

Disaster Proofing Canada – Preparedness for Parliamentarians

February 2, 2017

Sir John A Macdonald Building

9:25 am: Disaster Proofing Canada: Primer

Speaker: Paul Kovacs, Executive Director, Institute for Catastrophic Loss Reduction

- Overview of disasters, catastrophes and hazards:
 - Catastrophes = cost 2% of GDP, 0 so far in Canada
 - Disaster = between .2% and 2% of GDP, 15-25 each year
 - Hazard = damage less than .2% of GDP, 1000s each year
- Canada does less to reduce the risk of disaster damage than other countries – Japan and New Zealand
 - Disaster damage is rising in Canada; efforts can reduce losses
 - Japan is doing the most —> Japan takes disasters seriously given its vulnerability
 - NZ is also emerging as a leader
 - Disaster claims paid by Canadian insurers is increasing; the trend line is discomfoting
- What can Canada do to reduce the risk of hazards becoming disasters?
 - Understand the risk: understand the science of the hazard and also why some hazards become disasters and why some do not; example Fort McMurray —> embers scattered and some homes were burned and others were not
 - government process is complicated
 - disaster response - clear local, provincial, federal chain of action - this is how we should respond
 - Invest in risk reduction
 - Build back better - international discussion: Canada must respond and rebuild; the global discussion has recently put more international attention on improving through rebuilding; specifically taking action to prevent other disasters

9:45 am: Session 1 - Acts of Nature and Our Response

Moderator: David Perry, Senior Analyst, Canadian Global Affairs Institute

Speaker: Rear Admiral J.R. Auchterlonie, Deputy Commander of the Canadian Joint Operations Command

- CAF has done 12 major operations since 2009 in disasters; who pays for these operations?
 - DND tracks operational expenses but Treasury board manages the money issue, including cost recovery where appropriate
- Roles and responsibilities
 - Public Safety Canada coordinates at the federal level
 - Objective: protect province and municipality
 - Unique enablers: provide logistics, communications, medical facilities, engineers, surveillance, and general duty
 - Network of actors: not just east-west; international, north-south approach

Speaker: Conrad Sauvé, Chief Executive Officer Red Cross

- Lessons learned from Fort McMurray
 - Red Cross is all about helping the people during the recovery process
 - Innovation in crisis: digital registration; digital cash transfer set up
 - Canada has a robust capacity to raise money, Red Cross key in this transfer
 - The ability to have a direct relationship through technology enabled Red Cross to understand people's needs
 - When Red Cross raises the money on behalf of everyone, the responsibility is to i) help people directly who are evacuated; ii) 50M for local organizations; iii) 2.4M into food banks; iv) long term program
 - Coordination is key
 - Importance of registration; one-channel approach; complementary role of the Red Cross
 - Canada must respond fast to emergency, but also focus on the 'recovery' phases afterwards

Speaker: Ginny Flood, Vice President, Government Relations, Suncor

- Events of Fort McMurray fire
 - May 3 - 80k evacuated, May 4 - 20k hectares burned, May 8 - 590k acres forest burned; no casualties aside from 1 traffic accident
 - Canada needs to be looking at this when it comes to prevention for remote communities
 - Fort McMurray had the industry and the infrastructure and facility equipment to fight the forest fires
- Why no deaths?
 - Safety culture - permeates throughout industry; by the time we had the response and the planes at the federal level, most of the industry had evacuated most people
 - Collaboration between private, public and non-profit sector; network / multi-faceted approach; difficulty: understanding all the different roles
 - Role of media: how do you contact and stay in touch with employees? Social media (facebook, twitter, other methods) helped improve on what a news release cannot achieve
 - Also, working with various organizations. People want information - how to make sure people get the right information, this is a coordinated effort

11:30 am: Session 2 - Cyber threats: Vulnerabilities and Solutions

Remarks: Dr. Roseann O'Reilly Runte, President and Vice Chancellor, Carleton University

Moderator: Colin Robertson, Vice President, Canadian Global Affairs Institute

Speaker: General (Rtd), Michael Hayden, former Director of the CIA and National Security Agency

Speaker: Richard Fadden, former National Security Advisor, Deputy Minister of Defence and Director of the Canadian Security Intelligence Service

