Canadian Risk & Hazards Network
(Knowledge and Practice)

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Réseau canadien d'étude des des risques et dangers
(connaissances et pratiques)

HazNet

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WELCOME FROM THE CO-PRESIDENTS

Welcome to this edition of HazNet.

The Chinese philosopher Lao Tzu reputedly stated that "the journey of a thousand miles begins with one step". Like you, I can relate. Many projects were often started with much trepidation about their magnitude, direction, potential outcome, or implementation process. But then, through solid planning, determination, and courage (to face the risks), they were completed … often, one step at the time.

An example of this approach was recently illustrated by the village of Cumberland, located on British Columbia's Vancouver Island. This small village decided to dedicate the fall/winter issue of its quarterly magazine – Cumberland Now, to emergency management. From the start, Cumberland decided that it would create a publication that would be circulated to municipal officials across BC, and possibly Canada, to assist them to better understand emergency management, and thereby better prepare for disaster.

Cumberland reached out to the academic and practitioner community, and through voluntary effort by numerous authors created a 'masterpiece'. In fact, their recently published magazine was so successful that over 35,000 hard copies were printed and distributed. Additionally, an electronic version of the magazine (now on the CRHNet website) has been an unimagined success. Numerous agencies and organizations across Canada have already snapped the opportunity to distribute the freely-available magazine to their own stakeholders – students, staff, practitioners and the public. The magazine was also a hit on the international front, and will soon be distributed by the UN PreventionWeb throughout the globe!

Emergency management practitioners have much to learn from the effort of the village of Cumberland. We *can* 'move' or influence the world around us, even by the undertaking of what may seem like small or insignificant steps. "Success" then, is often determined as much by our willingness or courage to take the first step, as it is by the outcome of our actions. If done well, our "success" (e.g., products, systems, procedures, models, organizations, etc.) are likely to be taken by others who would build-upon, integrate, or adapt the outcome of our actions to make further advances in knowledge and practice. Invariably too, our greatest successes are often achieved through teamwork.

CRHNet is proud to have contributed to Cumberland's 'little project'. We believe that disaster risk reduction and emergency management would benefit greatly from the growth of related knowledge and the enhancement of collaboration among its stakeholders. CRHNet continues to serve to facilitate these goals. Become a part of its growing and active 'network', and enhance your professional/academic capacity. We welcome your participation and input.

Ron Kuban and **Ernie MacGillivray**,
CRHNet Co-Presidents

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NOTE FROM EXECUTIVE DIRECTOR

Greetings and a warm welcome to current and new members of the Canadian Risk and Hazards Network to the 6th edition of *HazNet*.

It has been a busy time since the last edition of HazNet. The 8th CRHNet Symposium took place in Ottawa at the Delta Ottawa City Centre Hotel from October 19-21 2011. The attendance was quite good and a number of government officials were able to attend both the Symposium as well as the National Platform for Disaster Risk Reduction (NPDRR) which was held in conjunction with the symposium on October 18 2011.

The NPDRR was opened by Honourable Vic Toews, Canada's Minister of Public Safety. The logistics and administration was ably provided by the National Research Council and in particular Michele Bourgeois-Doyle and her staff - Many thanks to them all for a sterling job.

The excellent program was overseen by Tony Masys, Centre for Security Sciences and Louise Lemyre and Tracy O'Sullivan, Ottawa University. It was varied and of interest to many and attracted a

number of presenters not the least of which were a number of graduate students who added youth and enthusiasm and a fresh approach to the proceedings. Additionally, it would be remiss not to mention the leadership and support provided by Mark Williamson and Ahmad Khorchid, Centre for Security Sciences and Dan Hefkey, Commissioner of Community Safety, Ontario. Copies of the presentations can be viewed at www.crhnet.ca/symposium 2011.

Having said that, see the notice on page 17 under "Just Around The Corner" for the upcoming 9th CRHNet Symposium which will be held in the heart of downtown Vancouver at the Sutton Place Hotel October 24-26, 2012 and visit www.crhnet.ca/annualsymposium for details on the Call for Abstracts and information on the Symposium theme for details. **PLEASE** check it out and don't miss out on this great symposium! Come on down and join us in Vancouver, a memorable city, a city you'll never forget!

Once again, as occurred last year, the NPDRR will be held in conjunction with CRHNet symposium on Tuesday, October 23 2012, preceding the symposium. Registration is open to everyone and complementary – it will be live on the CRHNet website by the end of March 2012. In addition, the *Senior Officials Responsible for Emergency Management* will hold their annual meeting on the Monday October the 22nd also at the Sutton Place Hotel.

I used to say that CRHNet was a mystery to many but over the last year it has begun to resonate with officials from a number of agencies who are involved in risk management and this is in no small way, due to the efforts of the Board of Directors and their leaders Ron Kuban and Ernie MacGillivray.

Yours truly continues to promote the Network and will once again plan to go to Ottawa to the CRTI Summer Symposium and other conferences to ensure that the "CRHNet Banner" is front and centre and to promote the upcoming 9th Symposium. In addition I continue to sit on the Organizing Committee to plan for the next *Hazards and Risks Land-Based User Guide Workshop* and the *Land Use Simulation Exercise* scheduled for later this spring at Justice at the Justice Institute of BC in New Westminster.

Membership! The more the merrier they say - there is a continuing need to increase our membership, one that requires all of us to urge our colleagues to join CRHNet. More students need to come on board and help us in our mandate to build resilience into our lives and into our communities. Let's face it, although we have made strides in reaching some critical corporate members more needs to be done. I hasten to say that CRHNet members receive a sizable discount on symposium registration. Therefore, if you are not yet a member, don't delay! Please join and save your money and support the Network. Membership can be obtained on line by visiting www.crhnet.ca/membership.

I once again wish to direct your attention to our Emergency Management Text Book, a work created covering many aspects of Emergency Management. The Text Book is now posted to our site on the home page left column.

HazNet - if you like it let me know! If you wish to contribute let me know! Much of my time and energy is spent putting together something that I hope we all endorse and are proud of being a part of. Be that as it may, I can't do it without your support, so keep the articles and ideas coming.

Finally, a slightly modified Irish prayer: "May the road always be downhill, and the wind always at your back and may God smile kindly on your face and; may you be in heaven half an hour before the devil knows you're dead!"

Larry Pearce
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What's Up in the Research World?

BUILDING COMMUNITY RESILIENCE THROUGH HAZARD MITIGATION

By: **Ken Topping, FAICP**

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Over a decade ago, the United States Congress passed the Disaster Mitigation Act of 2000 (DMA 2000), which required local governments to prepare local natural hazard mitigation plans before receiving federal mitigation project grants. While the U.S. differs in disaster management laws and policies, a decade of experience under this law may be of interest to both emergency managers and city planners in Canada.

With DMA 2000, Congress reasoned that local governments would achieve better results with federally funded mitigation projects formulated as part of a community plan. Prior mitigation laws included the National Flood Insurance Act of 1968, which provided federally-backed private flood insurance accompanied by flood plain mapping and community flood mitigation incentives, and the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 (Stafford Act), which introduced federal hazard mitigation grants.

An aim of DMA 2000 was to reduce repetitive disaster costs by building local government capacity to undertake effective mitigation. A growing volume of losses from natural disasters over preceding decades had underscored the need for such a law. This was paralleled by realization that hazard mitigation was a good investment. A study by the Multihazard Mitigation Council of mitigation projects completed between 1993 and 2003 revealed mitigation that four dollars in disaster losses were avoided for every dollar invested.

What is Mitigation?

Mitigation is one of four elements of disaster management, others including preparedness, response, and recovery. Mitigation is defined by FEMA as "sustained action to reduce or eliminate long-term risk to human life and property from natural and human-caused hazards." True mitigation requires systematic, planned alteration of the built environment to reduce vulnerability and ensure community resilience.

In newly developing areas mitigation examples include measures such as:

- Adoption of modern building codes;
- Design of new subdivisions to avoid flood and landslide zones; and
- Minimizing residential densities in wildland-urban-interface (WUI) areas.

In existing communities mitigation examples include measures such as:

- Structural retrofits to reduce earthquake damage;
- Remodeling of homes in a manner which minimizes wildfire ignitions; and
- Elevating existing structures above flood levels.

Mitigation should happen before disasters in order to minimize avoidable losses and to reduce response and recovery costs. Preparedness includes measures such as drop-cover-hold earthquake drills, storage of supplies and equipment, emergency sheltering and medical preparations, and mutual aid agreements between governments.

Response includes actions taken during the actual emergency, such as rescuing survivors, conducting mass evacuation, feeding and sheltering victims, and restoring communications. Recovery includes restoration of utilities, housing, transportation and public services, and economic activity, and takes a much longer time than the actual emergency, depending on the size of the disaster.

Experience to Date

About 20,000 local governments in the U.S. now have FEMA-approved local hazard mitigation plans. Although a nationwide evaluation of DMA 2000 outcomes has not been undertaken, research on plan quality in certain states indicates there is room for improvement. It can be reasonably argued that substantial progress has been made under DMA 2000, yet there are several key areas of concern.

First, mitigation is often confused with preparedness. The California studies indicated that many plans were dominated by preparedness activities such as acquisition of fire trucks and emergency generators. Though such measures could save lives and reduce disruption, they did not fundamentally alter the severity of hazard impacts or reduce long-term risk and vulnerability. Such confusion between mitigation and preparedness is fostered by both local emergency managers and planners who have a poor understanding of true mitigation, arguing argues for better education and training.

Second, FEMA guidance emphasizes the need for interface between mitigation plans and other local plans, such as those dealing with land use and infrastructure. Compelling reasons for integrating mitigation plans with other local plans include avoidance of conflicting outcomes and better mitigation performance. Yet the California study found that few localities adequately identified future land use trends or linked local mitigation plans to state mandated comprehensive general plans. A joint study *Hazard Mitigation: Integrating Best Practices into Planning* (May 2010) published by FEMA and the American Planning Association (APA) provides a useful start toward integration of hazard mitigation planning with land use planning.

Finally, DMA 2000 implementing regulations call for an open public involvement process in preparation of local plans, but are light on specific requirements. While many communities complied, some have given only lip service. This suggests the need for FEMA to require stronger evidence of commonly used communications techniques such as Internet posting, newspaper publication, mailed notices, neighborhood workshops, and techniques providing interested parties a chance to learn about the planning process in time to participate.

Toward Improved Mitigation Practice

To improve plan quality during an era of economic stagnation, FEMA should streamline plan review processes while emphasizing three core issues: emphasizing mitigation over preparedness, requiring clearer linkages between mitigation and other local plans, and insisting on stronger evidence of stakeholder involvement. Planners and emergency managers in Canada can perhaps learn from the U.S. experience with DMA 2000 in order to perfect the state of best mitigation practices.

For a substantial elaboration of the information in this article, see "Strengthening Resilience Through Mitigation Planning" an invited comment in *Natural Hazards Observer*, forthcoming.

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A CANADIAN RISK-BASED LAND-USE GUIDE

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Abstract

In a pilot begun in 2010, a consortium of stakeholders focused on strengthening community safety and resilience through informed land-use decisions is building a risk-based land-use guide for Metro Vancouver. The guide, and its creation process, is designed to be shared, such that other distinct cultural, political, economic and environmental areas can use it as a template to build a guide for themselves.

Introduction

Land-use decisions can create disasters or build resilient communities. This article describes an initiative to guide and assist land-use decision makers on how to reduce injuries, damage and disruption from disasters through hazard risk reduction. It provides tools to help communities self-identify their levels of acceptable risk.

Communities have primarily decreased their vulnerability to hazards by hardening their structures, and controlling the hazard. They have hardened their structures through measures such as building codes, dam safety regulations, and road building guidelines. They have controlled hazards through measures such as dykes to hold water from flood zones, slope stability engineering for landslides, catchment basins and diversion walls for debris flows. Such engineering works are a consequence of land-use decisions that put human activity into hazardous areas. Land-use decisions are now being targeted as a primary tool to minimize vulnerability and reduce disasters (see Burby 1998 for an overview).

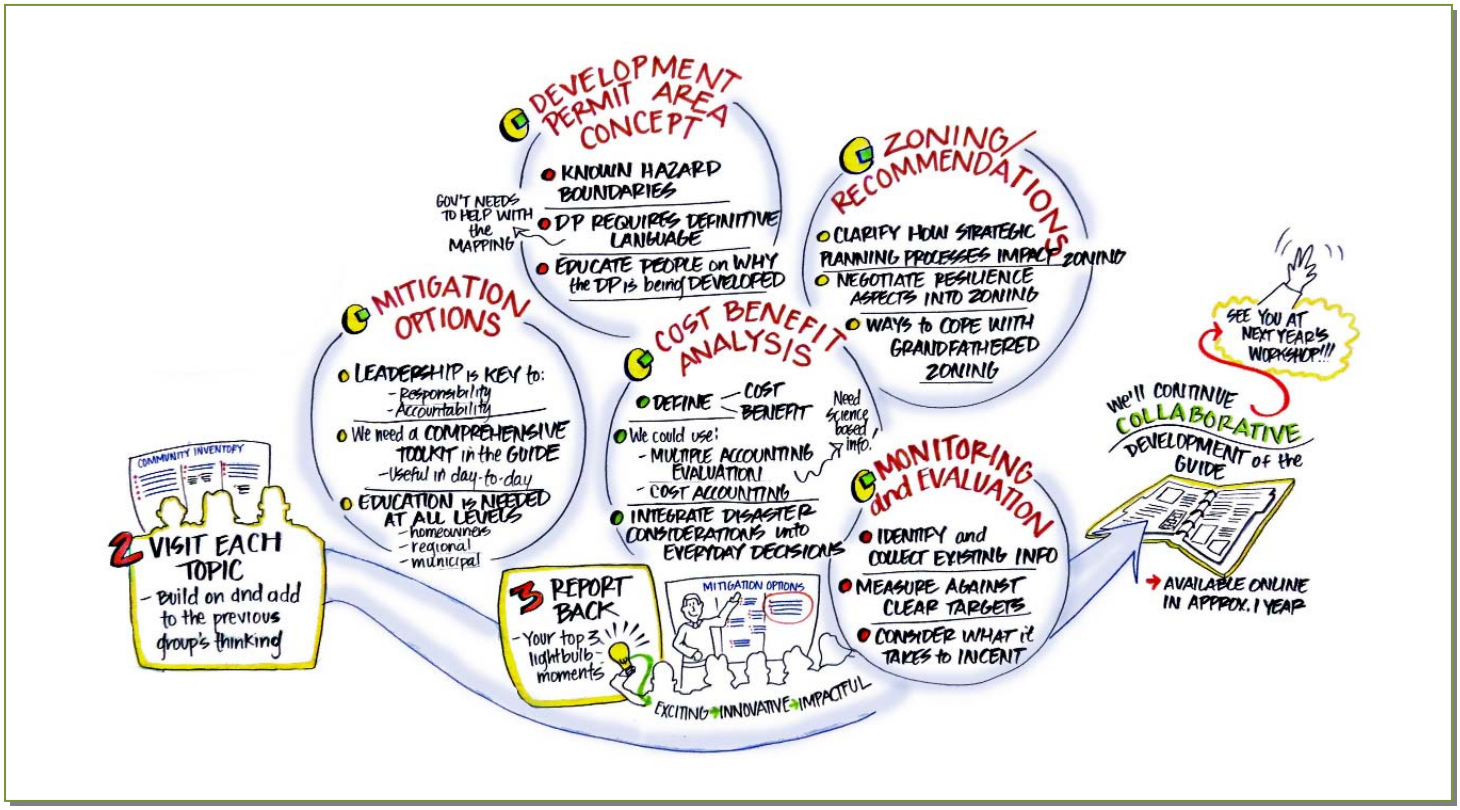
Globally, communities are becoming more vulnerable as they increase the density of land used in hazardous areas, and apparently do not all proportionately mitigate the risk. Such increased risk is clearly documented in the statistics of urban disaster losses (see overview CRED 2011). Risk mitigation becomes an accumulation of efforts to stay out of harm's way, to evacuate during indications of hazardous events, to provide structures and processes that resist the potential for damage from the hazard, and to be able to respond effectively to minimize the impacts after a catastrophic event. Risk-based land-use guides help municipal staff identify ways to reduce community exposure to hazards (stay out of harm's way), and to recognize the need for, and recommend effective risk mitigation options, where practical.

