, the consumption of country food declined). Similar tendencies have also been described in other Arctic regions undergoing resource development after land claims settlement, such as the Alaska North Slope (see Poppel, 2015). This coincidental trend deserves special investigation, as it may be suggestive of new social and economic processes within Arctic Indigenous societies.

The data also showed a decline in the teen birth rate (key health, demographic social parameter) and a reduction of migration. Still, these gains did not close the well-being gap between ISR, NWT (and Canada). The persistent lagging of Indigenous regions and communities with respect to social and economic well-being has been widely discussed (Senecal et al., 2008; Morin et al., 2010). The ISR specifically was not comparing well, with the capital region of the NWT, being behind Yellowknife in most domains.

Table 4. Trends in selected well-being domains and indicators

| Domain of well-being/indicator | Trend 1986–2009 |
|--|-------------------------------|
| <i>Material Well-being</i> | |
| Unemployment rate | Unchanged (1986–2009) |
| Labour force participation rate | Weak negative (1993–2009) |
| Professional employment rate | Moderate positive (2004–2009) |
| Income support payments, per 1,000 residents | Weak negative (1998–2009) |
| Home ownership rate | Strong positive (1981–2009) |
| <i>Education</i> | |
| Population with high school diploma, % | Moderate positive (1991–2009) |
| <i>Health and Population</i> | |
| Lone parent families, % | Moderate negative (1996–2006) |
| Teen births per 1,000 | Moderate positive (1998–2008) |
| Population mobility, % | Moderate positive (1991–2006) |
| Violent crime rate | Strong negative (1998–2010) |
| <i>Closeness to Nature</i> | |
| Hunting and fishing, % | Strong positive (1988–2008) |
| Consumption of country food, % | Weak negative (1993–2008) |
| <i>Cultural Vitality</i> | |
| Speaking mother tongue, % | Strong negative (1984–2009) |

Two major negative trends observed in the last several decades were the increase in the government support payments and a rapidly declining Indigenous language retention. In other words, the ISR demonstrated a growing dependency on outside sources of funding and thus decision-making, which resulted in a weakened fate control. On the other hand, the diminishing use of Indigenous mother tongues (dialects of Inuvialuktun) in the ISR creates concerns about Inuvialuit cultural vitality in the future and potentially impedes the ability of ISR communities to determine their destiny as a self-governing Indigenous region.

Conclusions

This preliminary study of the baseline indicators for the ISR utilized both standard (ASI) and modified sets of measures to provide an overview and regional comparison of social well-being in the ISR. The study concluded that the ISR experiences some considerable internal differences in well-being: Inuvik is more economically prosperous than other ISR communities. The ISR was generally better off than other non-capital NWT regions and Nunavut settlements, except for the language retention and resultant lower fate control. However, the well-being gap between the Yellowknife capital region and the ISR remained very considerable.

Material prosperity reflects the dominant role of a cash economy in Inuvik as compared to the outlying ISR communities. The employment in private and public sectors (including the IRC) brings higher wages and lower unemployment. The influx of professionals from outside, and improved educational opportunities for Inuvik residents, are likely responsible for the elevated level of education attainment in the town. Inuvik also has a cluster of professional jobs associated with the IRC.

The ISR has a relatively high level of fate control, partially attributable to the conclusion of the IFA more than thirty years ago. However, the main challenge for the region is the diminishing use of the Inuvialuktun languages, which is considered to be a key component when we assess an ability of a community to define its future (Larsen et al., 2010). Low language retention is a major well-being problem in the ISR, especially in Inuvik. Despite demonstrating relative economic strength (power), the ability to define one's own destiny in Inuvialuit communities is curtailed by the loss of cultural vitality that comes with their Indigenous language.

Based on the analysis of 1986–2009 data, many ISR social indicators have improved since the conclusion of the IFA. Most importantly, the upward trend in both indicators of wage economy and traditional economy is a sign of positive economic changes in the ISR. Material well-being in the Inuvialuit region was higher than in most areas with later or non-existent land claims agreements. Although not directly attributable to the IFA, this dynamic is an interesting phenomenon that should be explored further (especially given that the ISR did not have substantive resource development with the exception of exploration and construction activities). Yet, a persistent gap with Yellowknife (and Canada) in most indicators of social well-being is a sign of underlining processes that impede regional development in the ISR.

Comparing well-being in the ISR with non-Canadian Arctic jurisdictions is beyond the scope of this article, and such comparison is highly complicated due to data incompatibility and vast institutional differences across the Arctic. However, other studies (e.g., Larsen et al., 2015; Poppel, 2015) have demonstrated that Canadian Inuit share many similar well-being issues with other Indigenous peoples in the Arctic. This includes language retention, access to employment and income, health issues and suicide, and vitality of culture and traditional economy. Canada does relatively well with respect to fate control, especially in areas with concluded comprehensive land claims agreements.

Among various policy concerns that pertain to specific findings of this study, one seems to be overarching. It is the problem of a persistent

well-being gap evident at different scales: between Yellowknife and the Inuvialuit Settlement Region, between Inuvik and outlying communities of the ISR (and between the Northwest Territories and southern Canada). Despite decades of change, Canada's northern regions remain steadily behind and seem unable to catch up. This is a national policy issue as it requires strategic investment and resources, but it has to be addressed with strong input from communities and regions. With respect to another national policy domain, it seems the results also point out that comprehensive land claims agreements do bring positive outcomes, at least in some areas of well-being. However, more research is needed to ascertain these impacts. Finally, at the local ISR level, it appears that language retention needs to be addressed most urgently and forcefully.

Limitations and Future Directions

Overall, the ASI framework is a useful tool to provide a baseline assessment and comparative analysis of human development in northern communities. It allows selecting standardized, cross-cutting, and generally available indicators to provide a basic assessment of socio-economic well-being. However, it is not designed to measure specific impacts of resource development, nor is it always able to adequately capture all locally important characteristics. The main limitation of the study is its reliance on existing data with considerable gaps in scope and coverage. As a result, most indicators are only proxies of the desired well-being measures. However, they provide a snapshot of socio-economic conditions, and give powerful tools for impact assessment if interpreted carefully. In addition, small populations limit the availability and reliability of socio-economic and demographic data. Future work is necessary to further improve the baseline indicators system to be more sensitive to local conditions and impacts, to include more qualitative indicators, and to integrate community-proposed factors and variables in the Inuvialuit well-being monitoring system.

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Author

Andrey Petrov is associate professor of geography at the University of Northern Iowa, director of the ARCTICenter, and president of the International Arctic Social Sciences Association.

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