# 2024 Capstone Report

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Government of Canada  Gouvernement du Canada

MOBILIZING INSIGHTS IN THE DEFENCE AND SECURITY
MINDS
MOBILISATION DES IDÉES NOUVELLES EN MATIÈRE DE DÉFENSE ET DE SÉCURITÉ

# Introductory Letter

It's my distinct pleasure to submit the *Canadian Journal of Emergency Management'*s report on its 2024 Targeted Engagement Grant program.

As with everything our entirely-volunteer team does, the program was a resounding success. Using only 65% of available budget, the project team executed a demanding engagement program of four webinars and one policy development workshop in approximately seven months. With almost one thousand Canadian emergency managers and service members viewing and participating in our program, and 56 discussants in our webinars and workshop representing nine provinces and territories, we are confident that we bring you a pan-Canadian perspective.

We directly or indirectly answered all but one of the research questions the Department of National Defence asked us to address. We've made eight recommendations to the Government of Canada – not just the Canadian Armed Forces – recognizing that managing complexity and adapting to the new climate security paradigm needs Whole-of-Government leadership and collaboration.

I want to highlight some extraordinary Canadians who served on our project team. I extend my thanks once more to CJEM program staff:

- Stanley Bennett, Project Manager
- Sara Kallas, Research Assistant
- Sara Harlow, Project Officer
- Connor Hunerfauth, Project Manager
- Younis Imam, Project Officer
- Stacy Ngo, Administrative Assistant
- Alexander Landry, Senior Manager – Strategy Implementation
- Tiffany Leung, Director – Business Operations

I'm confident the report will speak clearly to you. It's written with a policy voice, but a strong one: the perspective is strategic but the tone is often definite.

We hope you act on this report. Thank you for the opportunity to serve Canada.

Simon Wells, CD, MBA, MA, CEM
Founder & Principal
*Canadian Journal of Emergency Management*
December 31st, 2024 - Toronto

## Executive Summary

In 2024, the *Canadian Journal of Emergency Management* (CJEM) conducted an engagement program on behalf of the Department of National Defence (DND), funded by the department's Mobilizing Insights in Defence and Security (MINDS) Targeted Engagement Grant. CJEM embarked on program of four engagement webinars and one policy development workshop, engaging subject matter experts on a wide range of topics.

CJEM cumulatively engaged almost one thousand participants through the "CJEM MINDS program". 56 distinct speakers and participants attended the webinars and workshop, including 14 current and ex-military personnel, hailing from nine provinces and territories. The program concluded well under-budget; this report was submitted ahead of its deadline, and the scope and yield of discussions far exceeded our initial expectations.

CJEM staff completed a foundational literature review on federal and external resource utilization in emergencies; jurisdictional capabilities, and other jurisdictions' civil defence models; civil-military coordination and the Request for Federal Assistance process; inter-agency collaboration; and, legal and regulatory frameworks.

The program team organized the four webinars with distinct themes that serviced DND's research questions. The webinar themes were continuous improvement and data analytics, community resilience and empowerment, resilience and preparedness, and the Canadian Arctic and the role of the Canadian Armed Forces (CAF). The capstone policy workshop consisted of three conversations that built on the webinars' findings: climate impacts on emergency management, building community resilience, and policy frameworks.

This program started with DND's questions about capacities, capabilities, resources, and frameworks, and returned actionable recommendations about tools, mechanisms, innovation, and resource stewardship.

It will be tempting to jump to the final eight recommendations of the report, but we encourage you to read the detailed ones that abut every webinar and workshop summary. The final report recommendations are, broadly speaking:
1. Develop a national knowledge-sharing platform (for emergency management).
2. Conduct regular inter-agency drills.
3. Leverage non-traditional and Indigenous knowledge.
4. Establish or enhance a national volunteer registry (for net-new capacity over-and-above the humanitarian workforce program).
5. Develop national and provincial preparedness surveys.
6. Enhance Arctic crisis management through infrastructure and public-private partnerships.
7. Optimize Human Resource Management in, and build up the CAF Reserves.
8. Create a national centre for disaster management lessons learned.

Final Report by the *Canadian Journal of Emergency Management*

The report is appended by a list of research questions and which of our final recommendations directly or indirectly answers them; project deliverables according to the grant agreement; a financial statement; and, a list of 41 works referenced in developing this report.

The recommendations are delivered through the Department of National Defence, but are intended for the Whole-of-Government. While this report doesn't dive into the business of managing federal accountabilities, its authors hope that the departments for defence, public safety, global affairs, environment and climate change, and others will fully embrace their joint roles in providing federal and national emergency management leadership.

Subsequent discussion or questions related to this report can be directed to Tiffany Leung, Executive Director, CJEM at tleung@cdnjem.ca.

The CJEM team extends their thanks to the MINDS program team for their support throughout their 2024 engagement program.

**Final Report to the Department of National Defence
by the *Canadian Journal of Emergency Management*
for the Mobilizing Insights in Defence and Security (MINDS) Initiative**

*Authored by Sara Kallas*
*Approved by Simon Wells*

# Background

Canada and the rest of the world are challenged by the growing impact of climate change and the increasing frequency and intensity of natural disasters. In response to these evolving challenges, the *Canadian Journal of Emergency Management* (CJEM) embarked on an engagement program throughout 2024, in partnership with the Mobilizing Insights in Defence and Security (MINDS) program, funded by the Department of National Defence (DND). This initiative explored Canada's emergency preparedness through discussions on inter-jurisdictional collaboration and coordination, resource management optimization, and the role of both civilian and military entities in disaster response.

This report presents findings from CJEM's program. The program consisted of four targeted webinars and a policy workshop that CJEM collaborated to produce reputable partners like *Avert* trade magazine, the Disaster Recovery Institute Canada (DRIC), the Institute for Peace and Diplomacy, and the Canadian Emergency Preparedness and Climate Adaptation (CEPCA) convention produced by dmg Events. These events were critical to exploring research questions from DND's Associate Deputy Minister – Policy division.

This report's insights and recommendations are intended to guide policymakers, emergency management professionals, and stakeholders across Canada in strengthening the nation's preparedness and response capabilities.

This report emphasizes a whole-of-society approach, recognizing the importance of including not only government agencies but also the private sector, community organizations, and individual citizens in building resilience. Private sector engagement and community empowerment emerged as key themes throughout the engagement sessions, suggesting that businesses and local communities should be integrated into emergency planning and response efforts.

The report begins with a literature review, followed description of the engagement methodology. The methodology section outlines how CJEM addressed the "Areas of Exploration" suggested by DND. The report then examines the key topics discussed in four webinars, before providing an in-depth analysis of the capstone workshop and its engagement tools. The final sections present the recommendations that emerged from both the webinars and the workshop, acknowledge the limitations of the project, and conclude with overall insights and recommended next steps.

# Literature Review

This literature review overviews existing research and theoretical frameworks relevant to the areas of exploration suggested by DND. This section provides contextfor the findings from our webinars and workshops, and identifies gaps in the literature.

This literature review examines a range of topics related to emergency management, including:

- **Federal and External Resource Utilization:** Analysis of how provinces and territories (P/Ts) can effectively leverage federal and external resources, including military support, during emergencies.

- **Jurisdictional Capabilities:** Examination of the differences in capabilities across P/Ts and the implications for resource sharing and support needs.

- **Civil-Military Coordination:** Exploration of factors influencing reliance on military support and strategies for enhancing civilian disaster management capacities.

- **Request for Federal Assistance (RFA) Processes:** Review of best practices and strategies for managing RFAs and improving response times from federal agencies.

- **Inter-Agency Collaboration:** Analysis of current challenges and solutions for improving coordination between various agencies and levels of government.

- **Legal and Regulatory Frameworks:** Assessment of existing legal and regulatory frameworks to encourage increased capacity for autonomous emergency management at the P/T level.

- **International Civil Defence Models:** Comparison of international models of civil defence to identify potential adaptations for the Canadian context.

## Disaster Mitigation

According to Public Safety Canada (at the time, the Office of Critical Infrastructure Protection and Emergency Preparedness (OCIPEP)), effective emergency management is built on four key pillars:

1. **Mitigation:** Ongoing efforts to reduce or eliminate long-term risks and impacts associated with both natural and human-induced disasters.
2. **Preparedness:** Developing robust policies, procedures, and plans to effectively handle emergencies.
3. **Response:** Actions taken immediately before, during, or directly after an emergency to manage its effects.
4. **Recovery:** Initiatives aimed at repairing and restoring communities after an emergency (Discussion Paper: National Disaster Mitigation Strategy, 2015).

Experts often debate the concept of disaster mitigation, noting its inherent complexity. In emergency management, 'preparedness' and 'response' are sometimes conflated with

'mitigation.' However, while preparedness and response primarily involve readiness and immediate action for unexpected or imminent events, mitigation focuses on proactive, long-term measures designed to prevent or reduce the impact of foreseeable disasters (Discussion Paper: National Disaster Mitigation Strategy, 2015). This includes integrating risk reduction strategies into routine decision-making processes to decrease vulnerability. Mitigation plays a critical role in lowering the risks, consequences, and recurrence of disasters, ultimately reducing the need for extensive response and recovery efforts. By doing so, mitigation can save lives and minimize property damage (Discussion Paper: National Disaster Mitigation Strategy, 2015).

Historically, emergency management in Canada has prioritized preparedness, response, and recovery efforts, often treating mitigation as an implicit consideration (Discussion Paper: National Disaster Mitigation Strategy, 2015). As a result, the country's preparedness, response, and support systems have become increasingly robust and effective in handling familiar "routine" emergencies. However, greater emphasis on and strategizing for mitigation is necessary.

## Jurisdictional Capabilities

Canadian provinces and territories' (P/Ts) ability to execute mitigation, preparedness, response, and recovery measures vary significantly. Variations in jurisdictional capabilities are shaped by geographic, infrastructural, financial and legislative factors, all of which affect resource sharing and support between regions during emergencies.

### Geographical Isolation and Infrastructure Dependence

Canada's vast and diverse geography presents significant challenges for emergency management, particularly in remote and northern communities. These regions are characterized by their geographical isolation and heavy dependence on limited infrastructure, which complicates both day-to-day access to essential services and emergency response efforts. Remote communities, such as those in northern Ontario, rely heavily on air transportation for year-round access, as alternative methods like winter roads are seasonal and increasingly unreliable due to climate change (Dimayuga et al., 2021). This reliance on air travel creates significant vulnerabilities, especially in times of disaster when rapid response and resource delivery are critical. The challenges of geographical isolation extend beyond northern Ontario to other provinces, such as British Columbia, where vast distances and rugged terrain further complicate the delivery of emergency services (Bugslag et al., 2000).

In northern regions, extreme weather events, including wildfires, flooding, and permafrost thaw, are becoming more frequent and severe, exacerbating infrastructure vulnerabilities and disrupting access to critical services (Ford et al., 2018). Permafrost thaw, in particular, poses a serious threat to the stability of infrastructure. As the permafrost degrades, it alters soil moisture and land-atmosphere processes, reducing the bearing capacity of the soil and increasing the risk of structural failure (Teufel et al., 2019). This degradation has been observed in regions with high hazard potential for infrastructure disruption, such as the Arctic coastline and parts of Alaska, Canada, and Siberia (Nelson et al., 2002).