- Cyber threat is a sub-set of a much bigger, i.e. global problem
- Moderator: Where will you place Canada and the U.S. in terms of tackling cyber threats?
 - Mr. Hayden: highlights various sectors within the US and Canada that better handle cyber threats, including the financial sector (that, however, needs to be more outward-facing; they need to realize that they require this interconnectivity but also must protect themselves from its threats)
 - For day to day operation of cyber security, the federal government cannot in isolation handle the compounding challenge.
 - Most of the innovation - technological and entrepreneurship - lies in the private sector. The Canadian government must understand that they need to re-adjust their role and align themselves with the private sector –this is fundamental to tackle the cyber security challenges
 - With regards to policies on cyber dimensions – all previous U.S. Presidents have had a variety of ways of dealing with this. President Trump will highlight the necessity of having a powerful private sector play a role in this. President Trump understands the merits of the private sector and this may fit the cyber security needs quite well
- Which country is doing the best in terms of cyber security? The more totalitarian a country the better it does in dealing with this issue – North Korea, China,
- Moderator: How to make the internet more secure while reaping the benefits that it has to offer?
 - Mr. Hayden: Build a fair amount of security around it and accept the role of the government as an enabler and collaborator with the private sector
- Moderator: Who are the threat actors?
- Mr. Fadden:
 - States
 - Criminals
 - Hack activists
 - Terrorists
- Moderator: Who are at threat?
- Mr. Fadden:
 - Governments – the most severely affected
 - Private sector
 - civil society
 - individuals
- Moderator: What should the government and private sector be focusing their attention upon?
 - The federal government needs to adopt a national framework addressing this growing threat
 - The government finds it difficult to share classified info with the private sector; so, this must change and information sharing must take place between both sides
 - Develop a framework requirement; put a system, structure in place so that those affected by the threats report it; shared responsibility b/w public and private sector

- Moderator: Are there any norms or standards for cyber security in Canada?
 - Mr. Fadden: This varies from sector to sector (tele-communication, nuclear, financial). The financial sector has standards, the nuclear sector has it but whether they are qualified, it's hard to say – information about it needs to be shared broadly to understand the level of threat
- Moderator: Should the private sector take the lead?
 - Mr. Fadden: Yes, but government needs to undertake a collaborative/coordinating approach with various sectors within Canada
 - Information sharing sector needs to be developed
 - The federal government can learn from the private sector
- Moderator: Any advice to parliamentarians in terms of establishing norms to succeed in tackling these threats?
 - Mr. Fadden: The Senate should hold hearings and understand what's going on in both the private and public sector. They must gather information and synthesize this information in clear and concise reports. The need is also to engage the Canadian provinces
- Moderator: Should we be thinking of intellectual property rights when expanding our relationship with China?
 - Mr. Fadden: We can't ignore China. We have been engaging with it on various aspects. Though, we must gauge what they want from us, and what we need from them. Yes, we should raise the issue of cyber with China but Canadian leadership may not, and so we must raise this issue with more like minded states

Questions and Answers:

- 1) Can classified information be shared with the private sector?
 - Yes, you can definitely share classified information with the private sector. The government does not need to build an entire new service. It can be done through issuing security clearances. The government must therefore just broaden the extent of giving security clearances
- 2) With regards to international cooperation and standards on cyber security, is there a possibility to collaborate with Russia and China?
 - First, it is important to establish acceptable and unacceptable behavior re: cyber security
 - Begin by collaborating with like-minded forces – talk to Canadians – build a national consensus – ensure that our national understanding of what a normative world should be like
 - Collaborate with the British and the Australians since we have common views – begin with normative discussions
 - Then scale up to the G7 countries
- 3) What's the role of the UN so far in the norm setting agenda?
 - Work has been done by the UN
 - Laws of armed conflicts have been transferred to the cyber domain in way that are compatible and credible
 - But you must try hard to make all the members of Security Council agree – this often takes a lot of time

1:30 pm: Session 3 - Lessons from Abroad

Moderator: Susan Harada, Associate Director of the School of Journalism and Communications, Carleton University

Speaker: Phillip Gibson, New Zealand Special Envoy for Disaster Risk Management and Special Advisor and Director Christchurch for the Ministry of Foreign Affairs and Trade