Risk-base land-use Guide

Risk-based land-use guides provide municipal staff with principles and tools to evaluate and recommend land-use decisions that mitigate disasters. To be effective, the guides incorporate principles and tools recognized locally, nationally and internationally as the most informed of our time (best practices). A land-use guide is targeted to municipal and regional staff because they provide both the strategic and operational recommendations and decisions on land-use for urban centres. Large

urban centres, in general, are the most vulnerable land uses.

In recognition of the magnitude of responsibility that municipal staff carry in building safe communities, a consortium formed in southwest British Columbia to assist their municipal colleagues in consolidating informed risk-based land-use practice into a practical guide. That consortium was directed by concerns and opportunities in land-use as identified at a local risk mitigation workshop (Struik et al. 2010a). Subsequent workshops, decision simulation exercises and a technical working group have worked to create a risk-based land-use guide, and a process for creating such guides in other distinct regions of Canada (Struik 2011, 2011a, Struik et al 2010, 2011).



Creating a Land-use Guide

In a pilot begun in 2010, stakeholders in southwestern British Columbia are creating a risk-based land-use guide for the Metro Vancouver region. The guide will have practices targeted to the social, economic, political and environmental character of the region. Presently, stakeholders in this process include land-use planners, city managers, permits and licensing staff, engineers, critical-infrastructure owners and managers, insurers, researchers and practitioners of land-use policy, and emergency managers and disaster reduction policy advocates from all levels of government. In order to ensure transparency in the application of the guide, it will be available to this stakeholder group and property owners as they initiate zoning and development proposals.

The guide and its creation are based on several principles: stakeholder built and managed, using existing local instruments that incorporate informed practice, expectation of balance of social, economic and environmental concerns, transparency of knowledge and community engagement.

Stakeholders create the guide together to ensure it is practical, applicable and usable. Through workshops, testing of practice and joint writing, the group identifies the instruments and practices

available locally to identify and manage land-use risk. By connection with researchers and a practitioner network, global informed practices are identified and incorporated. The risk-based practice is incorporated into existing practice for social, economic and environmental development and management. Community engagement and transparency of knowledge are a local informed practice that will permeate the guide.

The southwest British Columbia method for building the guide includes examining existing land-use decision-making processes through land-use decision simulation exercises and workshops. In the exercise, teams use a simulated development permit application and a strategic land-use plan for an area plagued by hazards to highlight existing local instruments, best practice and principles for the guide. Workshops shared the simulation results and gathered input on the format and content of a land-use guide. Workshop outputs are being consolidated in a draft guide and will be opened through an internet wiki for facilitated shared writing. Additional input is sought through follow-up discussions at conferences and additional workshops to identify best practices and practical applications. The draft guide will be validated in another workshop and exercise through its application to a case study example. The final risk-based land-use guide is prepared, once again through shared authorship. The completed guide will be posted online for use and reference. It is expected that the guide will undergo periodic review and updating.

Latest workshop graphic summaries and original notes are available for viewing and download (CNHR 2011).

National Risk-based Land-use Guide

The Metro Vancouver land-use guide will provide a template for a national land-use guide process. National elements from that local guide will form a reference for other distinct areas as they create their own guides. The methodology for the Metro Vancouver project will be shared to help build capacity and support networks of people who want to make better land-use decisions that reduce injuries, damage and disruption from disasters.

The regional guides are intended to be made by groups of municipalities that share similar natural settings, politics and social structures. Further development of the national land-use guide process is anticipated through the Centre for Natural Hazard Research at Simon Fraser University and the Resilient Cities Working Group of Canada's National Platform for Disaster Risk Reduction.

Acknowledgements

The Centre for Natural Hazard Research and Natural Resources Canada provided funding, and with extensive in-kind support from them and Pearces 2 Consulting, the Justice Institute of British Columbia, District of North Vancouver, Public Safety Canada, and the Integrated Partnership for Regional Emergency Management have all contributed to resourcing and intellectually developing the initiative and thereby the content for this article. Participants at the workshops and decision simulation exercise, including keynote addresses from Emergency Management BC, District of North Vancouver, a California land-use planner and a British Columbia developer provided

direction and content for the risk-based land-use guide.

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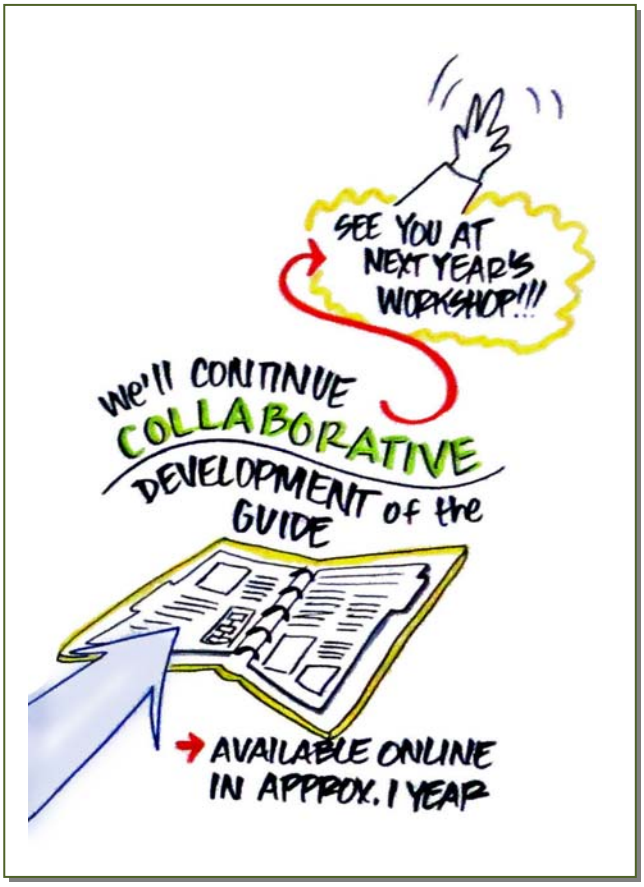
Outputs of the exercises and workshops, and contributors to the initiative can be found at the Centre for Natural Hazard Research website http://www.sfu.ca/cnhr/workshops



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TOOLS FOR MANAGING INTERDEPENDENCIES AMONG CRITICAL INFRASTRUCTURES IN PLANNING MAJOR OR LARGE-SCALE EVENTS

By **Robert Benoît**, Eng. Ph.D.
Gabriel Yan, Jr. Eng., M.Sc.

Critical infrastructures (CIs) make up a complex system composed of interdependent and interrelated networks. The interdependencies among CIs vary as a function of time (Rinaldi et al., 2001; Robert & Morabito, 2008), and this dynamism makes it difficult to model them.

Over the last few years, the Centre risque & performance (CRP) at the École Polytechnique de Montréal has developed modeling tools to evaluate the functional and geographic interdependencies among the critical systems for the cities of Montréal and Québec (Robert & Morabito, 2011). The expertise acquired in the course of this work led the CRP to obtain a mandate from Defence Research and Development Canada (DRDC) to develop some simple tools that would make it possible to anticipate problems related to geographic interdependencies and dependency on essential resources and services (ERS) in planning major and large-scale events. The ERS considered in evaluating organizations' dependency are:

Resources: electricity, natural gas, petroleum products, drinking water, service water, and information and communication technologies (land line/telephonic, land line/computerized (voice), land line/computerized (data), wireless/cellular phones, wireless/radio communication and pagers, wireless/satellite phones)

Services: waste collection, personal transportation, freight transportation, health care, food services, government, financial services, security services, fire protection, and accommodation.

This project was initiated in connection with the 2010 G8 and G20 Summits in Canada. Validation meetings then took place. Forty representatives of 25 organizations that had participated in major events took part in these meetings. The validation meetings were designed so that the representatives could comment on the relevance of the approach and the potential usefulness of the initial versions of the tools developed. Their comments led to the production of the final tools and the creation of a website dedicated to making the tools widely available and creating a community of practice: http://www.polymtl.ca/crp/en/MajorLargeScaleEvents/MajorLargeScaleEvents.php.

These validation meetings revealed that the majority of respondents were genuinely interested in using the tools. In fact, most respondents noted that there were no tools available to event organizers to evaluate geographic interdependencies and dependencies on the resources supplied.

The tools that have been developed make it possible to support event organizers in collecting data and analyzing potential problems related to interdependencies. They take the form of ten modules. The tools are presented in modular form so that they can more easily be integrated into different kinds of event planning processes and also so that they will complement existing tools related to interdependencies. They can therefore be used independently of one another.

Checklists are also available. Again, they can be used alone or to complement the above-mentioned modules. They help organizers to avoid forgetting steps in the process or points that must be considered.

The modules, presented in the form of a manual, are classified into three categories of tools. The fourth category includes the checklists. A detailed description of each module is available on the website.

The website created as a result of this project is dedicated to making the tools readily available and creating a community of practice related to the planning of major or large-scale events. This website also provides relevant references on the planning of major events and various reports that have been written over the course of the project. Regarding the community of practice, one web page collects users' suggestions so that the tools can be enhanced. When suggestions are shared, it becomes possible to create tools that are better adapted to the concrete problems experienced by organizers of major events.

The tools help event organizers to reduce their vulnerability related to the use of ERS, ensure better management of the territory from the point of view of geographic interdependencies, and promote communication among stakeholders with a view to joint planning of the event.

To fully benefit from these tools, teamwork is necessary. The involvement of the organizations identified as playing a role in the planning of a major event is crucial first in the data collection phase and then for the formation of specific working groups. The creation of such groups makes it possible to handle issues related to the confidentiality of sensitive data, as well as to ensure joint management of the event by solving potential problems identified during the data analysis.

Acknowledgments

The CRP would like to thank Public Safety Canada (PSC) and Defence Research and Development Canada (DRDC) for their backing and financial support. Thanks are also due to all the representatives of the organizations we met with in the course of the work for their comments and suggestions, which helped us with the development of these tools.

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a multidisciplinary research center dedicated to the integration of risks in the evaluation of the performance of critical infrastructures.

OPEN LINE FROM THE 'HOOD

By **Ron Kuban**, Ph.D.

"Who should manage *our* risk?"

Think about the 'average' citizen or community resident and you have someone who probably rarely notices that we are constantly alerted about some hazard (or threat) and its potential consequences (or risks). These alerts are so prevalent throughout the Media and at *all* our public spaces – public buildings, parks, workspaces, and roadways - that many of us rarely give them a second thought. As a result, we have become desensitized to the real nature of our community and our life within it; we avoid required action, and when emergencies or disasters occur we are caught unprepared to deal with their consequences. Worse yet, we continue to avoid addressing a key question: "What do we think about 'risk' and who should manage it?"

Fundamentally, I am against gloom-and-doom or the-sky-is-falling messages. Yet, as a specialist in managing disasters I firmly believe in the value of taking reasonable steps to reduce individual and collective risk, and to build our collective capacity to respond to them.

Fact is that the world around us is in constant turmoil. Our "community" – its environment, climate, infrastructure, economy, social dynamics, and political agenda – is changing constantly. Sometimes these changes occur abruptly and violently, other times they evolve slowly and appear subtle. They may be triggered by many factors including natural erosion (or deterioration), normal transition or aging, accidents, neglect, or through malicious actions by others. Regardless of their cause, if we are unprepared or unsupported to deal with these events, we could easily become destitute, injured, and hurt - physically or in many ways.

Think of the natural disasters and emergencies that have repeatedly impacted numerous communities across our province, country, and world. In the first half of 2011, according to current estimates by the insurance industry, the total *insured losses* from natural catastrophes and man-made disasters across the world, reached an estimated $70 billion (USD)! Moreover, according to UN-based research, each year more people are impacted by natural disasters than by war or armed conflicts (never mind the many facets of 'terrorism').

Admittedly, all this 'risk stuff' can be truly overwhelming. Perhaps because of that, over the years we have lost our understanding and common sense approach to dealing with the risks that permeate our life and our world. In December 2008, in a *New Republic* article, Jeffrey Rosen observed that "we have come to believe that life is risk free and that, if something bad happens, there must be a government official to blame." How true!

Whoever said that life is or could become risk free? How is that even possible, and how could we ever hope to live our life without encountering 'normal' accidents or disasters? We generally live as if we have the power to fully control our life, and the changes within it, so that it unfolds completely as intended - shielded from accidents or disasters.

Of course, the added folly is to expect others (especially 'government') to protect us from *all* risks including accidents, emergencies, and disasters. How different that notion is from the independence and determination of generations ago, which recognized the value of preparing for inevitable emergencies caused by breakdown, weather, nature, or malice by others.

My comments are not intended to stoke fear or paranoia. Instead, they are aimed at rousing us from the illusion that we are *fully* protected by government, and therefore, need not act ourselves to ensure *our* safety and wellbeing. We *need* to act on our behalf; beginning with the recognition (and acceptance) that risk is a virulent part of life at individual as well as community level. We must then pursue as many options we could to reduce either the threat or the consequence of the risks we confront. The first step has to begin with us, because clearly governments cannot fully protect us from life's normal bumps.

Insurance (No, I am not selling it!) is one of many worthwhile options, and plays a key factor in our recovery from calamitous events. However, the value of insurance is realized only *after* an accident or an emergency. Whenever possible, we need to *prevent* accidents or disasters from occurring and impacting us. That is *our* responsibility and is generally under our control.

The most effective step we ought to take is broadly termed 'emergency planning' whereby we assess the risks we confront and then plan the actions we would take and the resources we would deploy in response to these risks. The process is simple, but often fails because people, organizations and communities fail to commit to … action.

Benjamin Franklin observed: "By failing to prepare, you are preparing to fail." I could not have said it better. The only thing I may add is that the best time to start is now.

Dr. Ron Kuban is a long-term community volunteer and activist. He is the President of Pegasus Emergency Management Consortium.

WHY DO BAD IDEAS STICK?

By **Ilan Kelman**
http://www.ilankelman.org

Why do so many bad ideas stick in disaster-related research and practice? Meanwhile, common sense notions tend to garner attention and be seen as innovative.

One example of a bad idea sticking is the post-disaster "return to normal" paradigm, even though there is no such thing as "normal society". In any case, it makes little sense to return to the "normal" that caused the disaster in the first place. After a disaster, we should be trying to do better, not return to the same mistakes that caused the disaster problems.

The "disaster cycle" is another bad but repeated idea. Our job should be to break out of the cycle so that a disaster does not happen. It should not be to go round the endless cycle, waiting and hoping for a disaster to complete the cycle.

The differentiation between slow-onset and rapid-onset disasters (as opposed to hazards) is frequently touted. Yet disasters result from vulnerability which is created and maintained over the long-term. Consequently, all disasters are slow-onset even when hazards (such as earthquakes and tornadoes) are rapid-onset.

Hazard return periods form the basis for many disaster-related policy decisions, even when recognising that it is a bad assumption that past hazard patterns will match future hazard patterns. Much disaster-related work has an intense focus on hazard return periods, rather than considering more thoroughly the work that implies vulnerability return periods. The latter points out that vulnerability requires decades or centuries to accrue before it is exposed in a disaster. Then, if we "return to normal", we re-start the vulnerability building process.

Another bad idea that continues to gain currency is that disasters will inevitably increase due to climate change. A quick literature search, or just some basic thinking, will demonstrate the fallaciousness of this statement. Since disasters require vulnerability to occur, it is far from inevitable that hazard alteration or augmentation, such as due to climate change, leads to more disasters.

