

---

# Research Report

## CLIMATE CHANGE AND HEALTH COMMUNITY PHOTOVOICE RESEARCH PROJECT

Kate Magner

Summer Student • Qaujigiartiit/Arctic Health Research Network - Nunavut

Gwen Healey, M.Sc.

Executive Director • Qaujigiartiit/Arctic Health Research Network - Nunavut

---



# Table of Contents

<b>Introduction</b>	<b>2</b>
Climate Change and Health	
Community-led Research	
Exploring the Impacts of Climate Change on Health in Nunavut	
<b>Methods</b>	<b>3</b>
Study Design	
Photovoice	
Analysis	
<b>Findings</b>	<b>4</b>
The Climate Change and Health Model	
Reflection and Changing Knowledge Systems	
“We need to think about the past, reflect on our experiences and look forward to the future”	
The Impacts of Climate Change on Health	
The Transition from Past Climates to Future Climates	
Necessary Adaptation	
The Call to Action	
<b>Action Plan</b>	<b>8</b>
Individual	
Community	
Territorial	
National	
<b>Discussion</b>	<b>9</b>
<b>Conclusion</b>	<b>10</b>
<b>References</b>	<b>11</b>

## INTRODUCTION

### **Climate Change and Health**

Climate change is a prominent topic of concern in the north, and the impacts on health are not yet fully understood. In a recent report published by the Lancet Commission on Climate Change, climate change was found to endanger health in six key ways. These were changing patterns of disease and mortality, extreme weather events, food insecurity, water scarcity, heat waves, and threats to built structures including housing and public infrastructure (Costello 2009).

While the health effects of climate change are global in scope, they bear particular relevance in the north. Indeed, northern communities hold a close relationship with the land. The environment and the country foods that come from the land, lakes, rivers and sea remain central to the way of life, cultural identity, and health of northern people (Van Oostdam 2005). For Inuit communities, sea ice travel is critical for accessing wildlife resources and traveling between communities during winter months. Problematically, uncharacteristic weather patterns, storm events, and ice conditions are increasingly undermining the safety of travel and hunting or fishing activities (Furgal 2006). The increased risks to safety, as well as longer traveling distances, are challenging the procurement of country foods and decreasing the consumption capacity of some members of the community (Furgal 2006).

As well as posing threats to livelihood and food security in the north, warming temperatures are leading to an increase in the number and species of biting flies and insects, posing the threat of increased vector borne disease. Furthermore, permafrost melting is attributable to a warmer climate and will have serious implications for the structural integrity of northern houses and buildings (Furgal 2006).

In addition to these emerging public health considerations, northern community members have shared the concern that climate change may further compound existing health issues including mental health and wellness, nutritional deficiencies, rates of respiratory illness, livelihood and economic stability, safety, and the spread of disease.

## **Community-led Research**

Research which strives to understand the ways in which climate change affects the health of northern communities, must elicit meaningful community involvement in the research process. Moreover, community participation and social mobilization are essential for identifying the factors that enhance or inhibit local adaptive capabilities in the face of climate change.

In May 2009, Qaujigiartiit/AHRN-NU facilitated a community based research methods workshop for Nunavummiut community members. This workshop was developed after 3 years of consultations with community members on local health priorities (Healey, 2006). It was generated in response to community requests for a forum in which to gain technical knowledge and hands-on research experience.

The workshop was partnered with the climate change and health research project in order to provide an experiential learning opportunity to community participants, thereby building confidence and capacity so that they may lead their own health research projects and participate meaningfully in projects that come to their communities.

## **Exploring the Impacts of Climate Change on Health in Nunavut**

This project employed the photovoice technique in order to explore the impacts of climate change on health in Nunavut, from the perspectives of community members. This project provided participants with the opportunity to not only apply the skills learned during the workshop, but also contribute to a growing body of knowledge about the effects on climate change on the health of northerners.

## **METHODS**

### **Study Design**

This was an exploratory qualitative study using the photovoice research method. 10 community participants from across Nunavut, took part in the data collection and analysis phases of the study.

### **Photovoice**

Photovoice (originally termed photo novella) has been referred to as a concept, an approach, an educational tool, a participatory action research method, a participatory action tool, a participatory health promotion strategy, and a process (Wang & Burris, 1994, 1997;

Wang, Yi, Tao, & Carovano, 1998). Rooted in the tenets of participation, empowerment, accessibility and self-documentation, photovoice is a technique by which to elicit community perspectives and capture everyday life experiences, through photography (Moffitt, 2004).

