

FACTORS INFLUENCING VULNERABILITY TO CLIMATE CHANGE IMPACTS ON TRADITIONAL FOOD SECURITY IN IVUJIVIK, NUNAVIK



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Context

Climate changes predicted for the Canadian Arctic are now supported with observation-based scientific data (ACIA, 2004; IPCC, 2001) as well as Aboriginal observations (Communities of Nunavik et al., 2005). It is in this region of the world where changes and impacts to ecosystem and human health are potentially the greatest (IPCC, 2001). Changes taking place to date include modifications in migration patterns of animals, temperature, precipitation regimes, later freezing and earlier break-up of ice as well as decreases in some plant and animal populations. In some cases, these changes are impacting the access to and availability of traditional foods, which are critical to the health of Inuit communities because of their nutritional, social and cultural importance (Blanchet *et al.*, 2000). Traditional foods make significant contributions to daily intakes of protein, various vitamins and n-3 fatty acids, which provide protection against cardiovascular disease (Dewailly *et al.*, 1996) As a result, concerns surrounding traditional food availability and access and health related issues have been identified in some Nunavik communities (Communities of Nunavik *et al.*, 2005). In order to better understand the potential for climate change impacts on Inuit health, it is important to determine the impacts of environmental change on the security of traditional food access and availability.

Purpose and Objectives

As part of the research in ArcticNet project 4.4 on how climate change is affecting traditional food security, this project proposes to **identify factors influencing the vulnerability of household traditional food security to climate and other factors in the community of Ivujivik, Nunavik**. Past work has identified the key components of general food security in Arctic communities (Duhaime, 2002), however little work has been done specifically on the impacts of climate change on traditional food access and availability (Pratley, 2005). Specifically this project will:

1. Identify the key factors affecting household vulnerability to climate impacts on the availability and accessibility of key traditional foods.
2. Determine the incidence of these vulnerability factors among the community of Ivujivik.
3. Make recommendations for adaptation strategies related to diet, health and climate in Inuit communities.



Methods

This project will use a mixed methods approach. Project 4.4 will obtain both qualitative and quantitative data on how environmental change is influencing traditional food security among a representative sample of harvesters' households via monthly semi-directed interviews in the community of Ivujivik (Figure 1). An analysis of socio-demographic and socio-economic factors among these households will add to our understanding of factors influencing vulnerability. This inductive approach will provide information to identify key vulnerability factors at the household level. A questionnaire including quantitative and qualitative questions (closed and open ended) will be developed to assess the incidence of these factors among the community and investigate relationships between vulnerability factors and household traditional food security.

Abstract

The purpose of this project is to identify the key factors influencing the vulnerability of household traditional food security in the face of climate and environmental change in the Canadian Arctic. Through an analysis of environmental, socio-demographic and economic characteristics among a representative sample of households in the community of Ivujivik, Nunavik, this project hopes to identify the key factors putting some households more at risk to climate and environmental impacts on their availability and access to key traditional foods. The results of this project will be relevant to future efforts in developing adaptation strategies for individuals and households in communities more likely to be affected by some of the consequences of climate change.

Research Approach and Key Concepts

To facilitate adaptation, it is important to know the nature of vulnerability, in terms of who and/or what are vulnerable to a particular stress (Ford and Smit, 2004). This research uses a vulnerability approach to characterize some human implications of climate change. **Vulnerability** is conceptualized as a function of the **exposure** to climate-change effects and the **adaptive capacity** to deal with that exposure (Ford and Smit, 2004). Adaptive capacity refers to the potential, capability or ability of a community to respond to climate change stimuli, effects or impacts (Smit and Pilifosova, 2001). Negative impacts at various scales result when stresses or perturbations exceed the ability of the place-based human-environment system to cope or respond (McCarthy et al., 2004). Based on a framework for analyzing vulnerability, the effects of climate change can be examined by investigating the question: **“To what combination of stresses is the human-environment system most vulnerable ?”**(McCarthy et al., 2004). This implies that climate change does not occur in isolation from other conditions influencing vulnerability. Various determinants of adaptive capacity have already been identified and include: economic resources, technology, infrastructure, information and skills (IPCC, 2001). It is expected that by understanding household vulnerability to climate change and other factors for the availability and accessibility of traditional foods, this study will help orient future adaptation strategies to cope with the adverse effects of climate change on the most “at risk” segments of the population.

Projected Calendar of Activities

Spring 2006:

- Literature review and ethics application at Université Laval.

Summer 2006 :

- Analysis of key-informant interview results (see Furgal et al. poster 4.4) to identify environmental factors influencing traditional food security.
- Development of questionnaire focusing on household traditional food security.

October –November 2006 :

- Conduct of survey to determine incidence of these factors in the community of Ivujivik. (field work in Ivujivik, Nunavik)

Winter –Spring 2007:

- Analysis and report writing.
- Present results to community.



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