In fact, it is expected that climate change will reduce the frequency and intensity of many hazards in many locations. As one example, increased precipitation is expected to mean fewer fires in northern boreal forests. Nevertheless, disasters could still increase if vulnerability increases. This does not deny that climate change is a serious problem and must be addressed. It nevertheless accepts that the key challenge with disasters is not hazards but vulnerability. There is no point dealing with climate change to avoid certain changes in

hazards, only to exacerbate vulnerability. Paralleling the bad ideas that are repeated, I provide examples of common sense notions that have become famous and even acknowledged to specific authors. Phrases bandied about to sound intellectual and to develop academic careers are "social-ecological systems" (SES), "coupled human and natural systems" (CHANS), "adaptive management", and "panarchy."

The connection between and integration of society and the environment is a truism. Many (not all) indigenous societies have lived like that for millennia. The approach has even been firmly embedded in indigenous studies and anthropological literature for decades. We do not need SES or CHANS to tell us that.

As for "adaptive management", good management by definition adapts and is flexible. That is not a new, innovative, or intelligent concept; it should be the basis of management. Finally, the word "panarchy" is claimed by certain authors to be have been coined by them. A quick glance at a dictionary reveals that the word dates back to at least the nineteenth century.

Given this pattern of promoting bad ideas while stating the obvious, I would like to see how more effort could be put into learning the history of a field, acknowledging people who first and best generated certain ideas, and moving beyond truisms to understand fundamentals. To illustrate what we need, I have put together two examples of primers:

●http://www.ilankelman.org/miscellany/DisasterLexicon.rtf

●http://www.ilankelman.org/fpp.pdf

Corrections and additions to me are welcome. Please try to improve my work.

We have a long way to go, but we have the ability to get there. Will we?

YORK UNIVERSITÉ UNIVERSITY

Position Information

Position Rank: Contractually Limited Appointment
Discipline/Field: Disaster and Emergency Management
Home Faculty: Liberal Arts & Professional Studies
Home Department/Area/Division: Administrative Studies
Affiliation/Union: YUFA
Position Start Date: July 1, 2012
Position End Date: June 30, 2014

The School of Administrative Studies invites applications from qualified candidates for a two-year Sessional Assistant Professor position in Disaster and Emergency Management (DEM). A PhD in DEM or a related field, in hand or near completion is required, as is evidence of excellence, or the promise of excellence, in both teaching and scholarly research.

Preference will be given to those with a professional designation and those who have evidence of successful university teaching at both undergraduate and graduate levels. The successful candidate will be expected to teach at both the undergraduate and graduate level.

The deadline for applications is March 23, 2012. Applicants for all positions should submit a letter of application outlining their professional experience and research interests, an up-to-date curriculum vitae, and a teaching dossier, and arrange for three confidential letters of recommendation to be sent to Professor Peggy Ng, Director, School of Administrative Studies, 223 Atkinson College, York University, 4700 Keele St., Toronto, Ontario, Canada M3J 1P3. Please specify which position applying for.

Emergency Managers' Centre

BRITISH COLUMBIA ASSOCIATION OF EMERGENCY MANAGERS (BCAEM)

The British Columbia Association of Emergency Managers website www.bcaem.ca hosts an emergency management "Tool Kit" available free to members.

The "Tools and Resources" section is divided into these sections:

- Exercise materials: Tabletop exercise templates, Exercise introduction presentation, Support documents and Exercise Design information.
- Training materials: EOC Jeopardy, Emergency preparedness for schools, Incident Command System, Community Relations- wildfire and Worker Care resources including Critical Incident Stress handouts and team development, Disaster psychosocial Response and Suicide prevention/awareness.
- Emergency plans: Disaster Debris, Emergency Communications template, Evacuations, Livestock, Site Response tools such as USAR flagging tape colours.
- Emergency Program resources: Emergency Program Coordinator job descriptions, Training and Exercise Plan template, Sample agreements.
- Web links: Disasters, Governments, Support Tools, Related Associations and Worker Care

Most of these Tool Kit documents are in MS Word format so they can be customized by and for individuals and organizations. We encourage the free sharing of best practices, templates, plans and information to the emergency management community. If you have contributions to post on www.bcaem.ca please contact bill.elsner@bcaem.ca

For more information on this program and other services, resources that BCAEM provides, and for membership rates please visit our web site **www.bcaem.ca**

Bill Elsner
BCAEM President

LINKED IN PROFESSIONAL GROUPS OF INTEREST

Crisis, Emergency & Disaster Recovery Professionals

http://www.linkedin.com/groupItem?view=&srchtype=discussedNews&gid=95914&item=40195074&type=member&trk=eml-anet_dig-b_pd-ttl-cn

Disaster and Emergency Management

http://www.linkedin.com/groupItem?view=&srchtype=discussedNews&gid=133264&item=43743336&type=member&trk=eml-anet_dig-b_mc-ttl-cn

EOC: Emergency Operations Centre Group

http://www.linkedin.com/groupItem?view=&srchtype=discussedNews&gid=78345&item=23982042&type=member&trk=EML_anet_ac_pst_ttle

Simulation and Training Collaboratory: Enhancing the Psychosocial Considerations of Senior Decision Makers

http://www.facebook.com/pages/Simtec-Project-JIBC/137107466389540

"The Assembly of First Nations (AFN) through it Housing & Infrastructure Secretariat, has taken on a more active role in emergency issues management activities affecting first nations in its representative regions.

This end is being achieved through funding support received from AANDC – EIMD, for a person year (PY) to assist the Directorate in this file. This position was filled on June 20, 2011 by Mr. David Diabo, who has taken on the file and filled the position as AFN Special Advisor – Emergency Issues Management.

The AANDC EIMD- AFN EIM Action plan includes "continued development and implementation of emergency management frameworks through collaborative working relationships between First Nations, neighboring communities, federal/provincial/territorial governments, and other agencies. This work will be undertaken using the four pillars of emergency management: mitigation, preparedness, response and recovery."

Mr. Diabo has completed provincial training courses on Emergency Management with Emergency Management Ontario (EMO), and has also completed federal Emergency Management training courses with the Justice Institute of British Columbia through Aboriginal Affairs and Northern Development Canada (AANDC). He will be attending a graduate program at Algonquin College in Ottawa, Ontario in Emergency Management; in addition, he is also a member of the International Association of Emergency Managers (IAEM) and will also be seeking certification through their requirements.

He can be reached at:

David A. Diabo
Special Advisor - Emergency Issues Management
Housing and Infrastructure Secretariat
Assembly of First Nations
473 Albert Street, 9th Flr,
Ottawa, Ontario K1R 5B4
Tel: 613-241-6789 ext. 243
Cell: 613-290-5606
Fax: 613-241-5808
Toll-free 1-866-869-6789
ddiabo@afn.ca
www.afn.ca

USEFUL LINKS

An Emergency Management Framework for Canada Second Edition

http://www.publicsafety.gc.ca/prg/em/emfrmwrk-2011-eng.aspx

National Emergency Response System

http://www.publicsafety.gc.ca/prg/em/ners-eng.aspx

Communications Interoperability Strategy and Action Plan for Canada

http://www.publicsafety.gc.ca/prg/em/cisapc-scicpa-eng.aspx

Chemical, Biological, Radiological, Nuclear and Explosives Resilience Strategy for Canada

http://www.publicsafety.gc.ca/prg/em/cbrne-res-strt-eng.aspx

Making Cities Resilient: My City is Getting Ready.

http://www.unisdr.org/english/campaigns/campaign2010-2015/

Just Around the Corner…

Canadian Risk and Hazards (Knowledge and Practice) Network

Réseau canadien d'étude des risques et dangers (connaissances et pratiques)

"Practitioners and Researchers: "Strengthening Gateways and Lifeline Connections for Resilience"

2012 Symposium October 24th to 26th
Sutton Place Hotel, Vancouver, BC.

Goal for the Symposium

The consistent goal of the CRHNet symposiums is to contribute to the creation of a disaster resilient society through inter-disciplinary and inter-jurisdictional dialogue and collaboration among practitioners, policy makers, researchers, and academics.

Theme

The theme of this year's symposium, 'Building Resiliency' reflects the need to better understand the multi-dimensionality and complexity of resilience. Of particular interest is resilience as it pertains to populated urban areas and First Nations communities. Presentations will be invited to cover three broad themes:

- **Resilience within the scope of governance, policy and management**, including stakeholder strategies, collaboration strategies for policy development, communication strategies. This will encompass all levels of government and non government organizations including Federal, Provincial, Municipal, Territorial, First Nations profit and non-profit organizations and NGOs, as well as insurance, banking, critical infrastructure and private enterprise.
- **Risk, crisis and disaster management- Enabling resiliency**
- The Resilience agenda within
    - **Health sciences or services**, including the psychosocial dimensions of emergency management, and pandemic management
    - **Natural sciences**, including risk assessment methodologies and risk mitigation strategies
    - **Social sciences or services**, including public participation, the use of social media and social networks and building community resiliency strategies
    - **Organizations**, including organizational resilience, enterprise risk management, risk and insurance management, business continuity and security.

Check the CRHNet website www.crhnet.ca for upcoming information on the: Call for Abstracts, How to Register, Where to Stay, etc. We look forward to seeing you there!

3rd Annual National Roundtable on Disaster Risk Reduction

The third Annual National Roundtable for Disaster Risk Reduction will be taking place on October 23, 2012, in Vancouver, British Columbia, co-located with the 9th Canadian Risks and Hazards Network Symposium. The Roundtable serves as a multi-sectoral consultative mechanism for all sectors to advance areas of common concern related to disaster risk reduction. This full day event is open to any interested participants, including those not registered for the CRHNet Annual Symposium. In order to facilitate participation, there is no registration fee for the event; however, we require participants to register in advance for planning purposes.

The purpose of the Annual National Roundtable on Disaster Risk Reduction (the Roundtable) is to bring together the general membership of Canada's Platform on Disaster Risk Reduction in an open, inclusive, equitable forum. The Roundtable serves as a venue for Canada's ongoing national dialogue on DRR, the administrative annual general meeting for the Platform, and an opportunity for deliberative dialogue among DRR stakeholders.

Participation in the Roundtable is open to any interested parties, departments, organizations or individuals. There is no fee for participation.

Register starting April 01 2012!

Via the CRHNet Website

www.crhnet.ca

EPICC FORUM & Workshop 2012

"Business Destruction: People do the Darndest Things!" **May 15 & 16, 2012**

www.epicc.org

Join us to learn and network about Business Continuity at the EPICC 2012 One & Half Day Forum and Workshop

"Stanley Cup Riots"

The City of Vancouver and the Downtown Business Association will provide an overview of the event and how businesses were impacted. Come and hear how individual businesses were affected by the Stanley Cup Riots and how they are dealing with the impacts! Cadillac Fairview will explain how it dealt with riots and protected its tenants.

What are the implications for employers? Would your insurance cover you? What coverage is provided for traumatized? What are the labour law implications of recognizing your employee on video participating in the riots?

Insurance Bureau of Canada, WorkSafe BC, Kent Employment Law

"Recovering From the 2011 Slave Lake Fire"

Restoring a town, restoring a business. How are businesses recovering? What's helped, what hasn't helped?

Telus, RCMP, Alberta EMA, EMBC

JIBC

In collaboration with the Justice Institute of British Columbia

The Great British Columbia ShakeOut!

October 18th 2012

On Thursday, October 18th at 10:18 a.m.*, thousands of people will participate in the *2012 Great British Columbia ShakeOut* earthquake drill!

In 2011, more than 500,000 British Columbians participated by practicing **"Drop, Cover, and Hold On"** and improving their overall preparedness. Everyone is asked to "Drop, Cover and Hold On". That is what you are to do during a real earthquake. The drill on October 20 is a chance to practice, so that in the event of a real earthquake, you know what to do. Go to **www.ShakeOutBC.ca** for more details about the drill and register your family, your business or your school. Out of province participation is welcomed - in fact there is a rumour that there will be a Yukon ShakeOut next year!

Registration for 2012 will open on March 1st

Washington State Joins the Great ShakeOut Movement

Washington state joins with our Canadian partners and our state partners to the south, Oregon and California on Thursday, October 18th, 2012 at 10:18 a.m. to participate in Washington's first ShakeOut drill. Idaho, Nevada, and Guam will also participate in this year's October 18 Shakeout drill with Puerto Rico joining also for the first time The October 18th drill will be a chance for residents of the state to practice what they would do in the event of a real earthquake.

For more information, please visit:
http://www.shakeout.org/washington/

UQÀM Département de géographie
Université du Québec à Montréal

7e Colloque sur les risques naturels au Québec Quels enseignements tirer des catastrophes naturelles?

Le département de Géographie de l'UQAM vous invite à soumettre des propositions de communication sur le thème suivant : 7e colloque sur les risques naturels au Québec. Il se tiendra le mercredi **09 mai 2012** dans le cadre du 80e congrès de l'ACFAS prévu du 07 au 11 mai 2012, au palais des congrès de Montréal.

Le colloque abordera les volets suivants :

1. Vers une meilleure connaissance des risques naturels
2. Pour une gestion efficace des risques naturels
3. Expériences internationales dans la gestion des risques naturels

L'inscription se fait en ligne à l'adresse suivante :

http://www.acfas.ca/evenements/congres/sinscrire-en-ligne

Les responsables du colloque :

- Mustapha Kebiche, Professeur associé, département de Géographie, UQAM
- Yann Roche, Professeur, département de Géographie, UQAM

  Téléphone : (514) 987-3000, poste 3900

  Courriels : kebiche.mustapha@uqam.ca, roche.yann@uqam.ca

The 25th Annual Emergency Preparedness Conference

November 6st to November 8th 2012

This Vancouver-based Conference provides a great opportunity to network and learn from peers. Delegates are given the opportunity to browse the Exhibitor Area, view Poster Presentations and listen to speakers from across the country and around the world.

http://host.jibc.ca/epconference/

Hazus User Group, Risk Assessment User Group

In the scope of the **CWRA/CGU 2012 National conference to be held in Banff (AB) June 5-8** (http://www.elements2012.ca/program.htm), the Geological Survey of Canada will host a special session (under the CGU Solid Earth Sessions) on natural risk assessment with the Hazus methodology (http://www.elements2012.ca/pro/SessionDocs/CGU/CGU-SEarth.pdf): EW4: Hazus Canada: Measure Earthquake and Flood Risk

The Hazus methodology successfully applies scientific methods to assess potential losses from earthquakes, floods and hurricanes. This special session provides information on the adaptation of Hazus for use in Canada, and the status of quantitative risk assessment and its implementation in risk-based land-use and emergency management decision support.

Dans le cadre de la Conférence nationale ACRH/UGC 2012 qui aura lieu à Banff (AB) du 5 au 8 Juin la Commission géologique du Canada organise une session spéciale (sous les Sessions de la physique des systèmes de l'UGC) sur l'évaluation des risques naturelles avec la méthodologie Hazus (http://www.elements2012.ca/pro/SessionDocs/CGU/CGU-SEarth.pdf): EW4: HAZUS Canada: Mesure des tremblements de terre et des risques d'inondation.

La méthodologie HAZUS applique avec succès des méthodes scientifiques pour évaluer les pertes potentielles liées aux séismes, aux inondations et aux ouragans. Cette session spéciale fournit des informations sur l'adaptation de Hazus pour son utilisation au Canada, l'état de l'évaluation quantitative des risques naturels et sur leur mise en œuvre dans l'aménagement du territoire et soutenir la gestion des urgencies.

(http://www.elements2012.ca/programme.htm),

Mark Your Calendar and Plan to Attend!

Public health and environmental health professionals, researchers, policy-makers, academics and students from across the country and around the world will meet at the Canadian Public Health Association's 2012 Annual Conference.

David Suzuki confirmed as plenary speaker!