Rising temperatures and permafrost thaw in northern Canada and western Siberia significantly impact these regions, requiring substantial financial investment—estimated at over 1% of annual gross regional product (GRP)—to maintain and adapt existing infrastructure (Suter et al., 2019). The intensification of storms and permafrost warming in these regions further complicates the situation, increasing the frequency of evacuations and disrupting infrastructure that communities depend on for healthcare, communication, and transportation (Ford et al., 2018; Redvers et al., 2023).

Wildfires also pose a growing threat to northern communities. Rising temperatures and shifts in precipitation patterns are increasing both the frequency and severity of wildfires, which not only directly endanger lives and property but also disrupt health systems by increasing respiratory issues due to smoke exposure and necessitating frequent evacuations (Teufel et al., 2019). Even low-severity wildfires can trigger complex hydrological, thermal, and biogeochemical processes, further destabilizing infrastructure and limiting access to critical services (Ackley et al., 2021). Wildfire disturbances, along with permafrost thaw, are among the primary drivers of boreal forest cover changes in regions like the Taiga Plains, further threatening local ecosystems and infrastructure (Helbig et al., 2016).

Flooding, often caused by changes in snowmelt timing and increased precipitation, is another serious concern in northern Canada. These hydrological shifts are leading to more frequent and severe flooding events, which damage natural ecosystems and human infrastructure, particularly in areas where permafrost once played a key role in water retention (Prowse et al., 2009). The combination of flooding, wildfires, and permafrost thaw creates a complex and increasingly unstable environment for northern communities, where emergency response efforts are severely constrained by the isolation and lack of resources, including healthcare and trained personnel (Walsh et al., 2020).

Given these conditions, provinces and territories with vast, sparsely populated areas are often forced to rely heavily on external resources, including federal and military support, to supplement their emergency response capabilities. This dependency highlights the need for a coordinated national approach to disaster management that can effectively address the unique challenges faced by Canada's remote and northern regions.

<u>Financial and Legislative Barriers</u>

Provincial and territorial finances influence their emergency management capabilities. Larger provinces, such as Ontario and Alberta, benefit from more substantial budgets that allow for greater investment in emergency preparedness, response, and recovery initiatives. These provinces are often able to allocate resources to advanced disaster response technologies, maintain well-trained emergency personnel, and implement comprehensive disaster mitigation programs. Conversely, smaller provinces and territories with limited financial resources may struggle to maintain similar levels of preparedness, making them more dependent on federal assistance during large-scale emergencies.

These financial disparities are particularly evident in the allocation of resources for disaster preparedness. Provinces with higher tax revenues can afford to invest in advanced early warning systems and maintain specialized response teams, whereas smaller jurisdictions may not have access to these resources. In particular, smaller provinces and territories face challenges in securing adequate funding for long-term disaster mitigation strategies, often having to prioritize immediate response efforts over preventive measures (Valeriah Hwacha et al., 2005).

Financial constraints impeded efforts in Manitoba to implement responses to climate change and other emerging threats. Despite successful institutional learning from past disasters, addressing future threats is complicated by a lack of political will and limited financial resources (C. E. Haque et al., 2018).

Access to financial resources is restrictive for local governments and private landowners. Often, provincial emergency management legislation lacks the necessary regulatory guidelines and financial provisions to support vulnerable communities, leaving private landowners particularly exposed to financial risks associated with disaster recovery (Valeriah Hwacha et al., 2005). Financial assistance programs for disaster preparedness and recovery often come with funding limitations that ultimately increase these risks.

Canada's National Disaster Mitigation Strategy (NDMS) is also affected by financial constraints. While the NDMS is designed to enhance Canada's capacity to prevent disasters and build disaster-resilient communities, the lack of adequate funding continues to challenge implementation (Valeriah Hwacha et al., 2005).

Emergency managers (EMs) and Emergency Social Services Directors (ESSDs) face barriers in their roles, which compound financial limitations with the unrealistic expectations often placed on them. These financial and resource constraints not only limit their capacity to manage emergencies effectively but also create personal vulnerabilities, including mental health challenges, as a result of the high demands of their "side-of-desk" roles (Samantha A. Oostlander et al., 2020).

Inter-Provincial Cooperation and Resource Sharing

Variation in jurisdictional capabilities across Canada's provinces and territories also impact how resources are shared during emergencies. While some provinces, such as British Columbia and Alberta, have established mutual aid agreements to coordinate the sharing of emergency resources across jurisdictions, these cooperative efforts are not uniformly applied nationwide (Emergency Management and Climate Readiness, 2016). Mutual aid agreements allow neighboring provinces to assist one another during large-scale disasters, such as wildfires and floods, by providing personnel, equipment, and logistical support. However, smaller provinces and territories with limited financial and infrastructural resources may struggle to participate in such agreements to the same extent, further deepening their reliance on federal or military assistance during times of crisis.

**Federal and External Resource Utilization**

Emergency management is a fundamental responsibility of the Government of Canada (GoC) and a shared duty of all federal government institutions. The *Emergency Management Act* recognizes the roles that all stakeholders must play in Canada's emergency management system (Emergency Management Act, 2007). Public Safety Canada actively promotes a more coordinated approach and uniform structure for managing emergencies, which is believed to enhance the GoC's capacity to prevent, protect against, respond to, and recover from major disasters and other emergencies.

The federal government states it is dedicated to working collaboratively with provinces and territories to support communities when disasters strike. To this end, *An Emergency Management Framework for Canada* was revised and approved by Federal/Provincial/Territorial (FPT) Ministers in 2017. This framework establishes a common approach for a range of collaborative emergency management initiatives, contributing to the safety and resilience of communities across the country (Emergency Management Framework for Canada, 2017).

Building on the framework, the *Emergency Management Strategy for Canada: Toward a Resilient 2030* was approved and released at the FPT Ministers Meeting in 2019. The Strategy outlines FPT priorities to enhance the resilience of Canadian society by 2030, providing guidance for FPT governments in assessing risks and preventing, preparing for, responding to, and recovering from disasters (Emergency Management Strategy for Canada: Toward a Resilient 2030, 2022).

On March 17, 2022, FPT Ministers responsible for emergency management released the *2021-22 Federal, Provincial, and Territorial Emergency Management Strategy Interim Action Plan*. This plan, the first in a series of action plans leading up to 2030, outlines specific steps that FPT governments and emergency management partners will take to strengthen disaster resilience and achieve the objectives set forth in the *Emergency Management Strategy for Canada*.

While the federal government plays a crucial role in setting strategic priorities and frameworks for emergency management, the effective utilization of these resources depends largely on how provinces and territories implement them on the ground. For example, during the 2021 British Columbia floods, federal support through RFAs helped mobilize critical military resources, yet challenges in local infrastructure highlighted the need for continued intergovernmental collaboration (Public Safety Canada, 2021). Provinces and territories employ a variety of strategies to leverage federal support, ranging from formal requests for federal assistance (RFAs) to informal partnerships and collaborations. Military support, in particular, has proven invaluable in recent disasters, where the scale of emergencies exceeded provincial capacities.

**Request for Federal Assistance (RFA) Processes**
A request for federal assistance (RFA) is how a province or territory formally requests support from the federal government in their emergency response efforts. The federal Government Operations Centre (GOC) manages the RFA process nationally. An RFA involves official communication and coordination between provincial/territorial or federal departments and Public Safety. It outlines the additional resources the jurisdiction needs for an effective response.

According to Public Safety Canada, RFAs can include support for:

- Operational Coordination;
- Emergency Evacuation, Transportation and logistics;
- Specialized Response Resources for Wildland Interface fires, flooding, hurricane and extreme weather; and
- Emergency Public Health, Medical and Social Services.

<div align="right">(Requests for Federal Assistance, 2024).</div>

The efficiency of the RFA process plays a critical role in determining the speed and effectiveness of the overall emergency response. Streamlined communication and rapid resource deployment are essential to mitigate damage and save lives during large-scale disasters. In cases where RFAs have been processed efficiently, response times have been significantly reduced, leading to better coordination between federal and provincial bodies and a faster deployment of needed resources.

For instance, during the 2013 Alberta floods, the RFA process was handled swiftly, allowing the Canadian Armed Forces to provide immediate assistance in evacuating communities and delivering supplies (Employment and Social Development Canada, 2013). This rapid response was credited with preventing further casualties and reducing the extent of damage. In contrast, during the 2016 Fort McMurray wildfires, delays in processing RFAs were reported, partly due to communication breakdowns between local and federal authorities (McGee et al., 2019). These delays impacted the timely arrival of specialized equipment and firefighting personnel, prolonging the response effort and contributing to the widespread destruction of property (McGee et al., 2019).

**Inter-Agency Collaboration**

Effective disaster response and management in Canada depend on seamless coordination between various levels of government—provinces and territories (P/Ts), federal agencies, and a range of organizations including military and civilian entities. However, achieving this coordination is very challenging. Bureaucratic obstacles, communication gaps, and the lack of interoperability between agencies often hinder timely and effective disaster responses.

One of the primary challenges to collaboration is bureaucratic complexity and the decentralized nature of emergency planning in Canada. The structures of government at the federal, provincial, and territorial levels often results in procedural delays during emergencies (J. Scanlon et al., 1995). Each level operates within its own legal and administrative frameworks, which can slow down the approval processes required to deploy federal resources to support provincial or territorial disaster responses. Canadian federalism itself can significantly impede the speed at which critical resources are mobilized.

Another key barrier to inter-agency collaboration is communication gaps between different organizations. During disasters, it is vital for federal and provincial/territorial governments, local

authorities, and first responders to maintain consistent and open communication. However, several challenges hinder this process in Canada. Firstly, Canadian government emergency management agencies have made little progress in adopting social media and public engagement for crisis management (S. Harrison et al., 2019). Intra-, inter-, and extra-organizational communication processes are also complex and they complicate disaster management (E. Quarantelli et al., 1988). Coordination within Emergency Operations Centres, which include representatives from various organizations, is challenging due to the need for effective information flow and resource management during emergencies (L. Militello et al., 2007). These challenges include a lack of coordination among various organizations, such as local government, fire, police, hospital, utility, and Red Cross representatives (L. Militello et al., 2007).

Lack of interoperability between different agencies' systems and resources remains a significant challenge (Church, 2023). In Canada, the diversity of organizations involved in disaster response, from local emergency teams to the Canadian Armed Forces, means that different technologies, data systems, and response strategies often operate in silos. This lack of integration can lead to misalignment in disaster response strategies and hinder the efficient sharing of critical resources(Church, 2023). The need for better interoperability is a recurring theme in both academic and government discussions on emergency management.

Despite these challenges, several successful examples of inter-agency collaboration in Canadian disaster responses provide valuable lessons. One notable case is the 2013 Southern Alberta floods, where federal, provincial, and municipal governments worked closely with military personnel to coordinate an effective response. Pre-established protocols for inter-agency cooperation facilitated the rapid mobilization of resources, including the deployment of the Canadian Armed Forces to assist with evacuations and logistical support (City of Calgary, 2013). This collaboration mitigated further losses and ensured that vulnerable communities received timely assistance (City of Calgary, 2013).

The literature emphasizes the importance of pre-existing relationships and regular communication between agencies as key factors in ensuring successful disaster responses. One solution to improve inter-agency collaboration is the integration of technological platforms that allow real-time communication and data sharing across different organizations. The Government of Canada has explored the use of standardized systems like the Incident Command System (ICS), which provides a common framework for all agencies involved in disaster management (Incident Command System Canada, 2024).