Each of the community participants was given a camera, and asked to take photographs of what they understood to be the most important effects of climate change on health in the north. On completing this task, participants returned their cameras, and the photographs were printed. The photographs were then used as a mechanism to elicit individual perspectives and experiences, and to engage participants in a group discussion about the effects of climate change on health.

### **Analysis**

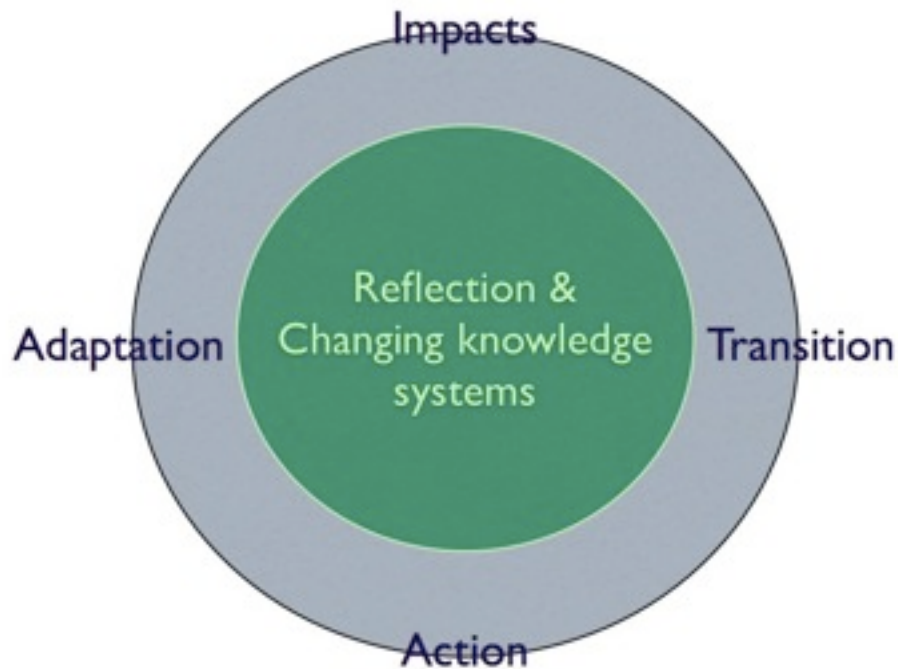
In participatory analysis, emphasis is placed on process, and participants are made central to this process. In the present study, participants were asked to describe the rationale behind their photographs, and to share the stories, perspectives and experiences represented in these images. This process of analysis was facilitated by Pertice Moffitt, who used questions to prompt the participants, such as: 'what do you see here'; 'how does this relate to our lives'; 'is this a problem or strength'; 'what can we do about this?' These discussions involved individual story telling, as well as group dialog, and were all recorded.

Participants were subsequently asked to find themes across the images, and to physically group the photographs into these themes. Participants were then asked to develop an action plan, through prompted, group brainstorming, in order to address some of the most salient issues emerging from these themes.

## **FINDINGS**

Five themes emerged from analysis of the photovoice process. The themes included: **the impacts of climate change on health; the transition from past climates to future climates; the necessary adaptation to the changing climate in the north; the call to action; and, reflection on the past and changing knowledge systems.**

## The Climate Change and Health Model



The climate change and health model is a schematic representation of the themes that emerged through the photovoice process. Here, the placement of the themes around and within a circle, signifies interaction and overlap between ideas and messages. The theme of reflection and changing knowledge systems was identified as central to the relationship between climate change and health. Extending from this central concept, emerged the 4 subsequent themes of impacts, transition, adaptation and action.

### Reflection and Changing Knowledge Systems

*"We need to think about the past, reflect on our experiences and look forward to the future"*

Participants identified the theme of reflection and changing knowledge systems as central to the relationship between climate change and health. Participants saw the capacity to reflect on the past and preserve traditional knowledge systems as



essential to coping with the effects of climate change on health. Additionally, the importance of new knowledge about the changing environment and its implications on the land and in the community, was recognized, and participants saw the incorporation of new information into traditional knowledge systems as essential to the management of the health effects of climate change.