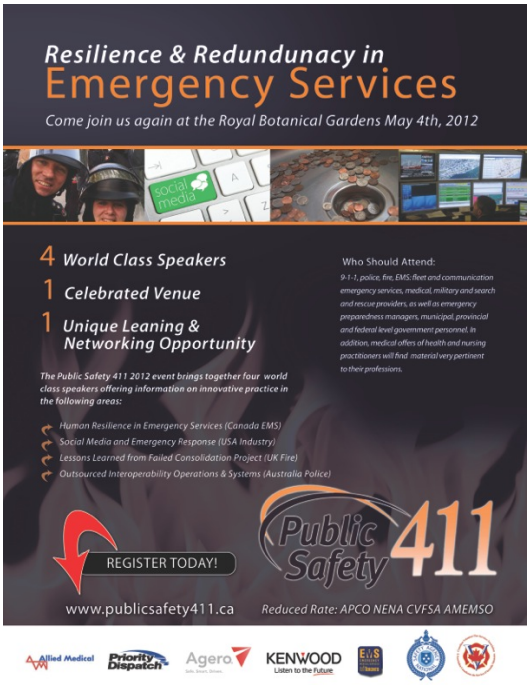
http://www.cpha.ca/en/conferences/conf2012.aspx

Public Safety 411

May 4, 2012

Public Safety 411 offers a day-of-seminars to public safety organizations including police, fire, ambulance, emergency preparedness and municipal planners, the military and other allied agencies. It features four world renowned key note speakers at a celebrated venue offering a unique networking and learning opportunity for all attendees. On May 4, 2012 the theme for the Spring Event at the Royal Botanical Gardens Conference Centre in Burlington is "Resilience & Redundancy in Emergency Services" and will feature presentations from Canada EMS, UK Fire, Australia Police and the USA Industry. Speakers will share their experiences with regard to operations, projects, technology and the real effect on people of resilience and redundancy. The environment of the event, both the physical location and the unique approach of the conference organizers, makes the attendee experience an invaluable one. Seating is limited so early registration is recommended to ensure a place at Public Safety 411.

For more information and to register go to www.publicsafety411.ca.



ISCRAM2012: The 9th International Conference on Information Systems for Crisis Response and Management. 22-25 April 2012 Vancouver, Canada.

Each year, ISCRAM brings together top researchers and practitioners working in the area of information systems for crisis response and emergency management. In 2012, it will be held in the vibrant city of Vancouver, British Columbia. The conference provides an excellent opportunity to exchange information and knowledge on new research and best practices with a diverse group of colleagues. ISCRAM 2012 offers workshops, tutorials and presentations on Modeling and Simulation, Human Experiences in the Design of Crisis Response and Management Services and Systems, Foresight and/or Risk Analysis, Social Media and Collaborative Systems, Geographic Information Science and Technology (GIS&T) for Crisis Response and Management, Healthcare Crisis Management Systems, Inter-Organizational Exercises and Operations, Wireless Sensor Networks for Emergency Response, Early Warning and Expert Systems for Disaster Management, and Serious Games for Crisis Management.

For more information and instructions for registration, please go to:

http://www.iscram.org/iscram2012

Academic Corner

ROYAL ROADS UNIVERSITY

From the classroom to the real world

The earthquake and tsunami in Japan. The BP oil spill in the Gulf of Mexico. Floods in Manitoba. Whether close to home or on the other side of the world, Royal Roads University students and graduates are working on the ground and planning for the next disaster. Experienced professionals and passionate learners looking to break in to the field of disaster and emergency management come together at Royal Roads, where they learn from faculty with relevant, real-world experience.

Royal Roads' disaster and emergency management programs explore theoretical foundations of disaster and emergency management, which are framed by an understanding that disasters are a product of the relationship between the environmental, social, economic and political systems. This approach supports the notion that disaster and emergency management processes and practices contribute to risk reduction, community resilience and sustainable communities.

Students can choose from the two-year Master of Arts in Disaster and Emergency Management and the one-year Graduate Diploma in Disaster and Emergency Management. The master's program offers two streams: practitioner (for those with five or more years of management experience in the field) and general (for those with an undergraduate degree).

For more information, visit www.royalroads.ca.

JUSTICE INSTITUTE OF BRITISH COLUMBIA

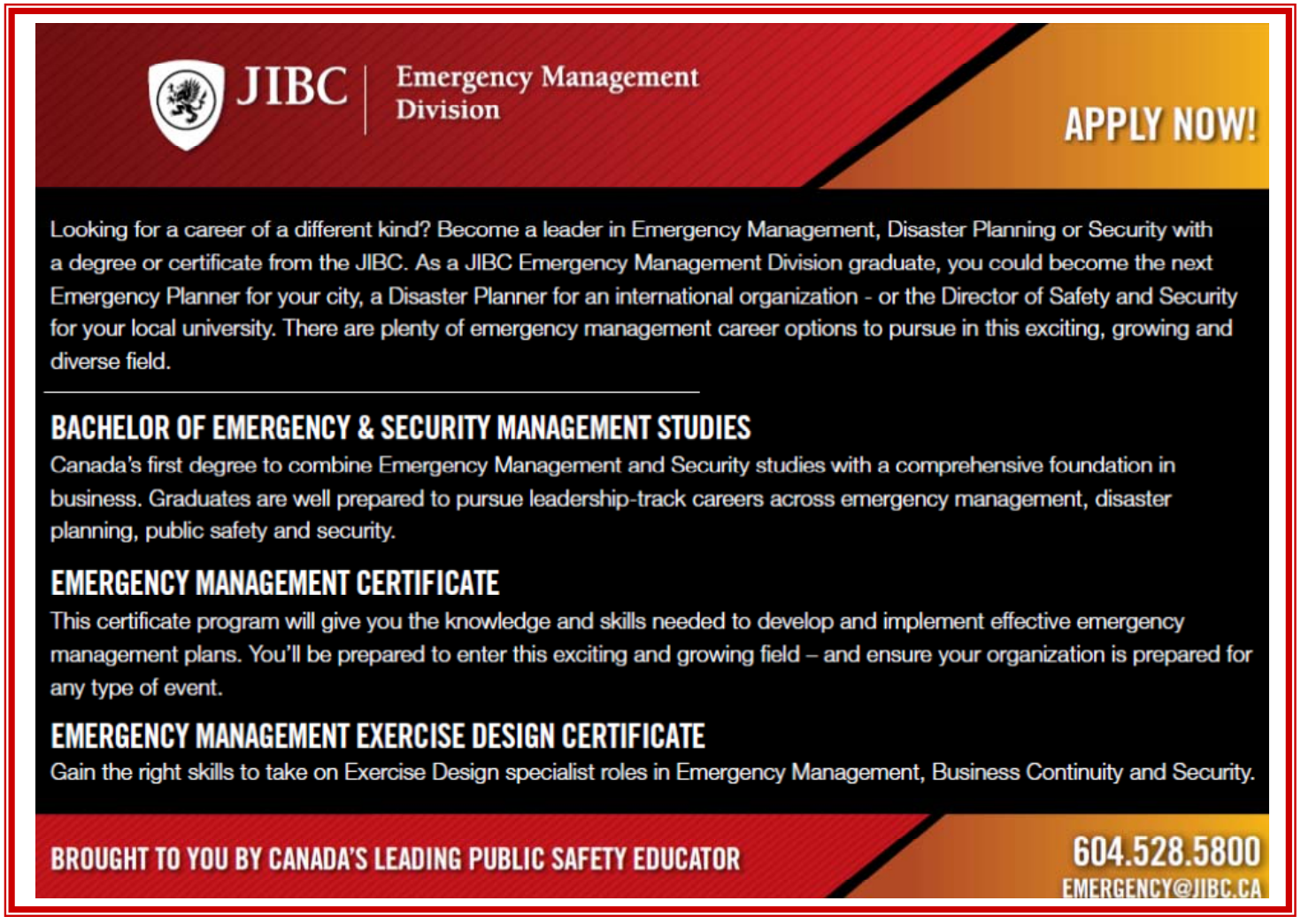
JIBC's "Five Reasons to Get Your Emergency Management Certificate"

Have you taken a few emergency management courses, but aren't sure if you need the Emergency Management Certificate? Here are five good reasons to add that JIBC credential to your name:

1. ***Enter the Exciting Field of Emergency Management:*** If you're new to the field, an Emergency Management Certificate is one of the easiest ways to qualify for your first position.
2. ***Improve Your Job Prospects:*** More and more employers are seeking people with emergency management credentials. With an Emergency Management Certificate, you'll have a leg up on the competition.
3. ***Get a Credential Employers Respect:*** The JIBC's Emergency Management Certificate is recognized by employers. In fact, many ask for it by name.
4. ***Customize the Focus of Your Certificate:*** Pick and choose from several electives that focus on specific areas of emergency management.
5. ***Get an Education with Real-World Application.*** Learn from experienced practitioners. Participate in activities and scenarios that directly apply to the work place.

The JIBC Emergency Management Certificate is a 15-credit program that can be completed part-time through a combination of online and in-class courses. Visit the Certificate web page for more information.

For more information, visit www.jibc.ca/emergency.



GEORGE BROWN COLLEGE

In a new world reality, where natural disasters and terrorist activities are on the rise, an increased level of education and training in emergency management is essential. Our School of Emergency Management provides the education needed by both individuals and organizations. These courses and programs are taught by emergency management and disaster preparedness specialists and are guided by an advisory board of emergency management experts. Earn one certificate that covers your specific requirements, or take several overlapping certificates to gain expertise that is even more comprehensive.

http://coned.georgebrown.ca/owa_prod/cewskcrss.P_ProgArea?area_code=PA0005

Stacey Andrews
Manager Public Safety & Security
416-415-5000 **Ext.:** 4304

UNIVERSITY OF BRITISH COLUMBIA

Graduate Studies in Disaster and Risk Management
Planning - School of Community and Regional Planning University of British Columbia

For more information:

School of Community & Regional Planning
#433-6333 Memorial Road
Vancouver, BC V6T 1Z2, Canada
Phone**:** (604) 822-3276; Fax :(604) 822-3787

Website: www.scarp.ubc.ca

BRANDON UNIVERSITY

Applied Disaster and Emergency Studies

The ADES faculty members are all experts in this exciting new discipline. Each brings a unique combination of education and experience that provides the ADES students with a well rounded education.

- **Balfour Spence** PhD – Dr. Spence joined the ADES Department from the University of the West Indies, Jamaica in 2008 after 12 years lecturing in the Department of Geography and Geology. He researches and publishes extensively on issues related to disaster risk communication, disaster risk assessment, disaster and development as well as environmental management and food security.
- **John Lindsay** MCP – Mr. Lindsay received the degree of Master of City Planning from the University of Manitoba in 1993 with a research focus on urban planning and emergency management. He now combines research with 20 years of experience in the field.
- **Etsuko Yasui** PhD – Dr Yasui completed her Ph.D. at the University of British Columbia, School of Community and Regional Planning, in December 2007. Her doctoral research investigated the recovery processes in two small Japanese neighbourhoods in the aftermath of the 1995 Kobe Earthquake.
- **Brian Kayes** BA, MRD – Mr. Kayes is the director of Emergency Management for the City of Brandon and is currently on secondment in the ADES Department.

For more information please go to http://www.brandonu.ca/ades/ or send an e-mail to ades@braudonu.ca.

Brandon University, ADES, 270-18th St. Brandon, Manitoba, Canada, R7A 6A9. (204)727-9768

NAIT – NORTHERN ALBERTA INSTITUTE OF TECHNOLOGY

NAIT Emergency Management Students Back Up Years of Experience With Diploma Programs

When emergencies occur, residents and municipalities rely on individuals trained in emergency management. At home and abroad, many Canadians with this expertise have stepped in, bringing their talents to a variety of harsh situations.

One such individual is Katherine Forgaard-Pullen, a former employee of the Transportation Safety Board. Swissair Flight 111 crashed into the Atlantic Ocean on September 2, 1998, killing all 229 passengers on board. Katherine flew to Nova Scotia that morning and did not leave for the next three months. "This was an international incident. The world was watching us, and we wanted to be sure that everything was done well," explains Katherine, who received her emergency management education at NAIT. NAIT's Emergency Management (EM) programs combine classroom learning with on-the-ground experience to prepare people to perform when needed. NAIT students explore and learn the value of establishing and maintaining an EM program in collaboration with internal and external stakeholders and ensuring emergency plans and procedures are known and understood by those who will use them. They also learn incident management systems, the role of an emergency operations centre, the provision of expert advice to senior officials, interaction with the media, and the management of disaster recovery programs.

For more information, email emtraining@nait.ca or check out NAIT's website at www.nait.ca/em.


YOUR EXPERTISE IS IN DEMAND

Offered exclusively online, NAIT's Emergency Management program will teach you the knowledge and provide you the skills to effectively guide a community or organization through emergency events or disasters. Gain a professional certificate with just six courses, or enhance your career with a full diploma.

INDUSTRIAL EMERGENCY MANAGEMENT CERTIFICATE
Designed for students working in industry or handling Emergency Management as part of an Occupational Health and Safety position.

PUBLIC SECTOR EMERGENCY MANAGEMENT CERTIFICATE
Designed for students with Emergency Management responsibilities, within local, provincial, territorial or federal government.

EMERGENCY MANAGEMENT DIPLOMA
For students planning to make a career in Emergency Management, the diploma program provides practical skills for managing emergency functions across a broad spectrum of working environments.

For more information, check out www.nait.ca/em or email emtraining@nait.ca.

EDUCATION FOR THE REAL WORLD

NAIT

AN INSTITUTE OF TECHNOLOGY COMMITTED TO STUDENT SUCCESS
11762 - 106 St. Edmonton Alberta Canada T5G 2R1 PH 780.471.6248 TOLL FREE 1.877.333.6248

YORK UNIVERSITY

Disaster and Emergency Management Programs at York University

York University offers 3 programs in Disaster and Emergency Management:

A 24 credit (8 half courses) certificate program (http://www.yorku.ca/laps/futurestudents/display_certificate_details.asp?id=11):

- 15 credits in required courses
- 9 credits from a set of diverse elective courses

A 3 or 4-year BA degree (http://futurestudents.yorku.ca/program/disaster_emergency_management):

- 90 credits for the 3-year degree
- 120 credits for a 4-year Honours Degree (Major or Minor)

A Master's degree (http://www.yorku.ca/graddem.html):

- 30 credits by course, or
- 24 credits plus a Major Research Paper.

For more information please go to **http://www.yorku.ca/akevents/academic/SAS/EM/index.html** or send an email to **eminfo@yorku.ca**.

DRI CANADA College/University Affiliation Program

DRI CANADA a not-for-profit organization founded in1996 to promote commonly accepted understanding of business continuity planning practices through education. With DRI International, our parent organization based in Washington DC; DRI CANADA sets baseline levels for the knowledge and capabilities for business continuity planning through well established Professional Practices. DRI CANADA certifies qualified business continuity planning professionals with the objective of promoting the credibility and professionalism of certified business continuity planning professionals.

The stated objective of the CRHNet is to "*Initiate the development of a Canadian inter-disciplinary and cross-sectoral network of researchers, academics and practitioners to enhance understanding of emergency management in all dimensions and help build Canadian capacity to deal effectively with threats and consequences from all hazards*".

To this end, DRI CANADA has recently introduced a college and university affiliation program that provides DRI International's 10 professional practices as a basis for business continuity training. This Canada-wide program provides an opportunity to realize CRHNet's objective. In this way, practical, widely accepted, business continuity management practices can be introduced into an academic education curriculum; thus bridging the practical/academic training gap. All successful students may challenge the DRI CANADA certification examination without additional charge as part of the affiliation agreement.

DRI CANADA also welcomes the opportunity to distribute papers, theses and innovative research material to our network of professional practitioners, members and to the public in general in order to promote the benefits and achievements of academic research.