**Civil-Military Coordination**

Civil-military coordination is an essential component of emergency management, particularly in scenarios where the scale of the disaster exceeds the capacity of civilian resources alone. In Canada, P/Ts frequently rely on military support during extreme emergencies such as natural disasters, pandemics, and large-scale evacuations. The CAF provides a wide range of resources, including logistical support, transportation, search and rescue operations, and medical assistance, which are integrated into civilian-led emergency management efforts (Public Safety Canada, 2021).

One notable example is the response to the 2016 Fort McMurray wildfires, where the CAF played a critical role in assisting with mass evacuations and providing essential support for firefighting efforts (Jamie, 2020). Similarly, during the COVID-19 pandemic, the military was deployed to assist with logistics in remote communities and to support healthcare facilities struggling with capacity issues (Government of Canada, 2024). These instances underscore the importance of military involvement in large-scale emergencies, demonstrating how military resources are often pivotal in managing crises that overwhelm civilian agencies.

Despite these successes, effective civil-military coordination requires robust frameworks to ensure seamless integration of military support into civilian emergency operations. The literature emphasizes the need for pre-established protocols and joint training exercises to enhance cooperation between military forces and civilian agencies. Conducting regular simulations involving both military and civilian teams can strengthen relationships, clarify roles, and improve communication during real emergencies (Snyder et al., 2018). Additionally, the implementation of standardized communication systems, such as the Incident Command System (ICS), helps facilitate better coordination and resource sharing between military and civilian entities (Incident Command System Canada, 2024).

**International Civil Defense Models**

To strengthen Canada's emergency management system, it is valuable to compare and learn from international civil defense models. Prominent examples include the United States' Federal Emergency Management Agency (FEMA)[1] and various European civil defense frameworks. These systems provide insights into best practices that could be adapted to enhance civil-military cooperation, inter-agency collaboration, and resource sharing within Canada.

FEMA's model, for instance, integrates military resources seamlessly into civilian disaster management efforts, thanks to the pre-established National Response Framework (NRF). This approach emphasizes interoperability between agencies and ensures that the military is mobilized quickly when civilian capabilities are exceeded. Canada could adopt similar practices by establishing a more unified national framework that sets clear roles for military involvement during emergencies and defines protocols for mobilizing military resources alongside civilian teams (Federal Emergency Management Agency, Accessed 2024).

In Europe, civil defense models often emphasize the importance of integrated communication platforms and joint training exercises involving military and civilian personnel. The Swedish Civil Contingencies Agency (MSB), for example, has developed a comprehensive approach that includes cross-agency training programs and a centralized coordination center to manage emergencies efficiently (The Swedish Civil Contingencies Agency, Accessed 2024). Such practices highlight the importance of developing cohesive communication systems that allow various agencies to share information in real time. Implementing similar centralized coordination centers in Canada, where military and civilian teams collaborate closely, could improve the

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[1] FEMA is dedicated to emergency management; however, it has strong roots in civil defence from the Cold War era.

nation's response time and efficiency during emergencies (The Swedish Civil Contingencies Agency, Accessed 2024).

Adopting these international best practices could address some of the existing gaps in Canada's system, such as the need for enhanced civil-military collaboration and more effective resource-sharing protocols. By learning from the structured coordination and shared training programs seen in other countries, Canada can build a more resilient and integrated emergency management system that is better prepared to handle the complexities of future disasters.

## Methodology

In this engagement program, CJEM co-hosted 4 webinars and a policy workshop, and produced this policy-informing report. Each webinar had three components: 1 brief keynote speech and 2 panels. CJEM partnered with strategically aligned knowledge mobilizers to extend its reach, and to access practical resources like virtual registration platforms. The webinars targeted areas of exploration defined by DND.

The key areas of exploration included:

1. **Effective Use of Federal and External Resources**: Investigating how provincial and territorial (P/T) governments can most effectively utilize federal resources, such as the Canadian Armed Forces (CAF) and foreign emergency responders. Additionally, the exploration focused on improving processes or agreements to enable civilian resource use in emergencies, reserving the CAF as a last resort.

2. **Delineating P/T Capabilities**: A detailed and comprehensive analysis of the unique capabilities inherent to each P/T jurisdiction was sought, including the identification of specific support needs. This area emphasized how P/T capabilities could align with the CAF's resources for optimal preparedness, as well as identifying P/T resources that could be shared across jurisdictions.

3. **Factors Influencing CAF Reliance**: A critical examination of the factors that contribute to reliance on the CAF during emergencies, with a focus on enhancing civilian capacities to meet disaster management needs and reduce dependency on military intervention.

4. **Best Practices for Requesting Federal Assistance**: A thorough review of best practices for P/Ts before, during, and after submitting a Request for Federal Assistance (RFA). This included strategies to improve CAF response from the moment an RFA is submitted to the CAF's on-site arrival, as well as assessing whether continued CAF involvement is required as the situation evolves.

5. **Collaboration and Coordination Protocols**: An analysis of how collaboration can be enhanced through clear protocols and coordination between various agencies. This included identifying barriers to effective inter-agency collaboration, leveraging technology for better communication, and establishing measurable outcomes for improved coordination efforts.

6. **Review of Legal and Regulatory Frameworks**: A review of existing legal and regulatory frameworks to explore options for incentivizing P/Ts to build capacity and capability to manage emergencies autonomously, reducing reliance on external forces.

7. **International Civil Defence Models**: A comprehensive analysis of international civil defence models was conducted, focusing on those that could be adapted to the Canadian context. This involved examining differences in structure, funding, and mandates, as well as how such models integrate with national defence and emergency response teams, tailored to Canada's unique geographical, social, and political landscape.

To effectively target these areas of exploration, CJEM organized the webinars into thematic clusters, each addressing specific aspects of the emergency management landscape aligned with the DND's areas of exploration.

We formulated open-ended questions, crafted to touch upon the areas of exploration, and encourage panelists to share practical solutions, innovative approaches, and collaborative strategies for improving emergency preparedness and response. The questions also promoted sharing of diverse perspectives, highlighting gaps and synergies between civilian and military entities, and fostering a deeper understanding of inter-jurisdictional collaboration.

Additionally, the webinars incorporated interactive elements, such as Q&A sessions and live polls, to engage participants and capture real-time feedback from a wide range of stakeholders. This allowed for the integration of different viewpoints from across sectors, further enriching the discussions and ensuring that the recommendations were grounded in practical, on-the-ground experiences.

Following the webinars, CJEM co-hosted a capstone policy workshop in collaboration with the Canadian Emergency Preparedness and Climate Adaptation Convention (CEPCA), produced by dmg Events. This workshop was designed to build on the insights from the webinars, with a particular focus on integrating community resilience and climate security into emergency management practices.

The workshop adopted an action-oriented approach, engaging participants through collaborative exercises that aimed to generate practical solutions and policy recommendations. Participants, including experts from various sectors such as government, academia, non-profits, and the private sector, were divided into working groups to address specific challenges identified during the webinars. Each group produced action canvases that outlined strategies for improving emergency preparedness, focusing on themes such as resource optimization, community engagement, and inter-jurisdictional collaboration.

The workshop also incorporated facilitated discussions and scenario-based planning sessions, where participants could apply theoretical knowledge to real-world situations. By doing so, the workshop ensured that the solutions proposed were not only innovative but also grounded in the practical realities of emergency management in Canada.

The outputs from this capstone event were instrumental in shaping the final set of recommendations included in this report, offering a cohesive roadmap for enhancing Canada's resilience to future emergencies. The collaborative nature of the workshop underscored the importance of cross-sectoral partnerships in addressing complex issues like disaster preparedness and response in a rapidly changing climate.

## Webinar 1: Continuous Improvement and Data Analytics

On February 24th, 2024, the Canadian Journal of Emergency Management hosted a webinar entitled "DEMvolution" in collaboration with the *Avert*[2] magazine. This event centered on the theme of continuous improvement in disaster and emergency management, with an emphasis on leveraging data and real-time information to enhance decision-making processes. The webinar aimed to promote a culture of continuous improvement in the field of emergency management, ensuring communities are better prepared and resilient in the face of disasters.

**Panel Participants and Moderator**
The panel was moderated by **Grayson Crockett**, host of the Emergency Preparedness in Canada podcast, and featured a distinguished panel of experts:

- **Dr. Jeffrey Donaldson**, Principal Researcher, Preparedness Labs Incorporated

- **Tim Kenney**, VP Programs and Field Operations, Team Rubicon Canada

- **Dr. Evalyna Bogdan**, Assistant Professor of Disaster Emergency Management, York University

- **Dr. Julie Drolet**, Professor in the Faculty of Social Work, University of Calgary

- **Dr. Aaida Mamuji**, Associate Professor of Disaster and Emergency Management, York University

- **Chief Ken McMullen**, Incident Manager, Red Deer Emergency Services; President of the Canadian Association of Fire Chiefs

- **Janelle Coultes**, President of the Search and Rescue Volunteer Association of Canada (SARVAC).

- **Jodi Manz-Henezi**, Chair of the Northern Alberta Institute of Technology (NAIT)

- **Scott Cameron**, Founder and President, Emergency Management Logistics Canada

**Continuous Improvement and Real-Time Data Utilization**
A central theme of the webinar was the critical role of continuous improvement in emergency management through the effective use of real-time and post-incident data. The panel underscored the various challenges associated with data utilization, particularly in obtaining accurate

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[2] *Avert*'s owner, Annex Business Media, subsequently collapsed this brand into *Fire Fighting in Canada*. Any attempts to visit *Avert* online will re-direct to *Fire Fighting in Canada.*

information, validating it, and disseminating it appropriately. These challenges often hinder the ability of emergency management professionals to make informed and timely decisions. Participants highlighted the importance of using data not only for operational decisions but also for advocacy, demonstrating the broader impact of well-managed information.

Discussion emphasized the practical use of real-time data across all phases of emergency management. The panel cautioned against "paralysis by analysis," advocating for a balanced approach where data informs action rather than delays it. The integration of experiential and non-traditional data, including indigenous knowledge, was also discussed as vital for making well-rounded and impactful decisions. Participants championed an open culture of sharing experiences and best practices beyond organizational boundaries.

**After-Action Reports and Learning from Incidents**
The panel also focused on the value of after-action reports (AARs) in driving continuous improvement. The panel stressed the necessity of involving all participants in the creation and review of AARs to ensure comprehensive and actionable insights. Effective AARs should not only document what happened but also focus on the actions taken and the incremental improvements that can be made.

Including mitigation and preparedness actions in AARs was recommended to prevent recurrent response issues and improve future response efforts. Best practices highlighted during the discussion included reviewing AARs regularly and implementing changes through exercises and training before future events. This proactive approach helps to ensure that lessons learned are applied in a timely manner, enhancing overall preparedness and resilience.

**Enhancing Collaboration and Capacity Building**
Collaboration and capacity building were identified as essential elements for continuous improvement in emergency management. The panel discussed initiatives aimed at enhancing collective capacity rather than focusing solely on individual capabilities. Programs like the *Humanitarian Workforce Program* were highlighted as effective options to build and access capacity for large-scale emergencies.