- Disaster response must be linked within communities, insurance sector, internationally
 - In NZ, insurance has been a powerful tool
 - Disasters know no boundaries
- Role of CAN in NZ earthquake
 - Canada immediately dispatched assistance, including ship
- NZ environment: friendly, stable - but sit on tectonic plates - “hazard prone country”
 - The risk of disasters is thus high
 - The concept of disaster risk management has been taken very seriously
 - Based on the 4 R’s: reduction, readiness, response, recovery (same as CAN prevention, preparedness, response and recovery)
 - It is critical to understand the hazards to manage risks; NZ has put emphasis on managing the risks, more than managing the response itself
 - 4 R’s: continuously inform each other
 - Recovery does not just happen at the end. It must start at the beginning and be continuous. Recovery phase: opportunity to improve readiness for the next time. This is a dynamic, ongoing interlinked cycle
 - In NZ, government and organizational approach to DR management, it is about recognizing and putting responsibility on the local level (BOTTOM UP approach) — act locally, coordinate regionally, support nationally
 - This bottom-up approach is consolidated in legislation; act local and coordinate regionally
 - Legislative authority behind this approach
 - This approach recognizes the reality that it is about communities
 - Critical importance of recovery - we must PLAN for recovery; recovery begins in the planning phase
 - National legislation on recovery and disasters has been amended to strengthen the recovery conditions. This requires a stronger legislative authority - and a requirement to prepare and plan for recovery well in advance of an emergency.
- Role of the private sector:
 - A fundamental driver of community
 - There is a mutual benefit to be realized between the private sector and the community
 - The earthquakes in NZ underscored just how important the private sector is
 - Immediate and devastating result of earth quake was shutdown of many businesses
 - Objective: to keep people employed and businesses running
 - Private sector has responsibilities — nationwide, companies must fund the resilience of NZ (leadership from the private sector)
 - Increasingly, government is looking to the private sector to see if there are private sector practices and technology that can assist in the approach to DR management

Speaker: Kimio Takeya, Distinguished Technical Advisor to the President, Japan International Cooperation Agency, and Visiting Professor, Tohoku University, International Research Institute of Disaster Science

- In Japan, more than 50% of the population lives in the flood plain; more than 75% of whole asset in flood plain - this is their main concern
- More than 4M living in flood protected situation
- Disaster, response, recovery, prevention, preparedness
- Prevention investment is much cheaper than recovery for Japan
- Economic development hurt by disaster; use disaster as a trigger to “build back better”
- Holistic approach to flood control
 - Structural measures (basic) and non-structural measures (re-forestry, appropriate land use, flood proof life style, flood forecasting, early warning, evacuation, insurance, business continuity, society) from risk mitigation to risk transfer
 - build country safe and resilient
 - carefully use the word “resilient” - resilience means you are hit and then respond; safety is much different
- Targets to protect:
 - Access to information, international cooperation, national and local strategy
 - Mortality, affected people, damages to critical infrastructure
 - Reduce economic loss
- Focus: reduce the economic loss; then damage to critical infrastructure, then affected people, then mortality
- Move the humanitarian issue to the development issue in order to get funding, especially in some developing countries
- Importance on building codes and preventative measures

Panelist Answers:

- Building resilience - NZ has been a good ground for politicians to try new things.
- Shakes in Wellington - people are nervous because they know what happens, projects to strengthen masonry on buildings through government subsidizing, etc.
- Regarding funding - a lot of government support comes via insurance and a government scheme attached to private insurance – a percentage of insurance goes to the government which pays the first \$100,000 which helps insurance industry
- Japanese leadership in the world: important as they provide knowledge, lessons, strategies and financial backing. Other nations may be wealthier, but conceptually the East Asian countries ‘get it’. There is real leadership from South Pacific and East Asian linking climate change to DR. Incrementally, the international community is moving in the right direction

3:15 pm: Session 4 - Preparing for What's Next

Moderator: Stephanie Carvin, Assistant Professor International Relations at the Norman Paterson School of International Affairs, Carleton University

Speaker: Marc Fortin, Assistant Deputy Minister (Science and Technology), Defence Research and Development Canada