Please contact Grant Whittaker, Executive Director, DRI CANADA 1-613 258-2271 or grant@dri.ca

From the Practitioner's Desk

A TEMPLATE FOR CRISIS DECISION-MAKING

By **Bruce T. Blythe, Chairman**
Crisis Management International
Crisis Care Network
Behavioral Medical Interventions

The title of this article catches your attention and you decide to read through it for take-and-use pointers. But imagine as you settle in, you get a frantic phone call. There has been an incident related to your workplace with people killed and questions are emerging about you being part of the blame. Couldn't be? Wrong, it really has happened. Suddenly, everything on your To-Do-List for the day has changed.

The velocity of questions and information is coming at you rapidly. Your mind seems to be racing and numb at the same time; it seems unreal. The consequences are high. Reputation is at stake. You can feel the stress running through your veins. Timely response is mandated. In the midst of it all, you must make high-stakes decisions to protect the well-being of people, the organisation . . . and yourself.

Crisis decision-making is different than choices of everyday living. Experience tells us that, "Crises magnify the significance of small weaknesses." Analysis paralysis, poor listening, dishonesty when confronted, avoidance during conflict, over-confidence, impulsive decisions, autocratic style, or submissive acquiescence; any of these common stress-related predispositions and more can become exacerbated during crisis decision-making and personal response.

So, in these unexpected times of upheaval, how can you make good decisions? Is there a template, algorithm, or mental pattern you can follow to make cogent decisions during crises, whether the fact pattern and blame is pointed toward you, or not?

There are many "tricks of the trade" for making good decisions during the heat of the battle.

Write it out: Research has repeatedly demonstrated that especially during stressful times, writing increases cognitive clarity, judgment, and timeliness of decisions. There are no hard and fast rules about what to write during your crisis or problematic situation, but it helps to focus your concentration and problem solving. Try it during non-crisis times to experience the effectiveness of this simple decision-making technique.

SIP-DE: Training programs for motorcycle drivers, where defensive driving is paramount, many times will use the SIP-DE model for addressing potentially critical situations on the road. The same concepts can readily apply to crisis decision-making and can serve as a template for writing out crisis problem solving, as discussed above. The SIP-DE acronym stands for the following:

Scan the environment while driving your real or metaphorical motorcycle. In crisis management, this involves getting good information (the fact pattern) and verifying what circumstances and timing will readily allow.

Identify problem areas. Crisis managers will want to identify obvious problem areas, but it may also involve identifying the crisis beyond the obvious. While an explosion or business disruption might be the obvious situation, a threat to reputation, key

relationships, or shareholder value may be the critical issue to address.

Predict what could go wrong. For the motorcycle driver, it might be a car ahead pulling out in front of the bike's pathway. In crisis management, you can often anticipate the next moves of impacted stakeholders or the crisis fact pattern by imagining what you would do if you were in their position or if prerequisites are pointing the probabilities in certain directions.

Decide what to do. On a motorcycle, you don't have time to pontificate the various options. It's better for our biker to decide on defensive actions based on anticipation, rather than wait until the car pulls into the bike's pathway. Likewise, timeliness in crisis decision-making is a critical ingredient. It is most often better to anticipate and decide what to do with only partial information than to wait for additional information and be too late.

Execute your plan. Good crisis response certainly includes responding to what has happened. It also involves staying ahead of the fact pattern, when possible, by preparing and implementing decisive actions before they become critical. Ultimately, it's what you do during crisis response that makes the difference. Research tells us actions that demonstrate "caring" are essential. So, make sure every executed action is filtered through a template of corporate and personal caring during crisis response. Finally, a critical component of crisis execution is to effectively communicate your plan with front-line managers and impacted stakeholders so they can make appropriate decisions.

CIA Approach: Tactical responses during crisis management are many times obvious, such as life safety, search and rescue, and addressing whatever is the obvious content of the crisis, e.g., putting out the fire. But, what about the important strategic decisions during crisis response? There are three key components to consider when making strategic crisis decisions, remembered through the acronym CIA.

Core Assets: If the crisis is of significant proportion, core assets of the organisation can be threatened. Core assets include people, reputation, brand, trust, finances, shareholder value, ability to operate, intellectual and physical property and key relationships. A focus on protecting threatened core assets can serve as a beacon for crisis decision-making. This focus on serving a higher-purpose and protecting the greater good of the organisation (vs. self-interests) is a common denominator among effective crisis decision-makers.

Impacted stakeholders: People who are harmed (or perceive potential harm) by your crisis have strong and predictable questions and expectations. They want to know what you knew prior to the incident, when you knew it, and what you did about it. They expect that you did everything humanly possible to prevent the crisis situation from occurring. They expect that you and your organisation are prepared to respond effectively to the crisis once it occurred. Stakeholders can include your employees and their families, customers, media (traditional and social), regulators, plaintiff attorneys, institutional investors, board members, suppliers and distributors, competitors and more. An effective approach to addressing stakeholder issues and concerns is to ask yourself, "What would I want if I were in their position?" Not attending to the needs and concerns of impacted stakeholders will increase the likelihood for "outrage", which will increase the complexity, longevity and severity of your crisis.

Anticipation: Certainly, crisis management involves responding to issues that have already occurred. Good crisis management also involves staying ahead of the expected sequence of events. By anticipating the potential direction of the crisis

progression and stakeholder concerns and actions, you can make better crisis decisions on a timely basis. Crisis anticipation includes considering and predicting the impacts (intended and unintended) of crisis actions or inactions.

5 Guiding Principles: Crisis response involves decision-making during times of ambiguity and partial knowledge that can easily take you "off course." Effective crisis decision-making is more than following a crisis checklist. It is best grounded in principles that serve as "side-boards" for ethical, legal and compassionate management of the crisis. Effective crisis decision-making is more about who you are (good character) than what you know (technical knowledge). The newspapers are filled with self-defeating decisions leaders and others have made, even though they knew better. The following is a sample of crisis response guiding principles that will help keep your crisis decision-making "between the guardrails" and effectively focused:

1. Well-being of people first, with caring and compassion
2. Assume appropriate responsibility
3. Address needs of all stakeholders in a timely manner
4. All decisions and actions based on honesty, ethical and legal guidelines
5. Available, visible and candid communication with all impacted stakeholders

Summary Crisis Decision-Making Guidelines: With the above templates to use for decision-making during crises, research and experience in the crisis decision-making discipline has provided some final guidelines to help you be effective during high-consequence, unexpected situations.

Vetting: Crisis decision-making is most effective when crisis response considerations are discussed among a small group of appropriate colleagues. Research shows that the larger the group, the slower and less effective the decision-making becomes. It is best if there is a loosely associated, but knowledgeable, "outside voice" (crisis consultant, trusted peer from another organisation, etc.) included in the group for an objective perspective. Additionally, it is good to have at least one person with an opposing viewpoint to challenge your decisions. An incestuous inner-circle of "yes men and women" can create an environment where important vantages are missed.

Impacted Stakeholders: If possible, it is best to include input from persons who will be affected by the decisions you are about to make. This reality test will help to prevent unintended consequences and increase the quality of your crisis decisions and actions.

Preparedness: Two ingredients that cause poor decision-making during crises are (1) a lack of preparedness, and (2) high stress, especially when coupled together. Research with fire-fighters, pilots, military combat officers, emergency medical technicians, law enforcement, and corporate managers has repeatedly demonstrated that those who have planned and rehearsed (i.e., prepared) are much more effective during highly stressful crisis situations than those who are unprepared. There is simply no substitute for preparedness. *After* the crisis hits is not the time to start thinking about crisis response. Multiple studies have demonstrated that impromptu crisis decision-making results in longer response and recovery time, poorer decisions, and more costly damage, whether it's a personal crisis or related to the workplace. Much like learning to ride a bicycle, it takes the energy and repeated practice to establish the pathways in your brain that will engrain the desired skill. Learning theorists tell us that it takes approximately six (6) successful trials in order to become proficient with a new skill like riding a bike or

being an effective crisis decision-maker in the midst of an unexpected, high-consequence incident. Hopefully, the information herein will serve as a template and impetus for overtly preparing yourself for skilled crisis decision-making in the heat of the battle. At some point in the future, your next crisis will hit. Will you be prepared?

PUBLIC SAFETY CANADA'S CBRNE TEAM

By **Reg Fountain**
Public Safety Canada

Over the past year, the Chemical, Biological, Radiological, Nuclear and Explosives (CBRNE) Team within Public Safety Canada has been a moving force on a number of programs and initiatives.

Since the inception of the *CBRNE Resilience Strategy and Action Plan for Canada*, the CBRNE Team, in concert with its federal, provincial and territorial partners, has worked tirelessly on programs to increase the CBRNE knowledge base across Canada. Thanks to the efforts of provincial representatives, there now exists a toolkit for CBRNE emergency planning (NS), a provincial risk assessment template (NB), a national CBRNE emergency contact list (MB) and the baseline criteria for the engagement of provincial, federal and/or international assets in CBRNE consequence management incidents (BC).

The CBRNE Team, again with federal, provincial and territorial representatives, has revised and updated *CBRNE Resilience Action Plan*. The 2012 iteration of the Plan focuses the federal and provincial/territorial efforts on delivery of tangible products that will increase the efficiency and interoperability of CBRNE emergency responders.

The 2012 Action Plan was approved by federal, provincial, and territorial Senior Officials Responsible for Emergency Management (SOREM) in February.

The CBRNE Team has also been involved in international CBRNE efforts. For example, the team participates in a working group with four countries (United Kingdom, United States, Australia and Canada) concerned with countering terrorism and dealing with the threats of chemical, biological and radiological contaminants, and collectively shares best practices, lessons learned and advances in CBR-related technology. During the coming year, issues of mass decontamination in a post-biological terrorist event, the use of social media in public alerting protocols and development of medical counter-measures for CBR incidents will be the heart of the group's strategic work plan.

One of the major Team initiatives has been the development of the Federal CBRNE Plan. This plan uses the *Emergency Management Framework for Canada* as its doctrinal foundation and incorporates the four components of emergency management into its overall structure. More importantly, the Federal CBRNE Plan details the tasks undertaken by federal departments and agencies in the prevention and mitigation of CBRNE incidents, the present and planned level of preparedness for CBRNE incidents across Canada, and the capabilities required for a federal response or to assist the provinces and territories in recovering from such an event.

The Federal CBRNE Plan will describe a number of capability packages that are configured to meet the expected needs of provinces and territories dealing with the effects of CBRNE contamination. Research into medical response capabilities indicates that in most Canadian urban centres, having five simultaneous casualties requiring the same level of critical life-saving treatment will

overload the medical care system. The 2007 London bombing with over 700 casualties demonstrates the potential for provincial/territorial health system overload and provides an additional basis for a specific level of federal preparedness. It is expected that any mass casualty event (CBRNE or other causes) will require a national response; therefore, one of the main assumptions used in the development of the plan is for the employment of an effective initial consequence management response at the incident site (or where needed) within 24 hours of an approved request.

The Federal CBRNE Plan will be presented to senior federal officials in early summer 2012 for approval. The Federal CBRNE Plan will be exercised as soon as possible and an evaluated functional exercise is planned for 2013.

With the release of the Perimeter Security and Economic Competitiveness Action Plan by the Canadian Prime Minister and the President of the United States, the CBRNE Team looks to increase bilateral resilience with the inclusion of CBRNE as one of the areas of consideration. Over the next five years, this initiative will develop a CBRNE Mutual Assistance Concept of Operations, establish joint training opportunities and share lessons learned, establish bilateral information-exchange opportunities to facilitate the sharing of advances in science and technology and establish a strategy that can enhance bilateral interoperability for a CBRNE response.

Add to these undertakings the Team's continued work with Public Safety Canada's Interoperability Development Office, in the further development of an Emergency Management Planning Application, situational awareness and alerting protocols and information exchange processes, and it is a full task list for any organization.

The CBRNE Team has been extremely productive. It is through the shared efforts of our federal, provincial and territorial colleagues that the Team has progressed so far– and it is with this superb level of coordinated support that the Team will continue to make strides forward in 2012!

CANADA'S MULTI-AGENCY SITUATIONAL AWARENESS SYSTEM – SHARING MADE SIMPLER

By **Jack Pagotto** and **Patty Xenos**

The Government of Canada has been working on resolving an issue that has been plaguing emergency responders around the world*; how to share trusted real-time incident-relevant information during an emergency situation between organizations and their systems.* To illustrate the current challenges of clear and rapid communication between responders and intervening organizations during an emergency operation, a look back to a recent Canadian event known as "Snowmaggedon" will emphasize the importance of situational awareness in helping deliver a cohesive response.

A December 2010 snow squall paralyzed traffic on highway 402 between London and Sarnia, stranding more than 300 motorists before a state of emergency was declared. Because many emergency managers were snowed in, they activated ground and air rescue missions from their homes, and without key stakeholders in a single Emergency Operations Centre. Without the ability to share situational awareness, information trickled between emergency responders in six communities, the Ontario Provincial Police, Canadian Forces and the utility companies by telephone and email. Lacking a clear and common overview of the different rescue teams relative to the stranded motorists, open roads, power outages and the status of snow removal to guide operations, information flow challenges

hampered the most timely and cost-effective use of responding resources. For example one instance had an ambulance dispatched to a stranded vehicle only to discover that the patient had been looked after by military air-evacuation.

Canadian Emergency Operations Centres are often equipped with stand-alone incident management tools but the inability to connect them to share situational awareness has been identified as a critical capability gap obstructing interoperability. The Government of Canada is striving to facilitate communications interoperability amongst these systems; provide an interface for agencies lacking such tools; and enhance the capability of field units to share data in real time, thereby improving situational awareness for the entire responder community. One key component to solving this problem is the implementation of the Multi-Agency Situational Awareness System - Information Exchange (MASAS-X) being co-led by the Defence R&D Canada – Centre for Security Science (DRDC CSS) with a national MASAS implementation team comprised of partners from Public Safety Canada, Natural Resources Canada and industry professionals. The team's objective is to build an enduring national capability in alignment with *Public Safety Canada's Communications Interoperability Strategy for Canada* and *Action Plan*, which has identified MASAS as a common national architecture for public safety situational awareness. Linking MASAS with a similar capability in the United States has been identified in the Beyond the Border Action Plan with the United States.

Defining MASAS

Simply put, MASAS-X is like three buckets. One is for operational information sharing, one is for exercises, and one is for training. Stakeholders are free to publish "non-sensitive" information into the buckets using the applications of their choosing. They are encouraged to use their incident management and Geographic Information System (GIS) systems to interface with MASAS-X so that they do not have to post the information more than once. Many such systems now include a check box, "Post to MASAS".

Any MASAS-X participant may then request the contents of the buckets. The content format supports their asking for information for a specific area and then filtering it based on event category, type, severity, time, sender, etc. This is done using common internet practices, which reduce or negate IT issues for most organizations.

You may ask why only "non-sensitive" information? The findings of the MASAS team have been that nearly all information shared is non-sensitive. Efforts to classify information of a somewhat sensitive nature have proven fruitless, and loss of the interest of many stakeholders, especially the policing community. Keeping the content below a sensitivity threshold has resulted in support from stakeholders across all public safety disciplines and all levels of government.

What do you do with more sensitive content? One approach is to include a link to a password protected site, so that those with the credentials can quickly access it, and those without know who to ask for it. A future consideration is to stand up a short-term virtual MASAS hub specific to a limited number of stakeholders defined on the fly by the party standing up the short-term hub.

The MASAS information exchange architecture is simple and based on:

Open source implementations of an Application Protocol Interface (API) and, basic posting and viewing tools – all available for free encouraging usage, development and integration. (Available at www.MASAS.ca).

A nationally managed network of high resilience data aggregation hubs to provide a common, reliable and interoperable data source structured in accordance with open messaging standards, including the Canadian Profile for the Common Alerting Protocol (CAP-CP). [CAP-CP is the Canadian Profile of the international (OASIS) Common Alerting Protocol standard.]

The business model and implementation strategy for MASAS-X is aimed at maximizing inclusiveness, minimizing cost and avoiding information-sharing barriers relating to sensitive content and non-interoperable proprietary systems.