The panel expressed that it is crucial to identify inequities within communities to effectively build resilience. Understanding the specific vulnerabilities and capabilities of different communities allows policy makers and program architects to design targeted interventions that are more likely to succeed. The establishment of knowledge-sharing platforms and regular inter-agency drills were suggested to improve coordination, communication, and overall emergency response capabilities. These platforms and exercises facilitate the sharing of best practices and innovations, fostering a culture of continuous learning and improvement.

**Overcoming Barriers and Challenges**
The discussion also addressed several barriers to continuous improvement in emergency management. Capacity and financial constraints were identified as significant challenges, particularly for smaller municipalities with limited resources. Communication gaps between different agencies and stakeholders were also highlighted as an area needing improvement.

To overcome these barriers, the panel suggested leveraging collaborative platforms and learning tools to promote knowledge sharing, resource mobilization, and the development of innovative solutions to common challenges. Establishing online knowledge-sharing platforms, organizing workshops, and conducting joint training exercises were recommended as effective strategies to enhance the capacity of smaller municipalities and improve overall disaster management efforts. This topic specifically forms the basis of a subsequent webinar.

**Webinar Recommendations**
From the discussions and insights shared during the webinar, several interim recommendations emerged. They are combined with sentiments and recommendations form webinar 3:

Develop a National Knowledge-Sharing Platform:
The panel proposed development of a national knowledge-sharing platform to allow emergency management professionals to share best practices, lessons learned, and innovative strategies. This platform will enhance collective knowledge and improve response efforts. The Government of Canada (GoC) and the Canadian Armed Forces (CAF) should support this initiative by utilizing their advanced situational awareness tools. These tools can help anticipate disasters, thereby reducing the need for Requests for Assistance (RFAs) and improving overall preparedness and response capabilities.

Conduct Regular Inter-Agency Drills:
The panel recommended conducting regular inter-agency drills to improve coordination and communication. Specifically, agencies should carry out ground-level drills that simulate actual emergency response scenarios. These drills should include Tabletop Exercises (TTXs) with the potential to escalate into full-scale dry deployments. This approach ensures that all stakeholders are fully aware of their roles and responsibilities during emergencies and holds each agency accountable for their part in the response efforts.

Include Mitigation and Preparedness in After-Action Reports:
The panel suggested that organizations include mitigation and preparedness measures in their after-action reports to promote continuous improvement and readiness for future incidents. Encouraging an open culture for sharing information, experiences, and best practices beyond organizational boundaries is essential to continuous improvement. Discussing mitigation and preparedness in after-action reporting would cause communities to reflect on how prepared they could have been versus potentially requesting assistance from higher levels of government.

<u>Leverage Non-Traditional and Indigenous Experiential Knowledge:</u>
The panel recommended that both public and private organizations try to incorporate non-traditional and indigenous experiential knowledge into their emergency management programs.

## Webinar 2: Community Resilience and Empowerment

The *Canadian Journal of Emergency Management* hosted a webinar on June 6th, 2024, entitled "Community Resilience and Empowerment". This webinar underscored the critical need to enhance civilian capacities for disaster management, reducing reliance on external stakeholders, such as the Canadian Armed Forces, during emergencies. By focusing on strengthening local capacities, communities can become more self-reliant and better prepared to handle disasters effectively.

**Panel Participants and Moderator**

The webinar panel featured a diverse lineup of experts, each bringing substantial expertise to the discussion:

- **Ken Bridges**, a Senior Canadian Armed Forces Officer specializing in Emergency Management in Manitoba, provided invaluable insights from his extensive operational experience. His perspective highlighted the importance of integrating military and civilian disaster management strategies.

- **Dave Brand**, the Director of Emergency Management for Red Deer County, shared his experience in strategic leadership in disaster preparedness and response. His insights emphasized the need for effective planning and resource allocation at the municipal level.

- **Sarah Sargent**, Vice President for Risk Reduction and Resilience at the Canadian Red Cross, contributed her deep knowledge of community resilience and humanitarian aid. She discussed the critical role of humanitarian organizations in enhancing community resilience and the importance of collaboration with local governments.

- **Genevieve Thouin**, Director of Adaptation Programs at the Green Municipal Fund for the Federation of Canadian Municipalities, provided perspectives on sustainable urban resilience. Her input shed light on innovative practices municipalities can adopt to enhance their resilience to climate-related impacts.

- **Scott Cameron**, President/CEO of Bassa Social Innovations Inc., and co-founder of Emergency Management Logistics Canada, skillfully moderated the panel. Known for his expertise in fostering community preparedness through innovative platforms, Cameron guided the discussion towards actionable insights and strategic recommendations.

**Understanding and Defining Community Resilience**

The discussion underscored that community resilience requires a proactive mindset, focusing on preparedness rather than reaction. Empowering, educating, and engaging communities to not only survive but also thrive before, during, and after adverse events is crucial. This shift necessitates moving from merely "doing for" to "doing with," involving community members at every stage of disaster management.

The Disaster Cycle illustrates this sequence, emphasizing the critical proactive stages of Mitigation and Preparation, which aim to reduce disaster impacts before they occur (Alexander, 2002). Mitigation includes structural measures, such as building flood defenses, and non-structural measures, such as land-use planning and public education. Preparation focuses on actions taken before disaster strikes, such as evacuation planning, securing vulnerable populations, and conducting emergency drills (Alexander, 2002). The stages of Response and Recovery, occurring post-disaster, highlight the importance of prior efforts in easing recovery and response efforts (Alexander, 2002).

A poignant example from the Alberta Preparedness Survey revealed that despite a general recognition of risks, many communities lacked actionable plans. This gap indicates a critical need for more targeted community engagement. Involving community members in identifying vulnerabilities and concerns can lead to the development of tailored resilience-building strategies that are more effective and sustainable.

Municipalities play a crucial role in providing essential services and are increasingly impacted by climate events. The Institute on Municipal Finance and Government report outlines how municipalities can utilize their regulatory powers to mitigate emissions and enhance resilience through innovative practices, despite facing funding limitations. The report suggests that peer-to-peer learning and the sharing of best practices among municipalities could help overcome these constraints and stimulate local innovation (Institute on Municipal Finance and Government, 2022).

**Enhancing Collaboration and Capacity Building**

Collaboration was emphasized as pivotal, advocating for a shift towards partnerships that involve communities actively. Initiatives such as the Humanitarian Workforce Program aim to enhance collective capacity rather than individual capabilities, emphasizing the need for a coordinated response to large-scale emergencies (Public Safety Canada, 2022). Addressing inequities is essential for effective resilience, necessitating a nuanced understanding of community vulnerabilities and assets to design targeted interventions.

The 4Cs—Competency, Capability, Collaboration, and Coordination—are important elements of community resilience. These qualities stress the importance of assessing vulnerabilities comprehensively and building robust frameworks for cooperation and support (GoC, 2023).

A holistic approach to disaster management means reducing dependency on the military by strengthening civilian capacities and improving local-level preparedness. Understanding and training on local risks are key to enhancing community resilience and ensuring efficient resource deployment during disasters. The Government of Canada's Civilian Emergency Capacity initiative supports this approach by emphasizing the development of local skills and knowledge necessary for effective disaster management (GoC, 2023).

**Community Engagement and Empowerment**

Effective volunteerism and preparedness require a deep understanding of community capacities well in advance of volunteer force employment. Local municipalities serve as vital connectors between communities and higher government levels, facilitating better support and resource allocation. Effective public engagement enhances engagement and preparedness, ensuring that all community members are well-informed and prepared to act in the event of a disaster.

Knowledge mobilization through conferences and forums encourages the exchange of best practices and innovations, fostering technical and social innovation essential for community resilience. This approach aligns with the principles outlined in the *Municipal Role in Climate Policy* report, which advocates for the sharing of knowledge and resources to overcome challenges faced by smaller municipalities. The report highlights that municipalities can benefit significantly from collaborative efforts, pooling resources, and expertise to develop innovative solutions to common challenges (Institute on Municipal Finance and Government, 2022).

**Overcoming Barriers and Challenges**

Key barriers to resilience include capacity limitations, financial constraints, and communication gaps. Small municipalities often struggle with limited staff and resources, hindering effective multi-role management and response efforts. Collaborative platforms and learning tools can help bridge these gaps by promoting knowledge sharing, resource mobilization, and the development of innovative solutions to common challenges. Initiatives such as online knowledge-sharing platforms, workshops, and joint training exercises can enhance the capacity of smaller municipalities to manage disasters effectively.

**Webinar Recommendations**

The following recommendations emerged from the panel discussion:

Development of National and Provincial Preparedness Surveys:
The Government of Canada and Provinces & Territories should take surveys that assist authorities in better understanding emergency preparedness and vulnerabilities within their jurisdictions, enabling more targeted and effective disaster management strategies.

Creation of a National Volunteer Registry:
This registry would allow volunteers to register with basic information, including their skills and availability, to support community efforts during emergencies. This database can be a critical resource in mobilizing community support quickly and efficiently rather than tapping into federal capacities that take longer to mobilize.

Reinvigorating the Senior Officials Responsible for Emergency Management (SOREM):
Initially, discussion resulted in a recommendation to implement a forum for FPT coordination on best practices in emergency management. Such a forum already exists in SOREM, but it isn't used effectively. It should be used to share impactful information like best practices related to specific types of emergencies. It could facilitate discussions on effective community-based responses, mobilizing new knowledge quickly across the country.

## Webinar 3: Resilience and Preparedness

On July 23rd, 2024, the *Canadian Journal of Emergency Management* hosted a webinar entitled "*From Lights & Sirens to Resilience*" in collaboration with Disaster Recovery Institute Canada (DRIC). This webinar focused on resilience in emergency management and disaster recovery contexts. The aim was to bring together experts from the fields of business continuity and emergency management to share their ideas, experiences, and strategies in a cross-functional basis to improve collective understanding and preparedness.

**Panel Participants and Moderator**

The webinar was structured in two distinct panels, one in each of Canada's official languages to ensure accessibility to a wider audience.

The first panel, held conducted in English, featured the following experts:
- **Dr Michel C. Doré,** an Associate Professor at l'Université de Québec à Montréal, also represented St John Ambulance Canada as its National Emergency Management Advisor.

- **Dr Jeff Donaldson,** a distinguished veteran of the Canadian Armed Forces and current Principal Researcher for Preparedness Labs Inc.

- **Ernie Polsom**, a former fire chief at both municipal and provincial levels, now CEO of FireWise Consulting.

- **Pascal Rodier**, a Senior Emergency Management, Response, and Continuity Leader in Nova Scotia & throughout the Atlantic Region.

The second panel, conducted in French, featured the following experts:
- **Jean-François Couture-Poulin,** Public Safety Advisor for the City of Lévis, Québec.

- **Guy Lapointe**, President of the Quebec Association of Volunteer Search & Rescue, as well as Vice-President of the Search and Rescue Volunteer Association of Canada.

- **Eric Martel**, Resilience, Risk, and Disaster Manager for the Municipality of Pincourt, Québec.

- **Christian Legault**, Director of Fire Services for the Municipality of Sainte-Thérèse, Québec.

Notably, the webinar event began with keynote remarks from **Nancy Holloway-White**, President of Disaster Recovery Institute Canada and a Senior Business Continuity Consultant in Canada. Both panels were moderated by **Alexander Landry**, Senior Manager for Strategic Implementation with the Canadian Journal of Emergency Management and a member of the Disaster Recovery Institute of Canada Board of Directors.

