

# Strategies for Improving Emergency Management and Community Resilience in Canada’s North

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## Introduction

Woven into the fabric of the Government of Nunavut’s (n.d.) mandate are Inuit Societal Values based on the principle that “survival in Nunavut’s harsh climate is only achieved by working together on life skills and principles for living”. The territorial government’s recognition of the collective effort required to survive in the austere conditions of the Arctic reiterates the importance for policies and strategies that instill and improve disaster resilience within Arctic communities. Separated by vast distances, only accessible by air, water, or snowmobile (Canada Without Poverty [CWP], 2016, p. 2), Nunavut communities are isolated in the truest sense of the word. Separated from the help of other communities, far away from the reach of federal government resources, these communities must be capable of managing localized emergencies, and sustaining basic response operations. The reality is however, that higher levels of housing and food insecurity, and poor community health rates (CWP, 2016, p. 2), make the management of sudden and disruptive emergency events extremely difficult.

## Background

Nunavut, the newest, largest, and most northerly territory in Canada, is home to 35,944 residents (Statistics Canada, 2016) spread amongst 25 remote and isolated communities, none of which are connected by traditional transportation routes, and are only accessible only by air, water, or snowmobile during winter (CWP, 2016, p. 2). Local infrastructure is, in many cases, limited, and inconsistent access to other essential services such as healthcare, has produced higher instances of preventable mortality and hospitalization for ambulatory care (Young, Chatwood & Marchildon, 2016, p. 59), and rates of unintentional injury 3.7 times higher than the national average (Clark, Ford & Tabish, 2017, p. 135).

## Methods

Qualitative research methods were used to collect, process, and analyze data from a variety of secondary sources. A detailed examination of local cultures, customs, and styles of governance was conducted to gain a better understanding of, and appreciation for, the unique challenges and lifestyles present in Nunavut communities. Secondary sourced interviews and surveys were collected to compare feedback from local residents, community leaders, and EM officials, on local and territorial EM processes, and to help identify any themes or consistencies. Responses were compared with federal, territorial, and municipal policies, legislation, and reports, academic papers, and institutional research projects. In the development of strategies for improving community-based EM capabilities, identified shortcomings were categorized in accordance to a guideline for establishing community resilience to disasters (Kapucu, Hawkins & Rivera, 2013, pp. 1-2). Strategies are presented in the following categories: public policy and management, planning and development, and behavioural and social networks.

## Results/Findings

Consistencies and overlaps in the results of reviewed research suggest there are serious issues pertaining to jurisdictional authority and the establishment of a clear chain-of-command during multi-organizational emergency response. The number of different groups that possess responsibility for certain classifications of emergencies in the Arctic, has caused great confusion among local first responder groups during the critical initial stages of response. Intrinsically connected to these identified hierarchical issues were significant breakdowns in communication between key individuals and organizations critical to the EM process. In some cases, local EM personnel were unaware of the proper channels for escalating the situation to higher authorities, and were unsure of where incident reports and updates should be directed (Benoit, 2014, pp. 15-16). Historic incident reports also revealed a critical need for EM resources, equipment, and supplies, qualified/trained personnel, and a dedicated EOC (Government of Nunavut [GN], 2016, p. 9).

## Discussion

Identified shortcomings during the literature review were confirmed upon review of the feedback provided by locally formed working groups composed of community members, local first responder groups, and individuals involved in municipal, territorial, and federal EM, taken after the conclusion of a training scenario. In the Arctic, an emergency event, whether caused by human or natural factors, can quickly cascade into a more profound situation because of remoteness, weather, limited transportation and communications options, insufficient resources, and many other factors. Seemingly innocuous systems failures like heat, water, power, transportation, communication, and/or resupply can have deadly consequences when the extreme nature of Arctic hazards is considered (Funston, 2014, p. 8). Increasing levels of maritime traffic in the Arctic region also contribute to the possibility that an external event might occur and further complicate the logistics of response. As a result, a large number of SAR incidents occur in Nunavut – 251 occurred in 2015 alone (GN, 2016, p. 12).



Guy Boudreault (n.d.). Canadian Forces conduct joint-exercise for a simulated airplane crash near Resolute, Nunavut. Retrieved from <https://poli.ucalgary.ca/node/2639>

## Recommendations

While developing strategies that address EM program shortcomings, and that establish and improve community resilience towards disasters, it became apparent that the fundamental principle of disaster resilience – a return to pre-disaster conditions following an incident, seems counterproductive in the context of Arctic communities. Given the identified infrastructure inadequacies and generally austere living conditions in many Nunavut communities, positive recovery strategies that utilize recovery, rehabilitation, and reconstruction phases post-disaster to increase resilience through integrated risk reduction measures, should be enacted (United Nations Office for Disaster Risk Reduction, 2017, p. 6).

In accordance with Kapucu et al.’s (2013) guideline for establishing community resilience to disasters, the following strategies are recommended for implementation at various levels of territorial governance for the purpose of improving regional EM:

### Public Policy and Management

- Maintain oversight and collaborative relationships with Municipal Councils, local EM staff, and volunteer groups;
- Reduce the level of responsibility placed on communities from EM/SAR demands while encouraging resilience and self-sufficiency; and,
- Require agencies with jurisdictional EM authority to maintain a staffed position at the Nunavut Emergency Management (NEM) headquarters.

Delays implementing territorial EM legislation are reportedly attributed to an inability for some communities to develop their own functioning EM programs and plans (GN, 2016, p. 10). The NEM must exercise greater oversight and control by assisting communities develop, implement, test, and improve EM programs and plans. Strong evidence suggests that the NEM expends significant resources, time, and effort, responding to SAR incidents. It is therefore recommended that a dedicated SAR branch of the NEM be formed, to assist with coordinating SAR operations and communicating with appropriate jurisdictional authorities. Representatives from these groups must work directly with the NEM and members of the community to effectively develop EM programs that address and account for community limitations, and delays in the arrival of external support.

### Planning and Development

- Conduct regular tabletop exercises and maintain consistent communications with responsible agencies and community leadership;
- Improve and upgrade existing infrastructure; and,
- Introduce advanced technology, equipment, and encourage innovation.

Many identified challenges could be resolved through the placement of full-time military and coast guard SAR personnel and assets in the Arctic. Current distances between SAR coordination centres and Northern communities is not conducive to positive working relationships, which has resulted in many issues pertaining to authority and responsibility during emergency events. More EM training and cross-training for community members is strongly advised and should be prioritized in the absence of permanently staffed positions within the NEM for Arctic EM representatives.

The NEM must establish a permanent/dedicated EOC, properly equipped with modern and compatible equipment/systems. Current medical facilities present in communities must be outfitted with sufficient equipment and supplies to provide advanced levels of care. While permanent doctors in each community might be unfeasible, there must be a minimum number of community members with advanced first aid and medical training. For larger mass-casualty events, an Emergency Medical Response Team should be established – consisting of specialized medical professionals on-call to deploy to territorial emergencies. It became especially apparent that community infrastructure critical to coordinating and supporting emergency operations such as airstrips, must immediately be improved or constructed to service aircraft used by first responder groups.

### Behavioural and Social Networks

- Train, educate, and familiarize.

Pursuant to discussed training programs and initiatives, there exists a requirement for external organizations to develop positive relationships with communities. Future training exercises should include input and participation from as many communities and local first responder groups as possible. This will also provide a beneficial level of cross-training, as local EM groups gain experience and knowledge from different authorities with different functions.

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