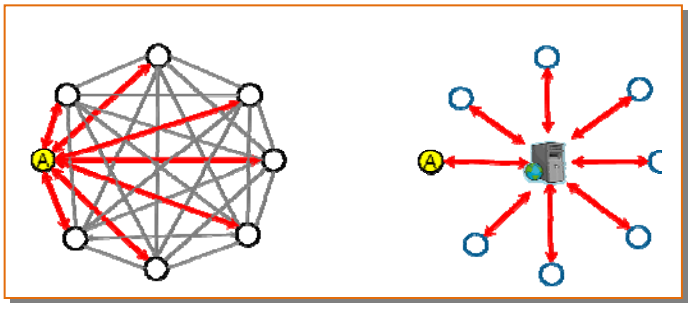
A New APPROACH

Emergency managers are accustomed to dealing with ambiguity and they use simple tools to organize even the most chaotic information: maps with push-pins to depict "what is happening and where"; clipboards and paper for information logs and Situation Reports (SITREPs); and phones, fax, radios, and email to broadcast the information. MASAS organizes all this valuable information more efficiently, and in near real time. Information from the responders in the field can be communicated simultaneously at the federal, provincial-territorial, and/or municipal levels if needed.

Map with Pushpins - During a crisis, a map provides an incredible SA capability but the problem is that during an emergency, it is impossible to share and maintain situational awareness since this would require face to face meetings. With MASAS, data such as road-closures and extreme weather alerts can be shared through the use of geotagged information in a format that is readily accessible by a wide variety of tools and with any electronic mapping data layer.

Structured Information – Emailing SITREPs has become the standard for Canadian emergency managers to update situational awareness and align strategies. The unstructured nature of this method poses challenges for the large organizations collaborating with many others as they are bombarded with hundreds of pages of information and key pieces are undoubtedly lost in the noise. MASAS enforces a degree of structure to time-sensitive information, allowing groups to rapidly filter out noise and focus on the relevant information. Basic information categorizing the event, infrastructure or operation, and one-two paragraphs describing a situation helps emergency managers to plan more effectively and efficiently. Links can be included as well as attachments such as pictures, charts and SITREPS.

Information Collection and Dissemination – MASAS makes it possible to share information once for all to use through the use of a centralized data aggregation hub, allowing for the rapid dissemination from information centres to the field (right image). MASAS replaces the time-consuming error-prone method of manually setting up large email distribution lists, finding and polling from numerous information sources, and daisy chain relay systems (left image). Furthermore the common hub simplifies systems integration for user agencies by doing the engineering once for all to share through a single application programming interface (API).



Conclusion

The public safety and security community across Canada is enthusiastic about the development of

MASAS as it will provide responders with a long-awaited capability, sharing trusted real-time incident-relevant information during an emergency situation. While still in the early stages, preliminary results have shown that MASAS-X participants can significantly improve their situational awareness and cross-jurisdictional information sharing.

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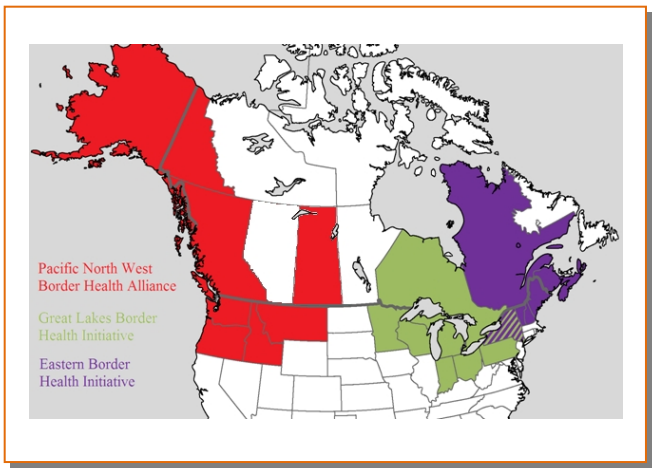
CROSS BORDER COLLABORATION: A PUBLIC HEALTH PREPAREDNESS PERSPECTIVE

By **Wayne Dauphinee**
Executive Director, Pacific NorthWest Border Health Alliance

In the event of a health emergency that spans the US-Canadian border, it is imperative that public health efforts be effectively implemented and coordinated across this international boundary. Whether it is in facing a common threat (e.g., the Influenza A/H1N1 pandemic, or the concern about radioactive material released from the damaged nuclear reactors in Fukushima, Japan), or in providing surge capacity or other assistance to an international neighbor during times of crisis, it is vital that preparedness plans be designed and tested, agreements developed and signed, and professional relationships built and developed *before* a public health crisis occurs. This is particularly challenging across the US-Canadian border, in that jurisdictions may not share the same priorities, laws, resources or language. Legal restrictions on data sharing, transportation and management of biologic samples, and differences in epidemiological case definitions, laboratory testing protocols, communication systems, and personnel licensure, are among the many issues that must be resolved in order for provinces/ territories and states to enhance cross-border public health preparedness and response.



Recognizing this need, individual health officials in numerous local health jurisdictions, Provinces, and States have collaborated informally over the years. During the past decade, these *ad hoc* collaborations coalesced into three coherent regional initiatives designed to foster collaboration among a variety of public health and emergency preparedness professionals across specific parts of the US-

Canadian border: the *Eastern Border Health Initiative* (EBHI); the *Great Lakes Border Health Initiative* (GLBHI); and the *Pacific Northwest Border Health Alliance* (PNWBHA). These three regional collaboratives have been highly effective in developing working arrangements and institutionalizing a culture of collaboration *across their portions* of the US-Canadian border. Each of the three collaboratives holds an annual meeting to further public health preparedness efforts and system building for cross-border collaboration in their regions.

However, this regional approach to cross-border public health collaboration and emergency preparedness had two inherent limitations: (1) there is no mechanism to promote sharing of lessons learned, tools developed, etc., across the collaboratives, and (2) there is no structure or channel for addressing obstacles to collaboration that are inherently federal in nature (e.g., federal regulations limiting the cross-border movement of emergency personnel or electronic data). The first limitation leads to missed opportunities and needless duplication of effort, e.g., in the development of assessment tools, tabletop exercises, agreements and memoranda of understanding, and so forth. The second problem has frustrated each of the three collaboratives at one point or another, in that certain problems inherently require a solution at a federal level—and the collaboratives have had no mechanism for pursuing such solutions, given their regional nature.

For several years, numerous discussions and several meetings have been held seeking to define and stand up some kind of pan- US-Canada border public health preparedness entity to address these two limitations. In 2010, the *US-Canada Pan-Border Public Health Preparedness Council* was established to meet this need.

The US-Canada Pan-Border Public Health Preparedness Council is a group of US and Canadian public health professionals whose overarching mission is to foster the cross-border public health preparedness work of the three regional collaboratives and local health officials along the entire US-Canadian border, so as to strengthen our capacity to detect and respond to all urgent public health threats. The specific goals of the Council are to support local and regional collaborations in public health preparedness activities, e.g., through shared learning, exchange of tools, agreements, etc.; to address issues common to all cross-border collaboratives that require resolution at the federal level; and to engage other pan-border stakeholders when appropriate to assist regional alliances and activities across the border.

The Council has 15 members: Six from the existing regional collaboratives (one US and one Canadian representative each); one Canadian National Capital Region (NCR) Public Health Agency of Canada (PHAC) representative; one NCR US Department of Health and Human Services (HHS) representative; two Canadian regional representatives from PHAC; two US regional representatives from HHS (an ASPR Regional Emergency Coordinator and an OASH Regional Health Administrator); and three members from the unaffiliated jurisdictions of North Dakota, Alberta, and Manitoba.

The novel aspect of this initiative is its ground-up approach to solving an essentially bi-national

problem. From collaboration among like-minded local health officers, epidemiologists, and others living in border communities; to sustained regional collaborations; and ultimately, to a pan-border strategy promoting shared learning and shared problem solving across the collaboratives—all of this has been driven by the belief that, in the end, any public health crisis will require tight, professional-to-professional collaboration across specific border areas *at the local level*. Thus, without 'federalizing' the approach, and with very little in the way of financial resources we have collectively developed a bottom-up pan-border solution that meets the needs of the regional collaboratives, while preserving the local and regional nature of their working relationships.

Wayne Dauphinee is currently Executive Director, Pacific NorthWest Border Health Alliance and is a former Executive Director, Emergency Management Unit, BC Ministry of Health Services. Prior to joining the BC Public Service Wayne served as a Health Services Operations officer with the Canadian Forces.

THE 2011 ONTARIO PROVINCIAL HAZARD IDENTIFICATION AND RISK ASSESSMENT

By **Patricia Martel**
Hazard Identification and Risk Assessment Officer
Emergency Management Ontario

Introduction

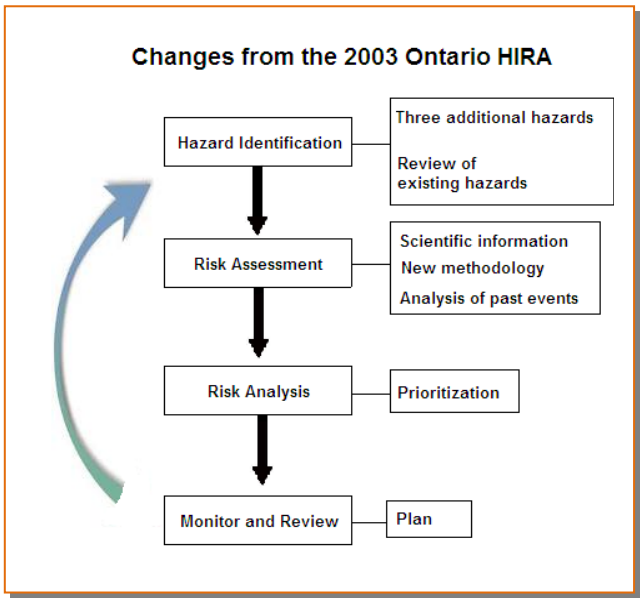
The 2011 Ontario Provincial Hazard Identification and Risk Assessment (HIRA) Report was developed by Emergency Management Ontario (EMO) with input from stakeholders and the scientific community.

The revised HIRA was adopted at the Provincial Emergency Management Coordinating Committee (PEMCC) meeting on September 8, 2011.

The 2011 report was founded on a comprehensive study of the hazards that have currently and/or historically confronted Ontario, as well as those that have the potential to impact the Province in the future. The HIRA assesses the risk for natural, technological, and human-caused or anthropogenic hazards in accordance with the definition of an emergency within the *Emergency Management and Civil Protection Act (EMCPA)*.

It is a reference document for application at the provincial level; however, the process can be adopted at ministry, community, or private sector levels. Ministries and communities in Ontario are required to develop their own HIRAs tailored to their individual risks. In order to assist in this process, EMO has developed a workbook that can act as a step-by-step guide to HIRA development.

Changes



The 2011 HIRA differs significantly from the previous version, approved in 2003. Changes include:

- An updated hazard identification and updated information in the hazard narratives section.

- A literature review of the hazards and risk assessment methodologies.
- A new methodology based on recommended practices.
- The prioritization of the hazards based on the risk analysis.
- A plan in place to monitor and review the 2011 HIRA, as required.

Hazard Identification

The hazards were identified for Ontario after an extensive historic and scientific literature review and through consultation with the scientific community. Three new hazards were identified in the 2011 version: cyber attack, geomagnetic storm and natural space object crash.

Other hazards were expanded to include variations in their cause and a consequence, i.e. flooding was expanded to include riverine and urban flooding, storm surges and seiches. In addition, vulnerable groups were identified for each hazard for consideration during planning.

Hazard Narratives

Thirty-nine hazards were identified and discussed under four main headings: Definition, Description, Provincial Risk Statement, and Case Study. All of the information was updated and definitions are now in concurrence with those accepted by the scientific community. In order to ensure accuracy, each narrative was reviewed by scientific experts.

The history of hazards in Ontario was also examined to assess whether the historical maximum consequence level was equivalent to the maximum consequence level possible for each hazard. Hazards can occur at different magnitudes and vulnerability may change over time so modern consequences may differ from past consequences.

Geomagnetic storms are an example of such hazards. Large geomagnetic storms may have occurred in the past but had minimal consequences since the technology that they damaged was not as widespread at the time. As society's dependence on technology grows, the consequence and the risk associated with geomagnetic storms increases. The information collected from this examination was incorporated into the hazard narratives.

The Methodology

An extensive literature review was undertaken to develop a methodology that reflected recommended practices and that was suitable for use at the provincial level. The sources of the documents that were reviewed include: scientific and peer-review journals, HIRAs from other provinces and international HIRAs that were developed in a manner adaptable to the provincial scale. In addition, the literature review was taken a step further to examine the different variables used in risk assessment equations to determine which variables should be included in the HIRA.

At the core of all risk assessments is the equation:

Risk = Frequency * Consequence.

The new HIRA methodology incorporated a third variable based on the results of the literature review. This third variable, Changing Risk introduces projected changes in frequency and vulnerability into the equation. The resulting equation for the Ontario Provincial HIRA is:

Risk = Frequency*Consequence*Changing Risk.

The development of the methodology was followed by the consultation of stakeholders, risk assessment professionals and members of the scientific community. Reviewers from Ontario, other provinces and international jurisdictions were consulted in order to receive as many different perspectives as possible.

Prioritization of the Hazards

Once the risk assessment was completed for each hazard, the hazards were grouped into categories for prioritization based on their risk. A prioritized HIRA:

- Enables prevention, mitigation, preparedness, response, and recovery practices to be as effective as possible by highlighting the hazards of greatest concern.
- Assists with the allocation of resources and money.
- Highlights which hazards should be a priority for training and exercises.
- Increases public confidence in authorities.

Monitor and Review

A HIRA is an evergreen document which needs to be continually monitored and reviewed. A HIRA provides information on which hazards should be considered a priority for emergency management programs at a particular point in time. A plan is in place to actively monitor new and evolving hazards and to update the HIRA accordingly.

Conclusions

Ontario has experienced natural hazards, technological hazards and human-caused hazards in the past and will continue to do so in the future.

With the creation of the *EMCPA*, Ontario entered a new phase in its emergency management programs which focused on a risk-based approach. The first step outlined by the Act to reduce risks is to identify the hazards and assess their associated risks in order to determine which hazards are most likely to result in an emergency.

Systematic risk assessments (such as a HIRA) are a tool to accomplish this and can be used to shift the focus of emergency management programs away from being merely reactive to also being pro-active.

The addition of a pro-active approach to emergency management through a stronger focus on prevention, mitigation, preparedness, in addition to response and recovery can result in a more disaster-resilient province of Ontario.

Patricia Martel has a MSc. in Earth Sciences and a graduate certificate in Emergency Management. She is currently working on a PhD in Geography at Wilfrid Laurier University which is focused on emergency management and severe weather

IN A DISASTER, WHAT IS REALLY GOING TO HAPPEN?

By **Victor Smart**
Manager, Fire & Life Safety for the Cadillac Fairview Vancouver Properties

Lately I've been pondering professionally and personally: if the Lower Mainland of British Columbia is subject to a catastrophic event such as a major earthquake, what is going to happen?

For the past ten years, I have held countless emergency preparedness workshops for tenants either for the general building population or individual organizations. These workshops have traditionally addressed office and personal preparedness, as well as business continuity. Municipalities have held free Neighbourhood Emergency Preparedness Programs workshops for many years as well.

On September 8th, 2011, Vancouver was "rocked" with a magnitude 6.3 earthquake with the epicentre located 50 km. off the west coast of Vancouver Island (approximately 300 km from Vancouver).

The problem? Some people felt it, some people didn't. In my particular circumstance, I was sitting at my desk and my first information about the earthquake was a telephone call from security asking if I had felt it?