In follow up to previous CJEM events, this webinar built on themes from past webinars.

**Whole of Government Approach and Community Resilience**

The webinar emphasized a holistic, integrated approach to emergency management. It highlighted the importance of clearly defining disaster frameworks and understanding what constitutes a disaster. There was a debate over the effectiveness of standardization versus tailored, community-specific disaster response plans. The necessity of identifying specific needs and resources from the Canadian Armed Forces (CAF) and the federal government during emergencies, such as surge capabilities, wildland firefighters, or helicopters, was underscored.

**Provincial and Territorial Capacity Building**

Discussions revolved around the need for provinces and territories to build local capacities and cooperation strategies to mobilize resources effectively before seeking federal assistance. There was recognition by our firefighting experts of a significant shortfall in volunteer firefighters, with 37,000 fewer than needed (CTIF:International Association of Rescue and Fire Services, 2024). The influence of the US National Guard and FEMA on Canadian perception of emergency management was noted.

**Incentivizing Community and Private Sector Involvement**

Clear incentives are needed to encourage communities and businesses to invest in resilience and business continuity efforts. Suggestions included integrating business continuity into audit processes, providing funding through provincial channels, and making grants available. The role of NGOs and private organizations in daily life and emergencies was highlighted, including the notion that volunteers during incidents tend to stem from local communities. This emphasized the importance of partnerships with large corporations considering their reach and integration into communities already.

To this effect, stronger partnerships with private sector entities were deemed essential for enhancing emergency preparedness and response. Examples from other jurisdictions, such as pre-positioning of supplies by companies like Walmart in the United States, were provided. Formalizing partnerships, sharing knowledge and resources, and recognizing the critical role of private organizations in supporting public efforts were recommended.

**Education and Training for Emergency Management**

The panel advocated for incorporating emergency preparedness and resilience education into school curriculums, potentially beginning at the elementary school level. This approach has historical precedent, similar to the "Duck and Cover" videos, which aimed to educate children on how to protect themselves during emergencies (J. Mauer, 1951). Emphasis was placed on practical, scenario-based training for emergency managers, especially in smaller communities. Specifically, Dr. Jeff Donaldson remarked, "Preparedness is where the response fight is won,"

alluding to the need for adequate preparation to ensure emergencies are appropriately addressed when they occur.

One participant incorrectly suggested that communities don't have a mandate to be emergency prepared. The assertion itself is incorrect - all Provinces and Territories require their municipalities to have some type of emergency management plans - but it also highlighted a need for stronger practical and programmatic training and education in emergency management. Simple knowledge gaps like this indicate that more specific knowledge about emergency management capabilities and response / aid mechanisms (RFAs) aren't being shared or learned.

**Leveraging Civilian Resources & Volunteer Interest**

The significant role of community involvement and volunteerism in disaster response was acknowledged. Harnessing and building upon the natural, spontaneous response of people during disasters was suggested. The integration of skilled volunteers, including physicians, nurses, paramedics, and first responders, into emergency response plans was also highlighted.

The panel suggested that governments should explore existing provincial and territorial resources that can be shared easily between jurisdictions. Challenges and barriers to effective collaboration between agencies were highlighted, along with the use of technology to facilitate better communication and information sharing. The National Risk Profile has identified the use of technology as a crucial capacity to address moving forward on a national basis (Public Safety Canada, 2024). This profile uses the All-Hazards Risk Assessment and Emergency Management Capability Assessment methodologies to assess Canada's current risk levels and inform our collective ability to mitigate impacts. The importance of social capital and community relationships in disaster response was emphasized, alongside the need to develop a culture of preparedness and codify the transition from passion and commitment to actionable volunteer efforts.

**Business Continuity and Resilience**

Conversation again incorrectly suggested a lack of mandatory continuity of operations plans for government offices in Canada, suggesting that professional emergency managers need better training and education on emergency management legislation and non-legislative authorities. Investment in preparedness, mitigation, and resilience was deemed essential for effective recovery. Financial assistance programs like the Disaster Financial Assistance Arrangements (Public Safety Canada, 2024) can sometimes disincentivize local investment in emergency management.

There was a call to define what a resilient individual and community look like. Assessing current community standards to design effective education and preparedness programs was suggested. Investments in preparedness, mitigation, and resilience were seen as having long-term benefits for community safety and disaster recovery.

**Interoperability and Collaboration**

Interoperability needs to include people and relationships, not just technology. The inclusion of private sector and volunteer groups in planning and exercises to ensure coordinated efforts during disasters was recommended.

Ultimately, the finite nature of emergency management resources and the competition with other essential services were highlighted. Regional collaboration among communities to pool resources for targeted education and preparedness campaigns was suggested.

**Unique Aspects of Québec's Approach**

One of the distinctive features of the July 23rd event was the inclusion of a French panel with experts stemming from the Province of Québec, thus providing insight to both English and French communities into the unique aspects of Québec's approach to both emergency management and business continuity.

The recent *Quebec Civil Protection Act* (Public Safety Canada, 2018) emphasizes individual responsibility for safety and property during emergencies. The law mandates local authorities to engage citizens in risk management efforts, consulting, and informing them about measures to reduce risks and consequences of disasters.

The discussion highlighted the importance of moving from disaster mitigation to true adaptation. This shift involves not only reducing the immediate impacts of disasters (mitigation) but also making long-term changes to how communities interact with their environment to minimize future risks (adaptation). Revising the relationship with the territory means adopting strategies that integrate the natural characteristics and vulnerabilities of the area into planning and development. This territorial adaptation includes prioritizing systemic vulnerabilities and implementing nature-based solutions, such as restoring ecosystems and using natural barriers, to enhance resilience and reduce disaster risks.

There was a call for clearer communication and understanding between federal, provincial, and local levels regarding emergency management. The language used for risk communication should be adapted for better comprehension by the general public, and efforts should be made to enhance community and corporate resilience. This inter-provincial cooperation should extend to other weather-related disasters and public health emergencies.

The importance of civilian involvement as first responders in emergencies was stressed, focusing on collective self-reliance and making informed choices, supported by local authorities and humanitarian organizations. As an example, the idea of mobilizing and training urban firefighters to assist in forest fire situations, while also enhancing volunteer organizations with proper training and equipment was proposed.

Private sector participation in risk communication and disaster preparedness was encouraged. The Quebec Civil Security Act supports the alignment of business continuity plans with regional and local authority standards to enhance overall community resilience.

As an example, the municipalities of Pincourt, Pointe-Fortune, and Très-Saint-Rédempteur have joined forces for a multi-municipal public safety approach, led by the Municipality of Pincourt (Neo-Media, 2024). This initiative includes a structure compliant with provincial requirements, alert mechanisms, mobilization strategies, and partnerships with external actors. A vulnerability profile initiative involving community organizations is also being developed. This collaborative approach could serve as a model for other municipalities moving forward.

Finally, the panel explored how technology can improve communication and information sharing between civil agencies, provincial/territorial bodies, and the federal government. Enhanced processes and agreements are needed to facilitate the use of civilian resources during emergencies. The National Risk Profile has identified the use of technology as a critical capacity to address these challenges on a national basis, leveraging methodologies like the All-Hazards Risk Assessment and Emergency Management Capability Assessment to enhance overall preparedness and response capabilities across Canada's diverse hazardscape.

**Webinar Recommendations**

From the discussions and insights shared during the webinar, several interim recommendations emerged and are combined with those of webinar 1:

Development of a National Knowledge-Sharing Platform:
This panel echoed a past panel and proposed the development of a national knowledge-sharing platform to allow emergency management professionals to share best practices, lessons learned, and innovative strategies. This platform aims to enhance collective knowledge and improve response efforts. By utilizing advanced situational awareness tools from the Government of Canada (GoC) and the Canadian Armed Forces (CAF), communities can gain more lead-time in preparation for potential disasters. These tools can help identify probable threats early, enabling communities to prepare and respond more effectively using available resources. This proactive approach can reduce the frequency and urgency of Requests for Assistance (RFAs), allowing for more efficient disaster management and response.

Conduct of Regular Inter-Agency Drills:
The panel recommended conducting regular inter-agency drills to improve coordination and communication. Specifically, agencies should carry out ground-level drills that simulate actual emergency response scenarios. These drills should also include Tabletop Exercises (TTXs) with the potential to escalate into full-scale dry deployments. This approach ensures that all stakeholders are fully aware of their roles and responsibilities during emergencies and holds each agency accountable for their part in the response efforts. Ideally, these drills need to be

spearheaded by federal, provincial, and municipal authorities, yet also include private sector and volunteer participation.

<u>Inclusion of Mitigation and Preparedness in After-Action Reports:</u>
The panel suggested that organizations include mitigation and preparedness measures in their after-action reports to promote continuous improvement and readiness for future incidents. Encouraging an open culture for sharing information, experiences, and best practices beyond organizational boundaries is crucial for fostering collective improvement and innovation.

### Webinar 4: Canadian Arctic and the Role of the Canadian Armed Forces

On August 26th, the Institute for Peace & Diplomacy and the Canadian Journal of Emergency Management co-hosted a webinar addressing critical issues in the Canadian Arctic and the role of the Canadian Armed Forces (CAF). The event featured two insightful panels. The first panel examined the unique challenges and opportunities in the Arctic, including crisis management, infrastructure, sovereignty, and the significant impacts of climate change. The second panel focused on the capabilities and responsibilities of the CAF in responding to emergencies, discussing strategies to alleviate the burden on the military while ensuring effective crisis response mechanisms.

**Panel Participants and Moderators**

The first panel was moderated by **Stan Bennett**, Senior Staff Officer, Canadian Armed Forces Arctic Training Centre. The panelists included:
- **Stephen Van Dine**, City Manager, City of Yellowknife; Former Assistant Deputy Minister, Crown Indigenous and Northern Affairs Canada.

- **P. Whitney Lackenbauer**, Canada Research Chair & Professor, School for the Study of Canada, Trent University.

- **Jason Op de Beeck**, Graduate Scholar, Royal Roads University; Former Senior Instructor, Canadian Forces Leadership & Recruit School.

- **BGen (Ret'd) Chris Ayotte**, Fellow, Canadian Global Affairs Institute; Former Commander, Disaster Assistance Response Team, Canadian Armed Forces.

The second panel was moderated by **Alexander Landry**, Non-Resident Research Fellow, Institute for Peace & Diplomacy. The panelists included:
- **Christian Leuprecht**, Professor in Leadership, Department of Political Science, Royal Military College

- **Dan A. Doran**, Director & National Practice Lead, Defence and Security, KPMG Canada

- **Shawna Bruce**, Former Army Public Affairs Officer & Advisor, Canadian Armed Forces

**Panel 1: The Arctic**

Sovereignty and Strategic Presence
The panel highlighted the tension between the call for increased sovereignty and the suggestion to incorporate international crisis management frameworks in the Arctic. Panelists emphasized that Canada's claim to Arctic sovereignty requires more than symbolic gestures; it demands clear, purposeful military activities. They suggested that while there is concern about sovereignty threats, the strategic presence should integrate both military and civilian needs without overreacting to perceived threats. This requires a balanced approach that considers both national sovereignty and international cooperation.

