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An Integrated Regional Impact Study (IRIS) of Climate Change and Modernization, Western and Central Canadian Arctic

Synthesis and Recommendations

The ArcticNet Integrated Regional Impact Study (IRIS) of the Inuvialuit Settlement Region of the Northwest Territories and Kitikmeot region of Nunavut covers a multitude of natural, social and health research topics in association with climate change and modernization (e.g. transition from country food to market food). The findings of the IRIS are compiled into a regional impact assessment which includes the knowledge brought to light by research projects spanning local to circumpolar scales, short- and long-term (e.g. decades) periods, and those of and outside of ArcticNet (e.g. International Polar Year (IPY), Arctic Council working groups, federal and provincial/territorial government departments).

Summarized Findings

Human health: The Inuit Health Survey (IHS) determined that 70% of adults in the Inuvialuit Settlement Region (ISR) and the Kitikmeot region smoke and that 85% of homes have second-hand smoke. Furthermore, Vitamin D and iron deficiency are prevalent in 30% of adults in the two regions. The risk of dehydration, sunburns and insect bites to people are likely to increase with projected warmer summer temperatures.

Food security: Community freezers and having an active hunter in the home (applicable to nearly 70% of households in the ISR and the Kitikmeot region as reported by the IHS) improve food security. Traditional foods are eaten more (by weight) by older generations (over 40 years of age), and the most popular sources of traditional foods are caribou and fish. However, 60% of IHS participants say they experience food insecurity.

Human safety: The thickness of marine ice in the western and central Canadian Arctic has been and is projected to continue decreasing over time, making travelling on the sea dangerous during the ice-covered period. More extreme, frequent or sudden thunderstorms and variable, unpredictable weather have compromised the safety of travellers on the land and sea as well. These conditions also deter traditional knowledge holders in their abilities to forecast weather, a necessity for planning safe hunts. As a result, extra safety supplies are often needed but are not always accessible to all hunters.

Preservation of culture: One in four households in the ISR and the Kitikmeot region maintain the use of an Inuit language, and 60% of adults do not complete secondary school. Due to the accelerated changes in climate, environmental conditions, wildlife and modernization, Inuit have experienced limited opportunities to pass on traditional knowledge and land-based skills to youth.

Resource exploitation and socio-economic development: Oil and gas and mineral exploration and associated activities (e.g. shipping) are likely to advance in the region. Yet, Inuit are limited in their participation in wage-related jobs offered by resource industries resulting from inadequate education and skill levels. Furthermore, cruise tourism appears to be growing in the Arctic, but this is limited to presently available services and facilities within the communities.

Infrastructure: Increasing permafrost thaw in the western Arctic since the 1970s and high shoreline retreat at the Coppermine Delta at Kugluktuk, NU since the 1950s has impacted the integrity of infrastructure in the region. Furthermore, projected sea level rise at Tuktoyaktuk, NT has implications for coastal infrastructure via erosion and flooding.

Wildlife and environment: Terrestrial, freshwater and marine habitats have faced significant changes, resulting in altered abundances, distributions and types of wildlife populations habituating them. Examples include polar bears extending their range further out to sea following ringed seals (i.e. prey), increased shrub coverage attracting shrub-nesting birds and moose, and Pacific salmon and capelin encroaching into areas frequented by Arctic cod.

Ashley Gaden

Summarized Recommendations

In light of these findings, recommendations were put forth to help managers, policy-makers and other decision-makers at all political levels develop adaptation capacity for sustainable, safe and healthy communities in the western and central Canadian Arctic. The recommendations, as summarized here, were co-developed by representatives of land-claim, territorial and Canadian Inuit organizations, comprising the western and central Canadian IRIS steering committee and Kitikmeot sub-committee.

1. Promote and increase access to community-based services which enable skills development and enhance quality of life, including but not limited to health care, harvester-support programs, hands-on safety training, food-sharing networks, nutrition and food preparation classes, weather forecasting and communications, and skills training for employment in the industrial sector.

2. Enable Inuit participation in decision-making, including the incorporation of traditional knowledge, towards policies, services, codes of conduct and programs (including school curriculums) which have a direct or indirect impact on their way of life.

3. Account for climate change impacts in community planning. Proactive measures can include large-scale surveys of surface and sub-surface features, which will determine areas susceptible to permafrost disturbance, and regular inspections and maintenance of community infrastructure.

4. Encourage research into housing, food security, education, health, employment, water quality, and the impacts of climate change and resource development on these factors in the Arctic. Furthermore, supporting the development and continuance of community-based monitoring projects and other long-term studies (e.g. contaminants, wildlife populations) will go a long ways towards establishing baseline conditions from which impacts of climate change and resource development can be detected.

Ashley Gaden