Since not everyone felt it, including most of the property management group, no action was taken on our part. This added to the confusion because tenants that occupied higher floors evacuated their tenancy. Others didn't. We decided fairly quickly to send out a tenant bulletin outlining that there had been a "minor" earthquake but it had not affected any part of the building operations and thus there was no need for further action.

Since that time I have been fortunate to speak to some tenants about the events of September 9th. My question to some people who evacuated was "where did you think you were going?" If the answer was that they were closing the office for the day thereby "evacuating" the premises, and then going home (not that would be correct, but I can see that point of view) that would be one thing. But the answer they gave was to evacuate the building and then to proceed outside (not even to the designated assembly area) and wait. What were they waiting for? Thus far, I have not been given a reasonable response to that question.

January 26th, 2011 was the first British Columbia ShakeOut. According to the ShakeOut website (www.shakeoutbc.ca) close to 500,000 people participated in the province. A large number to be sure, but take into account that the Vancouver Police Department website for District 1 estimates that the business day time population of downtown Vancouver can reach upwards of over 300,000 people.

On October 26th, 2011 another British Columbia ShakeOut was held to align with the similar drill in the Pacific Northwest and California where according to the ShakeOut website, over 530,000 participants registered. Again, an imposing number for the province as a whole. Personally, I believe that the past two ShakeOut Drills were a fantastic concept and look forward to holding future ShakeOut drills.

So what would happen if we had a catastrophic event? The easy answer is "no one knows for sure," but I believe the populous of the Lower Mainland will face some hard times immediately afterwards.

Most people are "programmed" to call 9-1-1 when they need help. Those emergency preparedness professionals are aware that emergency services will be immediately overwhelmed and shift into "triage mode" to deal with only the very serious situations first. Once the command structure is mobilized, assessment becomes the norm and emergency services will respond as directed by the City's emergency management team.

So what about the others? Those people that haven't paid attention to the news, attended a workshop or information session? They will most likely expect the fire service, the police department and the paramedic service to arrive to help them and tell them what to do.

In commercial real estate, tenants will be asking the property manager what to do. The question is, do they know what to do? Do they know how to assess their facility? Have they a plan? Have they exercised it? Do they have supplies?

One of the questions I asked one of the occupants of our buildings when I first started in the commercial real estate world many years ago was "Do you have emergency supplies?" They responded that it was the landlord's responsibility to provide food and water supplies for them. I informed him (and everyone since then) that it is the individual organization's responsibility to provide food and water supplies for their staff. Unfortunately, those that have not heard this information will not have planned ahead of time and then will be looking at the property owner to provide those supplies to their staff.

People will want to go home and take care of loved ones not realizing that if they have a bridge to cross

it's unlikely they'll be able to get there. Those that take public transit will expect to get onto buses and trains as they normally do for their commute home. Those that drive will be expecting to go down to their vehicles and make their way home just like on a normal day, not realizing that streets and roads may be blocked by debris and any accessible routes are likely to have dozens of cars on them containing people thinking exactly as they do. Not to mention the general lack of awareness of the *Disaster Response Routes*. Have people seen the signs? Do they know what they mean?

We are very fortunate we are not often faced with emergency events on a grand scale, but unfortunately, because of a lack of experience we don't know what to expect and thus don't know how to react. I guess in many ways as much as I hope I'm doing my part in informing as many people as I can but is it enough? What else can be done? Who needs to be involved in "spreading the message"? Do we always need to wait until something happens before there is action?

ENCYCLOPEDIA OF CRISIS MANAGEMENT

Now a growing and important research field, crisis management—as a formal area of study—is relatively young, having just emerged since the late 1980s following a succession of such calamities as the Bhopal gas leak, the loss of the Space Shuttle Challenger, the Gulf of Mexico oil spill, and the financial crises of 2008. The analysis of the organizational failures that caused events such as these helped drive the emerging field of crisis management. Simultaneously, the number of natural disasters has increased as well. From this, we have learned that our modern, tightly interconnected and interdependent society is simply more vulnerable to disruption than in the past.

This interconnectedness is made possible in part by crisis management, while also increasing our reliance on it. As such, crisis management is as beneficial and crucial today as information technology has become over the last few decades. Successfully engaging, dealing with, and working through a crisis require an understanding of options and tools for individual and joint decision-making. The *Encyclopedia of Crisis Management* comprehensively explains concepts and techniques for effectively assessing, analyzing, managing, and resolving crises, whether they be organizational, business, community, or political. From general theories and concepts exploring the meaning and causes of crisis to practical strategies and techniques relevant to crises of specific types and categories, crisis management will be thoroughly introduced and explored in approximately 375 articles.

This comprehensive project will be published by SAGE Reference and will be marketed to academic and public libraries as a print and digital product available to students via the library's electronic services. The General Editors, who will be reviewing each submission to the project, are K. Bradley Penuel, Matt Statler, and Ryan Hagen at New York University. We are currently making assignments with a deadline of March 30, 2012.

If you are interested in contributing to this cutting-edge reference, an making a notable publication addition to your CV/resume and broaden your publishing credits, SAGE Publications offers an honorarium ranging from SAGE book credits for smaller articles up to a free set of the printed product or access to the online product for contributions totaling 10,000 words or more.

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PUBLIC SAFETY CANADA'S ALL HAZARD RISK ASSESSMENT

By **Connie Cheung**
Senior Policy Advisor
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In today's risk environment, governments need to manage threats and hazards that are global in scope, interconnected and increasing in severity and frequency. Regardless of the types of disasters, the social and economic impacts are often high and consequently affect the interests of Canada and Canadians in terms of safety and security. Moreover, according to the Canadian Disaster Database (CDD), disasters today are complicated by many factors such as urbanization, technology and climate change, which further compound their cost. Before the 1990s, only three disasters in Canadian history had ever exceeded $500 million in damages (expressed in 2010 dollars). Major disasters in 1996, 1997, and 1998, doubled the number of Canadian disasters exceeding this threshold, resulting in a fundamental shift in Canada's risk profile. In the last decade there have been nine disasters which have exceeded $500 million in damages, which in total has cost Canada approximately $1.1 billion per year.

A key characteristic of risks is that they cross borders, jurisdictions and sectors. Risks are therefore co-owned. As a result, managing disasters today requires a coordinated and collaborative effort amongst governments, non-governmental organizations, and the private sector. As a reflection of this reality, An *Emergency Management Framework for Canada* (2011) establishes a common approach toward federal, provincial and territorial emergency management initiatives that ensures coherent, complementary actions among the different federal, provincial and territorial initiatives. The principle of "partnership", which is embedded in the Framework, depends on "effective collaboration, coordination and communication in establishing federal, provincial and territorial emergency management systems." To manage an increasingly complex risk environment, the federal, provincial and territorial Emergency Management Framework also adopts an all-hazards approach towards natural and man-made disasters and hazards by integrating common emergency management elements across all hazards types.

Against the backdrop of this risk environment, Canada's international partners have made significant strides to develop tools to enhance the ability of governments to prioritize risks for investments and emergency management. In 2005, the United Kingdom (UK) conducted a National Risk Assessment (NRA) to classify risks that were a threat to the UK and, through the National Risk Register; the UK promotes risk awareness at all levels to enhance emergency management planning. Within the context of the National Security Strategy, in 2008, the Netherlands developed a NRA framework to measure the different kinds of risks and crisis scenarios. These risks were transformed into a risk diagram that enables capability analysis and planning. By charting the various risks in collaboration with other stakeholders, the Netherlands is in a position to set priorities, better weigh threats and hazards, and consequently make more effective policy choices. The United States has launched a similar process as part of the 2011 Presidential Policy Directive 8 (National Preparedness), which resulted in a Strategic NRA to support decision-making on

capability-based investments. Recently, the Organisation for Economic Co-operation and Development has brought these countries together, as well as Canada and other member-states, to participate in a High Level Risk Forum to share best practices and develop guidelines on risk assessment.

In 2007, the Government of Canada modernized the federal emergency management legislation to take into account, amongst other things, the importance of risk assessment to emergency management. The *Emergency Management Act* (2007) defines the roles and responsibilities that all federal ministers that must play in emergency management planning and assigns a leadership and federal coordination role to the Minister of Public Safety Canada. A key role of the Public Safety Minister is to establish policies and programs that support departments in the development of emergency management plans. In addition, Ministers accountable to Parliament are responsible for identifying risks within or related to their mandate and preparing emergency management plans with respect to those risks, which includes preparing, maintaining, testing and implementing emergency management plans, using the guidance provided by the Minister of Public Safety.

Further supporting the need for a more cohesive emergency management system, the Auditor General of Canada released in the fall of 2009 a report on emergency management that noted the importance of an all-hazards approach to risk assessment for identifying the key safety and security threats facing Canada. It was recommended that the department should establish policies and programs and provide advice for departments to follow when identifying risks and developing their emergency management plans. Public Safety Canada agreed with the need to provide the federal leadership to develop a whole-of-government risk picture that would enhance senior decision-makers' risk awareness and provide the necessary information for capability-based planning and investments.

Public Safety launched the federal *All Hazards Risk Assessment* (AHRA) process in summer 2009 by working across 25 federal safety and security institutions. The methodology for the AHRA was developed in 2009 by the Centre for Security Science (CSS) at Defence Research and Development Canada and transformed into a process by Public Safety's Emergency Management and Regional Operations Branch (EMRO). This process paved the way towards a NRA tool that integrates science and technology to address public safety and security. The AHRA is a scenario-based planning tool that facilitates the scoring of likelihood and consequences of an event. The second round of the AHRA process will be completed by June 2012 and the database will contain over 20 scenarios. The approach towards analyzing and evaluating risks requires dialogue and information sharing amongst all federal partners in order to provide a complete and accurate risk picture. This risk picture, when complete, may be used by decision makers to plan and prioritize resources through the continuum of emergency management.

The AHRA process produces the risk data that supports federal organizations to meet their legislative responsibility under the Act to develop emergency management plans. A key tool in this regard is the *Emergency Management Planning Guide, 2010 – 2011*, which was published in June 2010. In keeping with the all-hazards approach to emergency management in Canada, the Guide promotes a risk-based approach to emergency management planning that is founded on the four components of emergency management (prevention and mitigation, preparedness, response and recovery). The resulting *Strategic Emergency Management Plan* (SEMP) establishes a federal government institution's objectives, approach and

structure for protecting Canada and Canadians from threats and hazards in their area of responsibility and sets out how the institution will assist in supporting a federal emergency response. The risks identified by federal institutions through the AHRA process are applied to the development of their own SEMP for which they are individually responsible. The Minister of PS is also responsible to analyse and evaluate the emergency management plans of federal institutions, a process which is intended to lead to effective emergency management results arising from a coordinated approach and a more uniform structure across federal government institutions.

The Government of Canada has made important advancements in emergency management since 2007. The AHRA and the SEMPs are key tools for identifying and planning against risks. Bringing together federal experts to score and develop the risk picture is an important first step in developing risk-based emergency management. Additional innovations that could be developed are:

A tool that facilitates different dimensions of risk scoring, CSS is currently working on risk analysis architecture for capturing risks events prior, during, and after a disaster. This tool would also act as a database for all scenarios allowing for planners and decision makers to review and rescore event scenarios at any given time. Public Safety is also researching tools that would allow for scenarios to be scored based on the four components to emergency management (prevention and mitigation, preparedness, response and recovery). Currently the AHRA process assesses a snapshot of an event, which includes mitigation measures. With a more dynamic architecture, federal institutions could risk score their capabilities or lack thereof.

Foresight analysis is another potential method of assessing and evaluating risks. According to experts in the field, there is a lack of analysis of less probable or catastrophic events amongst natural and malicious disasters. Currently foresight analysis is practiced predominantly in the field of economics and finance. Planners and managers have not taken into consideration catastrophic events due to their low likelihood or probability for occurrence, which can result in astronomical effects such as 9/11. Being prepared for catastrophic events is as relevant as day-to-day events.

Framing the risk picture to provide policy options for decision makers: as the AHRA evolves, a more comprehensive risk picture will be developed over time and an assessment of the measure of risk provided, including risk management strategies. As mentioned earlier, disasters are not static and decision cannot be based on one risk picture. As the picture evolves to include a continuum of risks (including their varying level of severity), decisions makers will have the capability to plan and prioritize risks accordingly.

LAYMAN'S EXPLANATION OF HAZARD, RISK, VULNERABILITY

By **Ernie MacGillivray**
Strategic Initiatives, New Brunswick Department of Public Safety

We are all taught that our emergency programs are supposed to be risk based, but what is 'risk' and how do we measure and assess it? This is indeed a challenge. As with much of the emergency management domain, the practice of risk assessment is very diverse and fragmented. There is a pantheon of risk assessment tools and service offerings. Faced with so many risk assessment approaches, methodologies and services, which are the right choices for us and how do we decide what is appropriate to our circumstances? Here is one layman's perspective.

A good place to start is to look at some definitions found in the *Emergency Management Framework for Canada*. Hazard is defined as "a potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation". Risk is defined as "the combination of the likelihood and the consequence of a specified hazard being realized, and refers to the vulnerability, proximity or exposure to hazards, which affect the likelihood of adverse impact."

"Godschalk (1991, p. 132) offers what is probably the best (and simplest) general definition of vulnerability: "[The] susceptibility to injury or damage from hazards." That said, this may be a dated concept. Some of us would like to get rid of the word "vulnerability" and move towards considering "levels of resiliency." If you are "vulnerable" you have a low level of resiliency. Vulnerable is such a negative term while having a low level of resiliency also suggests that you can do something about it which is more positive. Resiliency is also a more holistic approach and includes measures of capacity.

That is a lot of words to parse, so in simpler terms, I suggest that the seriousness of an event is generally determined by the intersection of impacts with a community's vulnerability to those impacts and its ability to cope. Ability to cope can be assessed as capacity, in both material and human terms. There is a trend to think of 'capacity' only in terms of emergency services, but a proper assessment would also take demographics, institutional and cultural factors into account. I offer that half the response effort is public and private sector institutional capacity and the other half is people helping themselves and each other. In addition, each community will have some vulnerabilities; these should be examined as suggested by the definition above and understood thoroughly. Once you know your strengths (capacity) and limitations (vulnerability), then you can look more closely (and accurately) at what might happen and what to plan for.

In the recent national dialog on disaster risk reduction we have begun to see that vulnerability matters more than the simplistic risk equation of Probability X Impacts. For example, Haiti's recent earthquake was much less severe than Chile's, but the societal impacts were much more disastrous because of societal vulnerabilities and limited institutional capacity. Indeed, a quick Internet search will reveal more complex risk equations that take vulnerability and other factors into account, and those formulae may well be useful in some contexts. For practical purposes though, I would say that we need to look at what can rock us, and that should inform *where* we need to build capacity and reduce vulnerability. Let's not only look at the fires we might have to fight and how to fight them; let's also do what we can to lower the fire index.

There are many approaches to looking at hazard, risk and vulnerability. In my experience, quantitative approaches involving detailed calculations of probabilities, return periods and impact scenarios can be useful, but simple qualitative assessments leveraging human knowledge, experience and wisdom are essential. In both cases, first approximations are perhaps 80% of what you need. More sophisticated and detailed assessments will add some value, but are not essential to the bulk of the work. Once you get past the veil of words, the ideas are simple and there are many good approaches. I suggest getting people together to talk about hazards, resiliency and capacity. Explore the concepts a bit and then proceed to identify (1) the most probable and most dangerous hazards (those that may impact what you value most), (2) the associated impacts, (3) resilience to those impacts and (4) the community's capacity. You should consider both the potential for hazards and your resiliency to those hazards. Those

hazards with high probability and low resiliency become priorities. This dialog should inform the planning process, as well as prevention, mitigation and preparedness measures. Where more detailed or scientific assessment of some hazard may be needed, ask for help with that. Provincial Emergency Management Agencies are a good source of advice.