Infrastructure Challenges

Panelists addressed significant gaps in the CAF's strategic framework for the Arctic, particularly the lack of tailored infrastructure for northern conditions. They stressed the need for a national security strategy that integrates military and civilian infrastructure, ensuring coherence between northern and southern developments. Optimizing existing facilities, such as those at diamond mines, and planning for energy infrastructure in key locations like Yellowknife and Inuvik are essential for improving response capabilities and strategic presence.

Crisis Management and Resilience

The discussion on crisis management emphasized building strong relationships between local, territorial, and federal governments. Panelists noted that effective crisis management requires enhanced collaboration, strategic partnerships, and potentially international cooperation. Modernizing governance structures and infrastructure, integrating Indigenous knowledge, and fostering community-based roles are crucial for building resilience and improving disaster response.

## Panel 2: Requests for Assistance and CAF Commitments

Domestic Deployment and Strain

The second panel focused on the complexities of domestic deployments and the CAF's commitments. Panelists discussed the strain on resources caused by domestic tasks, such as responding to wildfires and distributing COVID vaccines. Political motivations sometimes drive deployment decisions, which can affect operational effectiveness. There is a need for a strategic approach to domestic deployments, considering the increasing frequency and complexity of these operations.

Reserves and Equipment Mismatches

Challenges associated with reserves, including high turnover and training gaps exacerbated by the COVID-19 pandemic, were highlighted. The reserves' effectiveness can be diminished by extended deployments for non-critical tasks. Developing separate resource and response capabilities for domestic disasters is suggested to ensure the CAF can focus on its core mission of national defense.

Politicization and Public Perception

The panel examined the politicization of the CAF and the potential over-reliance on federal support by provinces. Balancing federal support with provincial investment in emergency management systems is crucial. The panel traced the CAF's domestic responsibilities back to historical agreements and discussed the need for increased investment in reserves to enhance their effectiveness.

Comparative Approaches and Human Resource Management
Panelists discussed comparative approaches to emergency management, noting practices from other countries, such as European nations and Australia, which could inform improvements in Canada's response capabilities. Enhancing the attractiveness of reserve service and addressing barriers such as financial incentives and taxation issues are essential for recruiting and retaining personnel.

**Webinar Recommendations**

Develop a coherent national security strategy that integrates military and civilian needs:
This strategy should ensure strategic coherence between northern and southern defence infrastructure developments. Optimize existing Arctic infrastructure and explore partnerships for emergency use to enhance crisis response and resilience.

Enhance crisis management by fostering relationships and building trust between local, territorial, and federal governments:
Consider strengthening international partnerships to enhance friendly presence and collaboration in the Arctic. Modernize governance structures, address infrastructure needs, and integrate Indigenous knowledge into crisis management strategies.

Leverage public-private partnerships and explore innovative solutions, such as low Earth orbit (LEO) satellite constellations, to improve risk management and disaster response.

Increase investment in the Canadian Armed Forces' reserve forces and develop separate resource and response capabilities for domestic disasters.
Strengthen provincial and local preparedness, adopt international best practices, and establish a national center for disaster management lessons learned.

Optimize human resource management in the Canadian Armed Forces.
Addressing barriers to military reserve service and developing strategies to enhance the attractiveness of reserve service.

## Capstone Workshop

The Capstone Policy Workshop, held on September 24th, 2024, at the Shaw Centre in Ottawa, was a landmark event that explored the intersections of emergency management, community resilience, and climate security. Building upon insights gathered during the preceding four webinars, the workshop featured discussions between academic experts and practitioners from diverse fields. Scott Cameron, President and CEO of bassa Social Innovations Inc. and co-founder of Emergency Management Logistics Canada, facilitated the event, which centered on three themes. The event's goal was to generate actionable solutions to the growing challenges posed by climate change and evolving disaster cycles, particularly for vulnerable communities.

### Session 1 - Climate Impacts on Emergency Management (EM)

This session explored the intensification of natural disasters and their effects on the EM domain, emphasizing both the increasing severity of disasters and the long-term impacts of extended disaster cycles, such as longer fire seasons and extended flood risk periods. Discussions also addressed how these evolving challenges impact preparedness and resilience, particularly for vulnerable communities and remote regions, including Indigenous communities and the Arctic.

### Session 2 - Building Community Resilience

Building on the discussions in Session 1, this session focused on empowering communities to enhance their internal resilience in response to longer and worsening disaster cycles. The conversation examined the unique resources and capabilities available at the Provincial and Territorial (P/T) levels and how resource sharing between P/Ts could be optimized. Additionally, the role of the private sector in disaster preparedness, response, and recovery was explored, in alignment with a Whole of Government (WoG) approach.

### Session 3 - Policy Frameworks

The final session built upon the preceding discussions by addressing how Requests for Federal Assistance (RFAs) could be tailored to ensure that the responding force from the Department of National Defence (DND) is both necessary and appropriately scaled. The session also covered how provinces and territories could improve the drafting of RFAs to better reflect needs, and examined potential changes to legal, regulatory, or policy frameworks to reduce reliance on DND resources. Additionally, the use of technology to improve interagency coordination and the potential for regionalized approaches to federal assistance and response were considered.

### Action Canvases

During the workshop, participants created collaborative "action canvases" to brainstorm actionable solutions in critical areas: integrative recovery processes, data accessibility, and accountability in risk management. These canvases provided a blueprint for addressing current gaps and moving toward more cohesive and forward-thinking approaches to emergency management.

**Shifting Recovery and Emergency Management to an Integrative Process**
The group focused on the need for a shift in how disaster recovery and the pillars of Emergency Management (EM) are approached. They emphasized the importance of viewing recovery as an opportunity for long-term improvements, rather than just a return to the status quo. Success in this effort would mean that recovery is meaningfully integrated into EM processes, allowing for proactive, rather than reactive, planning.

Lack of clear direction or oversight leads to fragmented approaches across different jurisdictions. To move forward, the group identified two critical shifts: first, the need for accountability frameworks to ensure consistent and responsible recovery efforts, and second, the importance of planning recovery in advance, rather than waiting until disasters occur.

The expected outcome of these shifts is the development of a National Recovery Framework (NRF) that would serve as a guideline for recovery efforts across the country. This framework would likely be supported by the establishment of a federal emergency management agency[3] to coordinate and oversee the implementation of recovery strategies.

The government sector is driving this initiative, with the recognition that recovery efforts must be comprehensive and adaptable across different jurisdictions. The proposed changes are seen as essential to fostering a "whole of society" approach, ensuring that recovery is inclusive and coordinated.

To achieve this vision, collaboration with other sectors is necessary. The group stressed that all sectors—public, private, and non-profit—must be involved in order to create a truly collaborative and effective approach to recovery. Within the next 12 months, the group believes that establishing accountability measures will be a realistic first step. They suggest that Public Safety Canada (PSC) could provide a mandate to begin the creation of the NRF, laying the foundation for a more integrated and effective recovery process.

**Enhancing Data Accessibility and Communication in Emergency Management**
One of the key issues identified in the action canvas is the gap in accessibility and communication of data within emergency management (EM). The goal is to ensure that anyone seeking data knows how to access it, with the long-term objective of creating a streamlined and user-friendly system for data retrieval.

To achieve this, the group proposed two critical shifts. First, they aim to move from simply measuring the impact of EM activities to operationalizing the lessons learned from these experiences. Second, they want to transition from a landscape characterized by data gaps to one where data is not only accessible but also easily interpreted and shared across relevant stakeholders.

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[3] Whereas Public Safety Canada is the central coordinating department of the Government of Canada's emergency management program, an agency has more direct and tangible responsibilities.

The success of these shifts would be marked by the creation of a strategic resource inventory, which would include proper categorization of resources and incentivize regular updates. Key indicators of progress would be the accessibility of resources, the ease with which they can be accessed, and the use of this data in driving strategic, informed decision-making.

The group emphasized the need for collaboration across sectors, particularly between EM, sustainable development, and climate change, to ensure a comprehensive approach to addressing data challenges. Within the next 12 months, they envision establishing a centralized location for data collection and interpretation. This would be accompanied by the creation of an inventory of existing data gaps and a coordinated national approach, with the goal of piloting 1-2 initiatives to test and refine the system.

This effort would require interdisciplinary coordination and the involvement of an intersectional group to ensure that the solution is both effective and inclusive. By engaging a wide range of stakeholders, the group hopes to foster a more collaborative, data-driven approach to EM.

**Improving Accountability in Risk Management**
This action canvas focuses on the need for inclusivity in accountability within the risk management cycle. The primary goal is to create a system where accountability fully embraced in risk management processes, ensuring that all stakeholders are aligned in their responsibilities.

To achieve this vision, the group identified two critical shifts. First, they want to move from a public sector culture of blame to one where responsibility is collectively aligned among all parties involved. This shift emphasizes shared accountability rather than individual fault. Second, they aim to transform the current practice of reporting on disasters into a future where reports are not only accessible to the public but also aligned in methodologies across various sectors, including legal frameworks, funding distributions, land management, and insurance practices.

Key indicators of success would include the assignment of accountability for disaster risk reduction and other risk management activities to integrity officers to oversee with various levels of government.

The canvas emphasizes a community-driven approach, recognizing that full life cycle risk management requires engagement from the community. The chosen future states are prioritized for their potential to promote responsibility for risks, even in situations where no clear authority exists. They also highlight the importance of informed decisions and enforcement following investigations and reports.

Collaboration across sectors is crucial for creating an inclusive and effective accountability framework. The group highlighted the need for alignment and inclusivity in their efforts, emphasizing collaboration with any investigative authority to ensure comprehensive investigations. They also suggested the importance of a joint reporting mechanism involving coroners, public health officials, medical services, and private physicians, which would rely on shared methodologies.

Looking ahead, the group outlined several actionable steps for the next 12 months. They propose engaging with insurance customers through town hall meetings, neighborhood watch groups, and local security companies to gather input and foster dialogue. Additionally, they plan to approach investigative bodies to gauge their interest in independent inquiries, particularly in relation to public service investigations.

Finally, they emphasized the necessity of linking funding to investigations and obtaining approvals for these inquiries. Importantly, they highlighted the need for funding to be directed towards Indigenous communities, ensuring that it supports programs aligned with policies like the First Nation Climate Leadership Agenda. This approach aims to enhance community involvement and ensure that funding is effectively utilized in addressing risks.

**Fostering Social Capital for Resilience in Emergency Management**

The group focused on the importance of promoting social capital within the context of Emergency Management (EM). They highlighted the need to foster stronger community relationships and social connections to enhance resilience and improve recovery outcomes.

To achieve this, they proposed critical shifts in the approach to building social capital, although specific details were noted on separate sheets. The anticipated indicators and outcomes include a decrease in the number of Requests for Assistance (RFAs), an increase in the number and diversity of partners involved, and pre-established relationships among community members. Communities would also be able to self-report increased trust and strengthened relationships. As a result, recovery times would be reduced, and community structures would evolve, with resilience becoming an inherent part of development. This would cultivate a sense of belonging and human connection, shifting the community mindset from "we must" to "we want to," driven by and with community leaders.

The group chose this focus because social dimensions of EM often receive less attention, despite the fact that social connectedness is a proven method for increasing resilience. Building critical relationships is seen as key to empowering communities to respond to and recover from disasters.

Within the next 12 months, the group plans to identify champions and facilitators, engage in participatory action research, and empower grassroots organizations. They also suggest incorporating EM education into schools at an early age and leveraging technology to enhance engagement.