### **The Impacts of Climate Change on Health**

*"We'll be seeing more of this... more machines for sale. We won't be able to use them any more when it warms up"*

The impacts of climate change on health was a theme that figured prominently in the participants' group discussions and was identified as the most visible and tangible

effect of climate change on health. Climate change was thought to impact health in six key ways. These included, the contamination of food, the contamination of water, changes in weather patterns, melting permafrost, isolation due to restricted mobility, and the loss of a way of life and livelihood. One participant reflected that the hunt for country food will be shaped profoundly by climate change. Communities will have to travel farther, in more dangerous conditions, and using different modes of transportation, in order to ensure food security and the maintenance of a traditional diet.

### **The Transition from Past Climates to Future Climates**

*"I feel vulnerable to the changes that may come. The snow is melting, the ice is melting. It will be different"*

The participants reported that the transition from cold to hot was a particularly salient theme for the North, where history, health and well being are so intimately associated with colder temperatures and climatic conditions such as snow and ice. Here, notions of change and transformation were discussed, and with these ideas emerged expressions of vulnerability. Participants discussed the sense of loss they feel is associated with climate change in the north. For many, this transition meant a loss of livelihood, a loss



of tradition, and a loss of preferred activities such as snowmobiling, hunting, and camping.

### **Necessary Adaptation**

*“I took this picture because it shows we can recycle things. The old oil drum is being re-used to help hold up signs. There are many more ways we can recycle if we think about it”*



Building upon the conclusion that transition is nearly inevitable, the participants highlighted the importance of adaptation for health and well-being, in light of climate change. Participants proposed a variety of strategies to cope with climate change and reverse its ill effects. These included improving personal choices, promoting sustainability, discouraging waste, cleaning up our communities, and advocating for hope and survival in the face of adversity.



### **The Call to Action**

*“In the north, it is often like we are stuck between a rock and a hard place”*

One participant shared a picture of a sewage truck and told the story of a community that was forced to dump its sewage into the sea when the local river eroded during the spring melt, washed out the bridge and obstructed the arrival of the sewage-removal truck into the community. The contamination of sea-waters with sewage was a serious concern to community members.

This story was told by the participant to illustrate her feelings of being “stuck between a rock and a hard place”, since communities in the north often have few alternatives and thus little capacity to live more sustainably. Participants further indicated that geographic and environmental conditions in the north necessitate resource and energy intensive practices, such as sea-lift shipment, air cargo and air-travel, and hinder environmentally friendly practices such as recycling.



The ostensible paucity of environmentally favourable alternatives for communities in the north was deemed, by participants, to be a call to action. It was from this position that the group developed its action plan.

*“This bike is stuck in the snow. Our children will be stuck in the future, too. They are stuck with what we leave for them. If we do nothing, they will be stuck with our mess.”*



## ACTION PLAN

As evidenced by our findings, the perceived effects of climate change on health are varied and multifaceted. Accordingly, responsive action to these effects must transpire at multiple socio-ecological levels ranging from individual choices to community, municipal, provincial and federal strategies. The multi-lateral approach assumed in the participant’s action plan, reflects the multidimensional nature of the issue as well as the varied opportunities for adaptation, in the north.

### Individual

Participants understood the action role of the individual as two-pronged. First, it was suggested that information and education are essential to ensuring that individuals are knowledgeable about the effects of climate change in the north, and that they are able to participate in meaningful, informed decision making around these issues. Secondly, it was thought that individuals ought to be responsible for reducing consumption and living sustainably.

### Community

At the community level, it was believed that planning and consultation were essential to ensuring successful management of the effects of climate change on health. Engaging communities in political action was deemed imperative. Additionally it was thought that mechanisms of redistribution, or community sharing, ought to be strengthened to ensure more equitable access to country foods.

## **Territorial**

Participants highlighted the need for investment in waste management services, to ensure that recycling and compost programs have the capacity to operate throughout the territory. Further investment was deemed necessary in territorial search and rescue programs, given the increasingly unpredictable weather patterns and sea-ice traveling conditions. Correspondingly, engaging policy makers was seen to be essential to the promotion of environmentally friendly practices in Nunavut.