CANADIAN DISASTER MANAGEMENT TEXTBOOK

Overview by: ***Brenda L. Murphy***

Available at: http://www.crhnet.ca/

Brenda L. Murphy (bmurphy@wlu.ca) and David Etkin (etkin@yorku.ca) have recently released an edited, on-line textbook about disaster and emergency management designed for Canadian post-secondary students.

The textbook, hosted by CRHNet, is a collection of chapters by Canadian disaster academics and practitioners on such topics as an overview of important risks facing Canadians (Introduction), legislation and policy, vulnerability, the disaster management cycle and case studies. It meets a gap in teaching materials that are Canadian focused. The book avoids generic topics in the field that are well covered by many other textbooks; instead it pays more attention to issues of particular Canadian interest or specialized topics. The editors want to thank all the contributors for their diligence – the quality of the submissions is superb! As a "living document" on the internet, the textbook is freely available to all who are interested in the field of Canadian disaster and emergency management. Another advantage of the online environment is that existing chapters can be easily updated and new chapters added.

At the moment there are several topics listed for which we do not yet have a chapter. Ideas for new topics are also welcome. We would like to invite anyone interested in contributing, including students finishing graduate research projects and practitioners, to contact us. All papers are peer reviewed prior to being uploaded to the website. We would also be interested in any feedback or questions you might have.

"WATERLOO INSTITUTE DISASTER MANAGEMENT"

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A CASE FOR INCLUSION OF DISABILITY TRAINING FOR FIRST RESPONDERS

By **Katherine Forgaard-Pullen**

Abstract

It is critically important to include training for emergency first responders on the topic of disabilities management in a disaster including disabilities awareness, major disability categories and the necessity of effective communications with disabled persons. It is too easy for able bodied people to assume capability without awareness of disability needs, damaging people's dignity and creating trauma that, with simple adaptations, could be avoided. Learning the basics regarding the major categories of physical, sensory, cognitive, psychiatric and hidden disabilities will help first responders meet all citizens' needs effectively and efficiently. An inability to communicate with a disabled person could have catastrophic consequences for the individual, a group and/or the response team; adaptations in communication can be learned and each responder unit should examine their plans to include specific training to meet these needs. Trained to meet disabled citizens' needs in an emergency, first responders will maintain safety for all through heightened awareness, knowledge of possible adaptations and be confident in communicating with people no matter their special needs.

Introduction

"If there is one immediate benefit that came out of the events of September 2001, it may be the understanding, ... that in disaster situations, nobody, regardless of their physical or mental condition, should be left behind." (Fox, White, Rooney, and Rowland)

Convincing municipal planners to include training for first responders specifically in disabilities and responses to people with disabilities is vital to achieve good outcomes for citizens with accessibility challenges.

Many municipalities, counties, regions and provinces rely on the excellent publications available from various senior planning departments but do not demonstrate more than lip service to implementation strategies in the field. Claiming budgetary restraints and personnel limitations, training in responses suitable for persons with disabilities is placed lower on the priority list. The attitudinal barriers implied in these choices at the planning tables are the most difficult barriers disabled people face. Putting disability training on the agenda for first responders is the ethical and appropriate choice for all planners to make.

Awareness of Disability

Assumptions of "Able-ness" are made in a cultural context that includes stereotypes and misinformation. Ask a disabled person about what average citizens expect from them and the answers range from amusing to offensive. Blind people are asked if their sense of smell improves; deaf people are often spoken to in exaggeratedly slow ways as though their lip reading skills are 'retarded'; people with handicapped parking permits who do not use mobility aids are harassed for not appearing to need the special parking spots. In an emergency, these kinds of faux-pas become deadly errors. Many

visually impaired people do not utilise a cane; deaf people may well live alone and not be aware of the sirens or loud hailers, cognitively impaired people can hide as a response to stress or strangers. Our choices during planning can alleviate or mitigate some of these situations, but our first responders are still likely to encounter people who require a different sort of assistance to be safe during the emergency.

Dignity as a human right is enshrined in the United Nations Universal Declaration of Human Rights, and disability is a protected category in the Canadian Charter of Rights and Freedoms. It is also a pretty easily accepted concept for all of us. The problem occurs when another person's dignity requires an additional or different set of tasks or responses to ensure it. All major emergencies hold a possibility that some people will suffer extended harm beyond the measurable losses of the event itself – injuries that do not heal. Injuries to dignity are very slow to heal, and for some, create intense suffering. These can be prevented.

Adaptations as tools and skills to preserve life and maintain safety and dignity are possible, available and teachable. Many are simple, such as recognition of the need to explain what you are doing while you are doing it to a visually impaired person. Some take more time, which is precious during an emergency, such as writing information for deaf people. Strategies for this need to be developed in the planning process. First responders are by nature able to learn the proper procedures and take pride in delivering first class services. This type of training is just another set of tools and skills for their professional tool kit.

Major Disability Categories and relevant information

Physical disabilities are one of the most obvious groups of disabilities. Each person will have some remaining abilities; many have mechanical items required for living. Pain is a likely companion. Many people who are severely disabled fear unskilled handling.

Sensory disabilities primarily include visual impairment /blindness and hard of hearing/deafness. (Other sensory deficits such as loss of feeling, taste, or smell are either concurrent with other physical problems, or do not affect individuals in ways that impact participation in mainstream life.) Blindness and deafness of any degree can co-occur.

Cognitive disabilities include intellectual delay (historically known as developmental handicaps or 'retardation'), brain injury, strokes and dementias. All of these conditions affect the person's ability to understand or communicate information. All people become confused when too much information is given too quickly. For people with cognitive impairment confusion leads to fear, and fear becomes troubled behaviour.

Psychiatric disabilities range from mild to severe, and stress can be a trigger for symptoms to escalate. Most people who live with psychiatric disabilities manage their lives independently.

Hidden disabilities can include some of the conditions listed above, but extend to individuals living with health conditions that require access to medications or medical supplies.

Communication

"The evidence is clear that the more you (communicate in advance) the better the messages will be listened to, perceived, comprehended, and that an appropriate behavioural response to the message will result"

> Dr. Robert Chandler, Centre for Communication and Business, Pepperdine University.

The places to communicate in advance regarding disabilities and emergency responses in a disaster are a) in planning and preparation, b) with the disability communities and individuals, c) with service providers to the people with disabilities, and d) in training opportunities for first responders. Consequences of ineffective communication can be dire. There are multiple points of communication, and thus many potential points of failure.

"*Even if the messaging has been flawlessly designed, it is still not likely to get through...unless it has been planted...in the subconscious long in advance"*. (Parker, 2008)

The body of Ethel Freeman, in wheelchair, and another body lie covered outside an entrance to the Convention Center where thousands waited to be evacuated from hurricane-ravaged New Orleans on Sept. 2, 2004. Although rescued by first responders, there were inadequate resources and poorly trained personnel at the receiving centres for the many frail and disabled residents of New Orleans after Hurricane Katrina.

The goal of increasing training for first responders in disabilities issues is to decrease dire outcomes for persons with disabilities. No family or community should face the sorrow that Herbert Freeman Jr. felt when after the rescue, his 90 year old mother died of exhaustion and thirst waiting in a line up for appropriate care at the receiving centre. Both the planning and the communication failed this family.

Adaptations for communication to citizens during the disaster events themselves can be learned ahead of time, practiced ahead of time and teams can problem solve during the event as needed. There are some basic principles, and there are some specifics that are dependent on the disability and the barrier faced. For example, it is important that responders remember that nearly all disabled people are able to participate in their own rescue. Most disabled persons have intact abilities as well as their health condition. Speaking and communicating appropriately to the individual allows the responder to include the citizen as a member of their own rescue team – the one with the most knowledge about their needs. Another example is learning the universal symbols for varying health conditions. If the municipality encourages the use of display cards during emergencies, the ability of the responders to adjust their activity will be enhanced...if the responder is familiar with the symbols displayed.

Common Symbols used in Disability Communication

Communication about disability needs in planning stages includes utilizing the excellent resources provided by Emergency Management Ontario (see the end of the article for web links), National Fire Protection Association's Emergency Evacuation Planning Guide [For] People with Disabilities, and

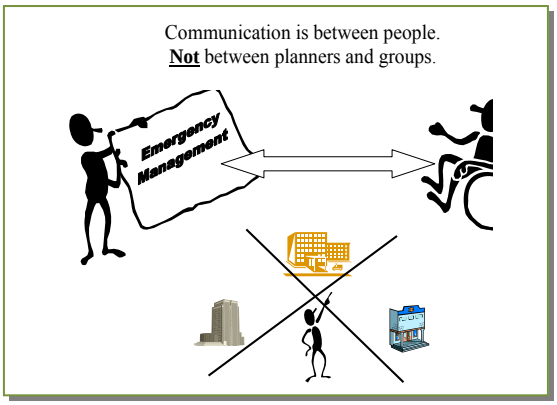
so on. These essential resources must then be enveloped into the overall plan itself. Planning and Preparation principles in emergency planning acknowledge that plans must be communicated to the community and the citizens, and that citizens, institutions and businesses must undertake their own emergency planning initiatives. Communicating the existence of resources appropriate for individuals living with disabilities to the citizens, disability communities and those who provide services to people living with disabilities is an essential component of the planning process. These resources must be made available in as many modalities through as many varied sources and technologies as possible, with respect to the demographics of the community for whom the plan is prepared.

Identifying training needs

Demographics are a good place to start the identification process. The disability rates in Ontario rose approximately 2% from 2001 to 2006 for an overall estimation of 15.4% of the population. So it is inevitable that first responders will engage with persons with disabilities. What may not be as well understood is that most people with disabilities live in their own homes, and thus the municipality cannot rely solely on institutions or agencies to assist with emergency responses to the majority of disabled citizens.

Current resources for responder training in adaptive responses for people living with disabilities need to be inventoried. This includes a snapshot of the first responder awareness levels, community networks, resource and training personnel, and funding sources for additional training needed.

Consulting Disabled communities directly is a resource that is underutilized at best. When response exercises are designed and implemented, are the disability communities directly involved?



Giving first responders direct contact and experience with assisting individuals with disabling conditions is a much more effective learning technique than many hours spent with lecturers and seminars. Including citizens with disabilities in the planning committees, rather than or in addition to their service providers allows for an enhanced awareness and the most effective deterrent to assumptions of 'ableness'. One of Dr. Robert Chandler's statements (Parker, pg. 8) about communication with businesses can be paraphrased to describe communication with disability communities: "*One doesn't communicate to disability communities. One communicates to people within the community – representatives, stakeholders or affirmative actors in that business.*"

Summary

"*It is not hard to imagine how it must feel to be left behind in your wheelchair while others evacuate to safety, use public transportation, and access shelters or other forms of temporary housing during disasters. Without meaningful changes, persons with mobility impairments or other disabilities will continue to risk their lives, safety, and independence needlessly due to a lack of, or inadequacies in, preparedness and response measures. There is no reason for another 20 years of consumer reports reminding us of this discrimination.*" (Rooney, and White)

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DISASTER: TO BE OR NOT TO BE? *ATTAWAPISKAT: ARE THERE UNDERLYING ISSUES?*

By **Valérie Céré, RN**
Disaster Anthropologist
CRHNet Board Member

Sometimes, watching the news brings you back in time and makes you think about a moment in your life when you have witnessed something that didn't make sense to you. You think about it in hindsight, looking back at the events and there are still some missing pieces to the puzzle.

It was back in last November, when I heard on the news that the Red Cross was going to help the small aboriginal village of Attawapiskat, James Bay, a month after the Band Chief declared of *State of Emergency*. They say it was the first time in Canadian Red Cross history that they were providing humanitarian aid within Canadian borders and not disaster help. What happened? What is going on over there?

You first have to know that for some years I have worked as an outpost relief nurse in Northern Ontario. The First Nations living conditions in the Sioux Lookout Zone and Moose Factory Zone

(James Bay) hit me hard as I was sharing my daily life with them and sharing in their suffering of social issues. My work as a bush nurse over there was more about patching up the problem and hoping it would hold out a little longer than working on prevention and public health teachings.

In Kashechewan, a small community of 2,000 just south of Attawapiskat, I have seen the extremes where, on a weekly basis, you are dealing with incidents of child abuse, sexual abuse, and alcohol-related incidents involving stabbing wounds. The last time I was there, in 2006, there was a spur of violence – two murders happened within two weeks. The Nursing Station and the police were overwhelmed. There was a social work specialist onsite to analyze and make reports to the government. What the village had suffered in those last 15 months was inconceivable. In short, three complete evacuations – two for flooding and one for an e-coli waterworks contamination. Also the elementary school was condemned for a diesel leak and mould, and the high school – and a brand new school bus – had burned down as well. Though it would be complicated to explain in details what happen then, there is one thing I remember: the distress of a community that didn't know who to blame or how to get out of this.

So when in November the Attawapiskat case came out in the news, I was thinking of what I could remember of the community back then and I thought that it seemed that not a lot of things had changed. But is that really the case? Now being a Disaster Anthropologist who studied Aboriginals and has outpost-nursing experience, I was asked to talk about it and to give my comments and analysis of the situation. I thought I had a lot to say about it and I realized that indeed I do.

I remembered that when I was in the field, I was often frustrated when facing a situation that didn't make sense to me, as an urban girl. I often thought about how to fix it – how to find a solution, and in reality, most of the professionals over there I talked to were also trying to figure it out. We were working on a solution instead of trying to understand the underlying conditions that made it happen.

You know what? I was once told that if everyone's knowledge was amalgamated, we might be able to change any situation. What if that was true? What if every one of us, as a Disaster Specialist, held a piece of the puzzle?

I know that experts in the disaster field – let say *you* – would read this paper and would probably say out loud, "Yes, I have something to say about it!" Now I am giving you the opportunity to share your ideas with your colleagues. But how?

Well, here is my suggestion: What about sharing with me via email what you think of the Attawapiskat situation? Give me your thoughts, your ideas on how to solve the problem, or how you analyze the case from your perspective – from your field of expertise. I will take the comments, combine them with my own thoughts, and put them together for the fall issue.

What do you think? Let's put our knowledge together and see if we can create a holistic point of view and see if we can make a positive difference!

You can send your comments to me, Valérie Céré at: vcere@hotmail.com

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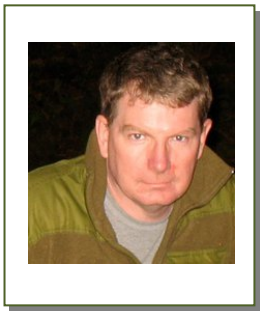

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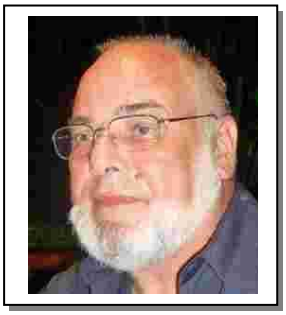

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Become a CRHNet Member

What is "CRHNet?"

Founding members of CRHNet had a vision to develop a Canadian inter-disciplinary and cross sectoral **network** of researchers, academics, practitioners and business and local community members to enhance an understanding of risk, hazards and emergency management. The mission of CRHNet is to create **a safer and more resilient nation** by identifying risk and hazards and to improve emergency and disaster management.

The Network creates an environment in which the hazards research, education and emergency management practitioner and business community can effectively **share knowledge and innovative approaches** that reduce disaster vulnerability**.** CRHNet can help to:

(1) fill the information and research gaps that exist in Canada;
(2) inform practitioners; and
(3) reinforce the lessons of the past.

How do I benefit from becoming a Member in CRHNet?

- Discounted registration fee for the annual **CRHNet**
- **Symposium** and access to presentations
- Regular newsletter with current disaster research topics
- Access to disaster case studies and reports
- Access to CRHNet members to exchange hazards knowledge

How can I join and support CRHNET?

It's easy! Just access the CRHNet website **www.crhnet.ca** and you will find the membership information to complete on line.

Join, and help us make a safer Canada as well as a safer world.

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