To make this shift possible, collaboration from other sectors is essential. The group stressed the need for access to existing "community engagement toolboxes" that could be adapted for an EM social capital and resilience context. Tools for mapping networks in a participatory way, such as the Community Disaster Resilience Planning (CDRP) Tool or readiness ratings, were also mentioned. Champions and facilitators will be needed, along with buy-in from stakeholders to support the shift from a mentality of "we must" to "we want to." Leveraging youth and academia,

as well as having agencies and groups proactively share their information and knowledge platforms, will also be key in promoting social capital in EM.

**Capstone Summary**

The Capstone Policy Workshop provided a comprehensive platform for exploring the evolving landscape of emergency management, particularly in the context of climate change and community resilience. Through its collaborative sessions and action canvases, the workshop not only identified critical gaps in current emergency management practices but also outlined practical, innovative solutions. By fostering cross-sectoral partnerships and emphasizing the importance of inclusivity, data-driven decision-making, and proactive recovery processes, the workshop participants developed a clear pathway toward strengthening Canada's emergency preparedness and response systems.

## Recommendations

Building on insights from the Capstone Policy and the webinars, this section outlines a series of recommendations that support community resilience and empowerment while reducing demand for domestic operational support from the CAF. These recommendations are grouped into four main categories: knowledge sharing and collaboration, training and preparedness, leveraging Indigenous and non-traditional knowledge, and optimizing infrastructure and human resources.

### Develop a National Knowledge-Sharing Platform

To facilitate the exchange of best practices, lessons learned, and innovative strategies among emergency management professionals, a centralized platform should be developed, backed by the Government of Canada (GoC) and the Canadian Armed Forces (CAF). This recommendation builds directly on the insights from Webinar 1, which highlighted the importance of leveraging real-time and historical data for continuous improvement. Such a platform could integrate data from sources like the Canadian Disaster Database (CDD) and utilizes advanced situational awareness tools. By incorporating the perspectives shared in the capstone workshop, this platform would engage diverse stakeholders, including Indigenous communities, private sector partners, and civil society organizations. Such integration would promote a whole-of-society approach to building resilience, allowing communities to anticipate and prepare for disasters, ultimately reducing the frequency and urgency of Requests for Assistance (RFAs).

In-person training and hands-on learning opportunities should complement this platform. While the online platform can reach a broad audience, in-person sessions like those previously available through Public Safety Canada's Emergency Management School offer invaluable practical experience that cannot be entirely replaced by virtual training. Additionally, to address interoperability concerns, a standardized framework, such as ICS Canada, should be adopted nationwide. This would ensure consistent communication, collaboration, and alignment across emergency management entities.

### Conduct Regular Inter-Agency Drills

Drawing from the insights discussed in Webinar 3, regular inter-agency drills, including Tabletop Exercises (TTXs) and full-scale deployments, are essential for enhancing coordination across federal, provincial, municipal, and local levels. These exercises should ensure that all stakeholders—public, private, and volunteer sectors—understand their roles and responsibilities during emergencies. The importance of these drills was also emphasized in the capstone workshop, which recommended including civil-military coordination frameworks, reflecting successful international models like those from Sweden's MSB and FEMA. Joint training exercises should involve military, civilian agencies, and Indigenous communities to build trust, clarify roles, and improve communication. After-action reports should incorporate lessons on mitigation and building back better strategies, fostering a culture of continuous improvement.

**Leverage Non-Traditional and Indigenous Knowledge**

Webinar 2 focused on the integration of community resilience and empowerment, highlighting the need to leverage Indigenous and non-traditional knowledge in emergency management practices. Indigenous knowledge offers valuable insights into environmental stewardship and community resilience. Building upon the Inventory of EM Capabilities in Indigenous Communities, this recommendation encourages organizations to incorporate Indigenous knowledge into risk assessments, planning, and response strategies. This approach, which was also validated during the capstone workshop, enhances resilience while fostering a culturally relevant and inclusive emergency management system. Engaging Indigenous communities as equal partners ensures their experiences and insights are embedded in national and regional strategies, creating a more comprehensive understanding of local risks.

**Establish a National Volunteer Registry**

Canada's Humanitarian Workforce (HWF) program already plays a vital role in building surge capacity by funding NGOs such as the Canadian Red Cross (CRC), St. John Ambulance, the Salvation Army, and the Search and Rescue Volunteer Association of Canada (SARVAC) (Public Safety Canada, 2024). The program focuses on enhancing recruitment, training, and deployment capabilities for NGOs to respond to large-scale emergencies, reducing reliance on the Canadian Armed Forces (CAF). However, insights from the webinars on community resilience and the capstone workshop on optimizing human resources and volunteer interest highlighted the need for an even more comprehensive, integrated approach to mobilize volunteers across diverse sectors, regions, and expertise levels.

The proposed national volunteer registry would complement and expand upon the HWF program by creating a centralized platform that connects not only NGOs but also individuals and smaller community organizations with relevant skills and availability. This registry would incorporate and build on the existing HWF infrastructure, allowing it to integrate volunteer data from multiple sources and streamline the deployment process. This platform would ensure that all volunteers, whether affiliated with NGOs or independent, have access to training programs and opportunities to engage in both proactive disaster prevention and response efforts.

Unlike the current HWF program, which primarily funds NGOs, the national volunteer registry would also prioritize the inclusion of volunteers from remote, rural, and Indigenous communities, ensuring representation from diverse regions and community groups. This aligns with the capstone workshop's emphasis on building localized resilience through community engagement and the integration of non-traditional knowledge sources, fostering a whole-of-society approach to emergency management. By creating a broader, more inclusive platform, this registry would not only enhance the capacity of existing NGOs but also support smaller organizations and individuals, enabling a more coordinated and effective disaster response network across Canada.

Furthermore, linking the registry directly with HWF would allow for streamlined volunteer mobilization during Requests for Federal Assistance (RFAs), as discussed in the resilience-focused webinars. This unified approach would optimize the deployment of both civilian and NGO resources, enhancing Canada's overall emergency response capabilities by ensuring that surge capacity can be rapidly activated and scaled across all regions.

**Mainstream Climate Change into Emergency Management**

Climate change considerations should be mainstreamed into all aspects of emergency planning, extending beyond adaptation to fundamentally integrate a climate-focused approach. While many emergency managers might contest that this recommendation is necessary, meaningful climate science is fundamentally absence from emergency planning.

Mainstreaming climate change in this context includes proactive measures for climate resilience, integrating climate risk assessments into standard planning processes. Quebec serves as a model for climate-responsive emergency management, actively incorporating climate change risks into its policies. Emulating this approach across Canada would help ensure that emergency management frameworks are resilient in the face of evolving climate challenges, reduce likelihood of RFAs, and prepare Arctic communities for significant change.

**Engage the Private Sector in Resilience Building**

The private sector is a valuable partner in enhancing community resilience, especially through resource pre-positioning and business continuity planning. Encouraging more formalized partnerships with private entities, such as Walmart's approach in the U.S. Additionally, incorporating business continuity planning into audit processes and offering incentives for companies that engage in resilience-building can create a more resilient network of local businesses prepared to support communities during crises.

**Develop National and Provincial Preparedness Surveys**

This recommendation emerges from both Webinar 2's discussions on data-driven decision-making and the capstone workshop's emphasis on localized resilience strategies. National and provincial surveys should be conducted to identify vulnerabilities within each region, incorporating Indigenous perspectives and traditional knowledge to ensure a comprehensive understanding of local risks. The surveys would build on successful models like Prince Edward Island's Hazard Risk Assessments (HRA) to provide insights for developing targeted disaster preparedness plans. This approach empowers communities to create their own risk profiles, aligning with the Emergency Management (EM) Strategy's objective of fostering evidence-based planning and resilience-building.

**Enhance Arctic Crisis Management Through Infrastructure and Public-Private Partnerships**

Informed by the discussions in Webinar 4 on infrastructure challenges, this recommendation calls for a coherent national strategy that integrates military and civilian needs into optimizing Canada's crisis response. Public-private partnerships should be prioritized to address infrastructure needs, especially in remote or high-risk areas like the Arctic. For example, leveraging low Earth orbit (LEO) satellite constellations can enhance communications and situational awareness. The capstone workshop's focus on coordinated efforts across local, territorial, and federal governments further supports this strategy, ensuring that infrastructure projects are resilient, sustainable, and aligned with diverse community needs.

**Optimize Human Resource Management and Build CAF Reserve Forces**
Webinar 4 and the capstone workshop both emphasized the need for robust human resource management and reserve forces. Investment in human resources is critical for sustaining emergency management capabilities in Canada. This recommendation suggests efforts to increase the attractiveness of reserve service by removing barriers to entry and modernizing recruitment strategies. Establishing a national center for emergency management training would provide standardized, advanced programs for reserves, volunteers, and professional responders. The integration of civilian and military strategies, as highlighted in the workshop, would enhance cooperation and ensure the availability of specialized disaster response teams, aligning with international best practices seen in Sweden and the U.S.

**Create a National Center for Disaster Management Lessons Learned**
Canada already has a foundational system in place with the Defence Lessons Learned System (DLLS), which supports the Department of National Defence (DND) and Canadian Armed Forces (CAF) personnel in managing lessons learned (LL) and promoting an organizational learning culture (Government of Canada, 2022). The DLLS, with its robust toolset, consolidates LL information, enables analytics, and supports sharing across DND and CAF. However, insights from the webinars, particularly those on continuous improvement and data analytics, as well as the capstone workshop on building community resilience, highlighted the need for a more integrated and inclusive system that extends beyond military applications.

Building on DLLS's existing infrastructure, an expanded National Center for Disaster Management Lessons Learned could capture and analyze data from all sectors—military, civilian, Indigenous, and private—ensuring that lessons learned are shared and applied across diverse emergency management contexts. This recommendation reflects the need identified during the webinars for a unified approach to knowledge sharing and real-time data utilization, integrating the experiences of all stakeholders to foster continuous improvement and resilience.

The capstone workshop emphasized the importance of cross-sector collaboration and the integration of community-based insights into national strategies. By broadening the DLLS to serve civilian agencies and emergency management partners, the system would bridge military and civilian responses, creating a cohesive platform for collaboration. This approach ensures that lessons learned from various emergencies—ranging from natural disasters to public health crises—are accessible and actionable for all involved, aligning with the project's emphasis on whole-of-society preparedness.

Moreover, the expanded center would focus on evaluating long-term recovery and resilience strategies, in line with the "building back better" concept discussed in the workshop. This aligns with international best practices and provides guidance for continuous improvement, ensuring that comprehensive lessons learned contribute to a more resilient and prepared Canada. By integrating findings from various stakeholders, including Indigenous communities, private sector partners, and local governments, the center would embody the holistic approach to emergency management championed throughout the project.

## Limitations

In preparing this report, several limitations were encountered that may affect the overall scope, depth, and applicability of the findings and recommendations. Firstly, the time constraints of the project limited the breadth of stakeholder engagement, resulting in some key perspectives, particularly from smaller, remote communities, potentially being underrepresented. This may lead to certain regional-specific challenges or best practices being underexplored.