- Defence Research and Development Canada provide knowledge and solutions to Public Safety Canada and the public safety and security community
- Centre for Security Science key piece providing advice, expertise and services
- Partnerships with Canadian industry, universities and allied defence S&T organizations
- Critical infrastructure work
- Long history of work with first responders
- Supporting local communities
- Communicating risks and uncertainties is a real challenge

Speaker: Chris Pogue, VP Public Safety and Security Solutions, General Dynamics Mission Systems-Canada

- First responders need to have digital technology all the time
- Smart phones have better capabilities than technology often available to first responders but commercial networks unreliable causing lack of or mis-information
- General Dynamics trying to close technology gap using military type communications protected from interference and cyberattacks
- Shield Ecosystem – gives first responders secure and dedicated versions – connect to a secure, dedicated wireless broadband network integrated with public safety and security dispatch systems and sensors – replace traditional radios used by police, firefighters and paramedics with digital communication devices loaded with specific safety and security applications – links emergency responders with data sources

Speaker: Eva Cohen, Special Advisor Volunteer Civil Protection, RSC Strategic Connections

- Canadian Emergency Volunteer Agency
- Canada needs a national agency providing infrastructure and technical support for first responders targeting and involving citizens, youth, indigenous communities, veterans and private sector
- Based on Germany's THW Principles: Humanity, Solidarity, Teamwork; nothing similar in Canada; all municipalities need standardized equipment; same model can be replicated here
- Could help with bridge building, water purification and supply, demolition and debris clearance, infrastructure repair, urban search and rescue, communications, logistics, water hazards, cleaning up oil pollution, and flood relief
- Investing in people is the best way
- How can we create a local asset? We need political leadership to create this
- Important way to build resilience in communities

4:15 pm: Session 5 - Lessons for Members of Parliament and Summary

Moderator: Maureen Boyd, Director, Carleton Initiative for Parliamentary and Diplomatic Engagement

Speaker: Rodger Cuzner, M.P. Cape Breton-Canso

- Cape Breton suffered flooding Thanksgiving of 2016
- Federal government role: must wait to be contacted by the province to bring in the CAF or what types of services the federal government may be able to provide
- Federal and municipal response: In Newfoundland in 2006, sections were lost in the Trans Canada Hwy; one of the sections in the emergency disaster relief fund specified if infrastructure is replaced, one cannot upgrade – same section failed again. Lesson: one has to use the opportunity to upgrade infrastructure (build back better)

Speaker: Nicholas Le Pan, Author, and Senior Fellow, C.D. Howe Institute

- Canada is totally financially unprepared for an earthquake
- Few principles learned from the financial sector: ensuring that a disaster does not spillover
- The insurance industry is ready to handle 30B in claims. What does that number mean? a 1.5 year bandage. Having adequate insurance coverage is key — southwest BC, you have 60-70% coverage. Ontario, QB, Ottawa has about 20% covered
- Systemic financial risk if the event is big enough, the failure of a few companies spills over to others. If the event is big enough, imagine the domino effect - happens with a low probability but high impact event
- Private sector cannot always handle these disasters; insurance failures can happen; thus the government should provide a back stop for events like this. There is a case for doing this in advance
- Provincial issue: insurance coverage in Quebec, Montreal, Ottawa – what is the problem? Federal government and provinces should make more information available so people can make more educated and informed decisions regarding insurance.

Speaker: Don Forgeron, CEO of Insurance Bureau of Canada

- Role of industry: clarify what it can and cannot do; studies show that when private sector and insurance is involved the damage is lessened and recovery is faster
- Government role: must define the roles all levels of government must play - flood mapping, building codes, etc. it is not a question of will it happen, it is a question of when
- We need cultural readiness; must convert those who have the capacity to effect change
- Physical and financial preparedness: pockets of success where good work is being done; tremendous work in Alberta but it is “time for leadership and action”
- Role for the federal government to play a coordinating role to encourage those who are willing to take the leadership role to come together and move from beautiful plans into action
- The notion of “making it up after the fact” is how Canada has done things in the past
- Canada has an opportunity to do something thoughtful in advance, and the benefits are significant. This cuts in half the cost of GDP loss over the long term