## **National**

Participants believed that knowledge sharing, consciousness-raising and communication about the effects of climate change in the north ought to be strengthened. The consequences of unsustainable activities in the south, to climatic conditions in the north ought to be highlighted nation-wide, using more effective and more innovative strategies of communication. What is more, participants believed that national policy makers ought to enforce corporate accountability and ban the dangerous chemicals that contaminate country foods in the north. Finally it was thought that investment should be made, at a national level, into alternative energy sources and innovative, environmental practices.

## **DISCUSSION**

Northern communities have figured prominently in recent research on climate change. However, little is known about the health effects of climate change in the north. What is more, community perspectives regarding these effects are largely absent from the literature. The findings in this study document the experience of a small group of community participants in Nunavut. The 5 thematic areas identified by the participants in this study echo, for the most part, a larger body of evidence on climate change and health. Importantly, however, the particular photographs, stories and messages that emerged through this research process reflect a unique, community perspective, rendering these findings particularly relevant to the north and significant for compelling community action around the issue of climate change.

Participants in this study conceptualized health and climate change broadly, but identified the theme of reflection and changing knowledge systems, as central to the relationship between the two concepts. By engaging in a process of ongoing reflection, and by continually incorporating new knowledge and experiences into traditional knowledge systems, it

was believed that communities may be better able to adapt and to cope with the challenges to health posed by climate change. It was in light of these ideas, that the 4 additional themes emerged, and that the action plan was formulated.

The results of this study, and in particular, the action plan formulated by the participants, suggest that community members can and should play an active role in identifying the health effects of climate change, and in developing appropriate responses to these effects. This study further highlights the importance of participatory research and the merits of the photovoice technique in eliciting community perspectives and promoting social action. It has been contended elsewhere that building social capacity, thereby empowering communities to gain a sense of control, is essential to managing the health effects of climate change (Costello 2009). Our findings support this notion and suggest that an investment in community is an essential strategy for mitigating the ill effects of climate change on health.

## CONCLUSION

This study contributes to the literature on perceived health effects of climate change in northern communities. While the health impacts of climate change are not yet fully understood, this study identifies a number of community priorities surrounding this issue. Further research and community consultation is needed to better understand the health implications of climate change in the north, and to reduce health disparities in northern communities.

As evidenced by this study, community engagement and participatory research is necessary to elicit community perspectives and to promote community action. Given the health threats posed by climate change, further work should be done to bolster community involvement around these issues and to actualize change at multiple socio-ecological levels. It is by strengthening capacity that northern communities will be able to cope with, and reverse, the effects of climate change on health in the north.

## REFERENCES

- Chan, M. (2008) How Climate Change Endangers Human Health. Statement by Dr Margaret Chan, Director-General of the World Health Organization, on World Health Day April 7, 2008.
- Costello, A., et al. (2009) Managing the health effects of climate change. *The Lancet*, 373 (9676): 1693-1733
- Furgal, C., & Seguin, J. (2006) Climate Change, Health and Vulnerability in Canadian Northern Aboriginal Communities. *Environmental Health Perspectives*, 114 (12): 1964-1970.
- Healey, G.K. (2006). *Community-identified Health Priorities for Nunavut*. Iqaluit, NU: Qaujigiartiit/Arctic Health Research Network – Nunavut.
- Healey, G.K., Butler Walker, J., & Heron-Herbert, S. (2008). Health Research Ethics in Canada's Northern Territories: A report. Iqaluit, NU: Qaujigiartiit Arctic Health Research Network Nunavut.
- Moffitt, P. & Vollman, A.R. (2004). Photovoice: Picturing the Health of Aboriginal Women in a Remote Northern Community. *Canadian Journal of Nursing Research*, 36(4): 189–201
- Van Oostdam, J., et al. (2005) Human health implications of environmental contaminants in Arctic Canada: A Review. *Science of the Total Environment*, 352(352): 165-246.
- Wang, C., & Burris, M.A. (1994). Empowerment through photo novella: Portraits of participation. *Health Education Quarterly*, 21(2): 171–186.
- Wang, C., & Burris, M.A. (1997). Photovoice: Concept, methodology, and use for participatory needs assessment. *Health Education and Behavior*, 24(3): 369–387.
- Wang, C.C., Yi, W.K., Tao, Z.W., & Carovano, K. (1998). Photovoice as a participatory health promotion strategy. *Health Promotion International*, 13(1), 75–86.