One significant limitation is the limited representation of municipal and frontline emergency managers in the stakeholder engagement process. Greater engagement with this level of emergency management could enhance the report's practical relevance, as municipal and frontline managers often bring critical, hands-on insights, particularly regarding volunteer management and community empowerment—issues that are integral to effective emergency response but may be underrepresented in broader discussions.

Another limitation lies in the availability and variability of data. While efforts were made to incorporate diverse sources, some data, particularly concerning Indigenous and rural communities, was either outdated or inconsistent across regions. This inconsistency may impact the accuracy of some comparisons and insights presented in the report. Furthermore, reliance on secondary data and literature presents additional challenges, as some areas of emergency management, like inter-jurisdictional coordination, are rapidly evolving, making it difficult to capture the most current practices or policies.

Additionally, the report was limited to insights derived from four webinars and the capstone workshop. While comprehensive, these events may not fully encapsulate the complexity of Canada's emergency management landscape. The perspectives discussed were influenced by the expertise and focus areas of the panelists, which might not comprehensively represent all stakeholders within Canada's emergency management ecosystem.

The capstone workshop methodology limited data collection during group discussions due to the approach used. Instead of having dedicated scribes at each table, only one scribe rotated among the tables. While participants were encouraged to take detailed notes, particularly on substantive discussions, this arrangement may have led to certain details or important points being missed, especially those discussed at a more granular level. This limitation may impact the comprehensiveness and accuracy of the workshop insights reflected in the report.

The content is also limited by reliance on existing literature and frameworks, some of which may not fully align with the unique challenges posed by Canada's changing climate and evolving risk landscape. Additionally, while comparisons with international civil defense models are informative, they may not fully account for the distinct legal, geographical, and cultural contexts that shape emergency management in Canada.

Finally, the recommendations provided, while informed by expert opinions and best practices, are constrained by the lack of granular, region-specific data. They should be viewed as high-level strategic suggestions rather than prescriptive solutions that account for the nuanced realities of

each province or community. Further research and localized engagement are needed to validate and refine these recommendations, particularly with more extensive involvement from frontline managers and community leaders, ensuring they are tailored and feasible for implementation across Canada's diverse contexts.

## Conclusion

This report, funded by the 2024 Mobilizing Insights in Defence and Security (MINDS) program and led by the *Canadian Journal of Emergency Management* (CJEM), highlights the urgency and complexity of enhancing Canada's emergency management framework amidst the growing threats of climate change and evolving disaster cycles. By synthesizing insights from targeted webinars and a comprehensive capstone workshop, the report not only addresses critical gaps in Canada's current emergency management strategies but also proposes actionable recommendations to foster resilience and preparedness across the nation.

Throughout the project, it became evident that each region of Canada possesses unique capabilities and challenges. The wide-ranging discussions and expert input underscored the importance of a whole-of-society approach—one that integrates federal, provincial, municipal, Indigenous, private, and civil society efforts to create a cohesive, effective response system. The report's recommendations aim to bridge these diverse perspectives and build a more unified national strategy that reflects the needs and realities of Canada's varied communities.

Central to the findings was the recognition that inter-agency collaboration, data sharing, and proactive planning are essential components of an effective emergency management system. The emphasis on developing a national knowledge-sharing platform and conducting regular inter-agency drills highlights the need for a culture of continuous improvement, supported by real-time and historical data integration. Such strategies aim to mitigate the reactive nature of disaster response by embedding proactive resilience-building measures into everyday practice, ensuring communities are better prepared for future emergencies.

Equally important is the role of Indigenous and non-traditional knowledge, as reflected in both the literature review and the discussions in the webinars and workshop. By leveraging these insights, Canada can build a culturally relevant and inclusive emergency management system that respects and integrates the experiences of Indigenous communities. This not only enriches the national strategy but also fosters trust and collaboration, ensuring that all voices are represented in emergency planning and response.

The report also addresses the limitations inherent in the current frameworks and suggests enhancements that build upon existing programs, such as the Defence Lessons Learned System (DLLS) and the Humanitarian Workforce (HWF) program. By expanding these platforms to be more inclusive of civilian and Indigenous insights, and by creating a national volunteer registry that complements and builds on the HWF, the recommendations aim to optimize Canada's emergency management capabilities while ensuring diverse representation and localized engagement.

Ultimately, the findings and recommendations emphasize that enhancing Canada's emergency preparedness is not solely about refining protocols or building infrastructure; it is about fostering partnerships, building community trust, and integrating a wide range of knowledge sources. The path forward requires a collaborative and inclusive approach—one that brings together all sectors of society to anticipate, prepare for, and respond to emergencies in a coordinated, effective manner.

In conclusion, while the report outlines strategic, high-level suggestions, it also calls for continued research, localized engagement, and iterative refinement of strategies to ensure that Canada's emergency management framework is not only robust but also adaptable to the changing climate and risk landscape. The recommendations serve as a roadmap for building a resilient, integrated, and inclusive emergency management system that aligns with both national priorities and local needs, paving the way for a safer and more prepared Canada.

**Appendix A: Research Questions from the Department of National Defence and Corresponding Policy Recommendations**

| # | Research Question | Corresponding Policy Recommendation[4] |
|---|---|---|
| 1 | How can P/Ts most effectively use federal and external resources such as the CAF, foreign emergency responders, etc.<br><br>• How could P/Ts develop improved processes or agreements to facilitate the use of civilian resources in cases of emergency, and resort to CAF as force of last resort? | Establish or enhance a National Volunteer Registry<br><br>Conduct Regular Inter-Agency Drills<br><br>Optimize Human Resource Management and Build CAF Reserves |
| 2 | We would benefit from detailed and comprehensive analysis of the differences and capabilities inherent to individual PTs, delineating the unique aspects and functionalities of each jurisdiction.<br><br>Additionally, understanding the specific support needs of various PTs and how they might marry with the capabilities uniquely available within the CAF, ensuring optimal preparedness and alignment of expectations before CAF arrival.<br><br>Related to this – what resources might the PTs possess that could be shared between PTs. | Develop National and Provincial Preparedness Surveys<br><br>Enhance Arctic Crisis Management Through Infrastructure and Public-Private Partnerships<br><br>Conduct Regular Inter-Agency Drills |
| 3 | What factors influence a reliance on the CAF in emergencies and how can civilian capacities improve to better meet anticipated needs for disaster management? | Establish or enhance a National Volunteer Registry<br><br>Develop National and Provincial Preparedness Surveys<br><br>Create a National Centre for Disaster Management Lessons Learned<br><br>Conduct Regular Inter-Agency Drills |

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[4] Note that policy recommendations may address some but not all of the components of the research questions, or may address them indirectly.

| # | Research Question | Corresponding Policy Recommendation[4] |
|---|---|---|
| | | Leverage Non-Traditional and Indigenous Knowledge |
| 4 | Comprehensive examination of best practices for PTs before, during and after the submission of a Request for Federal Assistance (RFA).<br><br>• What strategies can be implemented to improve CAF ability to respond effectively from the moment an RFA is received to CAF's arrival on-site?<br><br>• How can PTs better prepare prior to the CAF's arrival on site?<br><br>• How can we effectively assess the evolving situation during this period to determine the necessity and extent of CAF's involvement?<br><br>• How do we accurately evaluate whether CAF involvement is still required after arrival at the given location, in the continuously evolving context? | Develop a National Knowledge-Sharing Platform<br><br>Conduct Regular Inter-Agency Drills<br><br>Establish or enhance a National Volunteer Registry<br><br>Optimize Human Resource Management and Build CAF Reserves<br><br>Develop National and Provincial Preparedness Surveys |
| 5 | How can we enhance collaboration through clear protocols and coordination between various agencies?<br><br>• What are the current challenges and barriers between effective collaboration between agencies in our existing framework?<br><br>• How can technology be leveraged to facilitate better communication and information sharing between civilian agencies, PTs, and the federal government?<br><br>• How can effectiveness of these new protocols and coordination efforts be measured? | Conduct Regular Inter-Agency Drills<br><br>Enhance Arctic Crisis Management Through Infrastructure and Public-Private Partnerships<br><br>Optimize Human Resource Management and Build CAF Reserves<br><br>Develop a National Knowledge-Sharing Platform |
| 6 | Review of legal and regulatory frameworks to examine options which would incentivize P/Ts to increase capacity and capability to manage emergencies autonomously. | N/A |
| 7 | Comprehensive analysis of various international civil defence forces, focusing on those models that would be most suitable for adaptation within the Canadian context. | Leverage Non-Traditional and Indigenous Knowledge<br><br>Establish or enhance a National Volunteer Registry |

| # | Research Question | Corresponding Policy Recommendation[4] |
|---|---|---|
| | • How do these models integrate existing national defence and emergency response teams? <br><br> • What are key differences in terms of structure, funding and mandate between these models and the current Canadian system? <br><br> • How can a chosen model be tailored to the geographical, social and political landscape of Canada? | Develop National and Provincial Preparedness Surveys <br><br> Enhance Arctic Crisis Management Through Infrastructure and Public-Private Partnerships <br><br> Optimize Human Resource Management and Build CAF Reserves |

**Appendix B: Table of Deliverables Pursuant to Agreement 23-2-58**

Pursuant to Agreement 23-2-58 paragraph 5.4, the Recipient must provide a final report to DND with the following information:

| Subpara | Deliverable required in Report | Result |
| --- | --- | --- |
| A | How the project furthered the public policy debate on MINDS' Defence Policy Challenges and/or the developed focus questions. | The report directly responds to numerous focus questions as clearly laid out in the report. |
| B | The number of officials from DND and CAF engaged by the Project. | 14 out of 56, including two ex-CAF personnel. |
| C | The number and names of domestic and international experts associated with the project. | Clearly laid out in the report. |
| D | A financial statement indicating how the grant funding provided by DND to the Recipient was used, as well as any other sources of revenue and expenses for the project. | See Appendix C. |
| E | Any media interaction, including publications. | None at this time. |
| F | A list of all publications arising from the project, as well as anticipated completion/publication dates. | At this time, the Recipient's project team is re-writing this program report to submit and potentially publish in the *Canadian Journal of Emergency Management* (CJEM), in Q1 or Q2 2025. No other information has been published at this time.<br><br>Some webinar recordings have been made public through social media and mailing lists.<br><br>CJEM submitted one briefing note to DND after each webinar, for a total of four. Those documents are internal and interim, replaced by this report. |

**Appendix C: Program Financial Statement**

| Conference/Workshop Costs | Program Budget | Actual | Actual Variance |
|---|---|---|---|
| Travel including round-trip transportation, accommodation, meals, and incidentals, per NJC. | $9,662.50 | $6,106.39 | $3,556.11 |
| Non-Administrative Salary - Facilitator | $2,000.00 | $2,000.00 | $0.00 |
| Conference room rental and catering per NJC. | $9,000.00 | $5,758.79 | $3,241.21 |
| Promotional Materials | $9,750.00 | $10,483.20 | -$733.20 |
| Print translation services | $10,000.00 | $4,187.24 | $5,812.76 |
| Research Assistant Wages | $3,760.00 | $3,750.00 | $10.00 |
| Administrative Assistant Wages | $3,760.00 | $3,750.00 | $10.00 |
| Miscellaneous funding | $2,024.00 | $620.31 | $1,403.69 |
| **Grand Total** | **$49,956.50** | **$36,297.22** | **$13,659.28** |
| **Percent of Budget** | 100.0% | **72.7%** | *27.3%* |

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