HazNet

The Magazine of the Canadian Risks and Hazards Network

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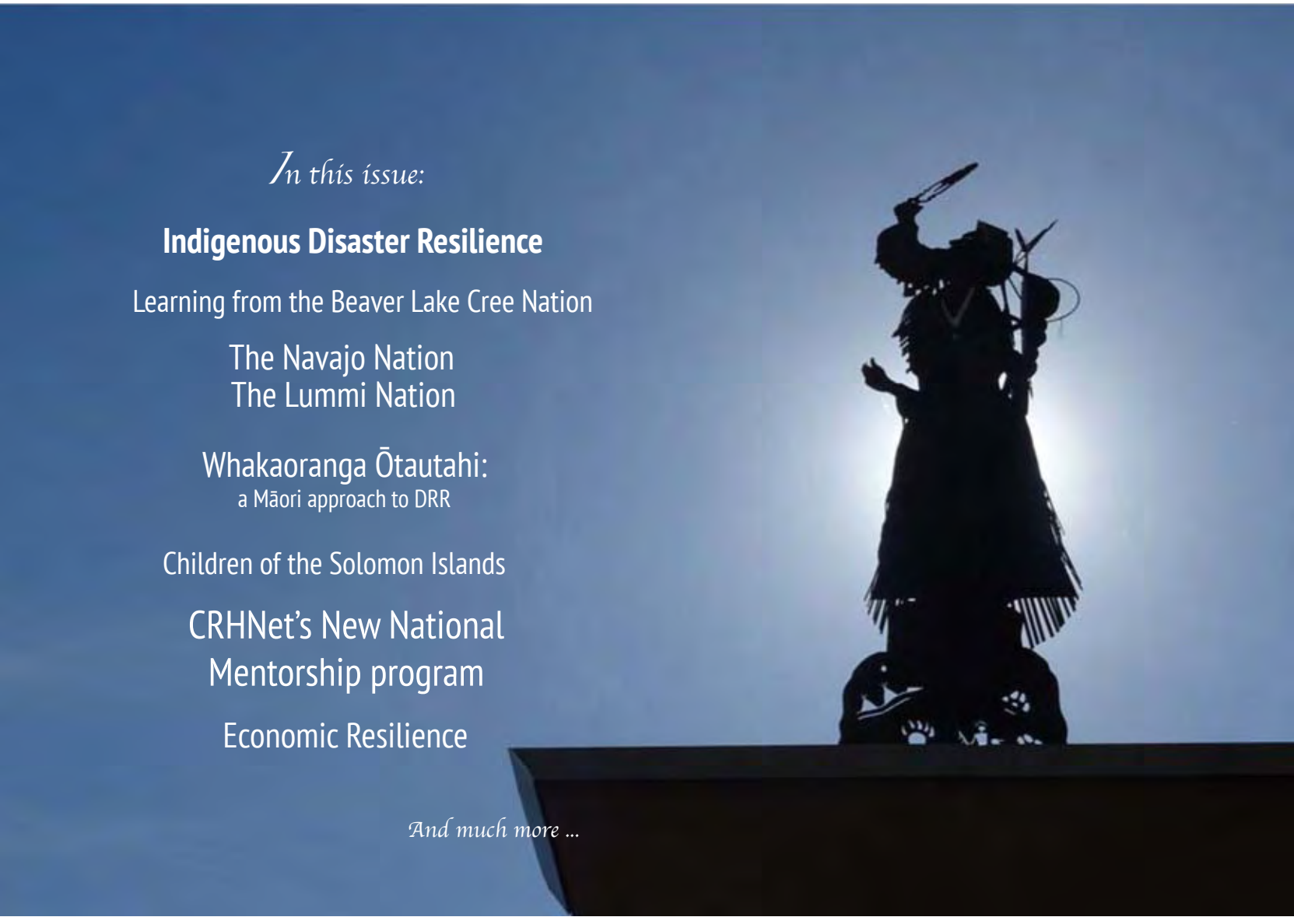
Inspiring Resilience



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Editor's NOTE

Greetings and a warm welcome to our 15th issue of HazNet!

This issue focuses on Inspiring Resilience, the theme of the 2016 CRHNet Annual Symposium which takes place in Montreal immediately following the National Roundtable on Disaster Risk Reduction.

This issue brings together some of the key lessons within Canada and internationally on the subject of Indigenous disaster resilience. You will read about the Navajo Nation and the lessons learned and lessons ignored with regard to hazard and disaster mitigation. You will read about the Beaver Lake Cree Nation's story on the front lines of the 2016 Fort McMurray wildfire evacuation efforts. You will learn about Chi'lange'lth (Inherent Birth Rights) from the Lummi Nation, and how their efforts connect Indigenous public health and community resilience. You will also learn about the Māori approach to earthquake recovery in New Zealand. The approach is an example of a "best practice" in accordance with the Sendai Framework for Disaster Risk Reduction that calls for the use of "traditional, indigenous and local knowledge" to complement scientific knowledge for disaster risk reduction. The insightful articles in this issue exemplify a growing field of research and practice of Indigenous disaster resilience. The articles show that "resilience" is well known to Indigenous communities around the world, reflecting historic trauma and oppression as well as modern-day practices of emergency management.

We are particularly grateful to Brooke Tanner of the Osoyoos Indian Band for her permission to use her photograph of her community for our cover image. Brooke was a participant of the Tillikum Lens program (www.tillikumlens.com) that enables the Indigenous youth to tell their stories through photography and digital storytelling.

Working on this issue was a truly remarkable experience for me personally and for our team. As an Indigenous academic and practitioner, I was struck by the similar strengths and challenges that Nations around the world face despite the differences in geographic and development contexts.
We hope you are ready to be immersed and challenged by some of the ideas and practices presented here. We also hope that you will contribute actively as HazNet continues to explore some of the most topical issues in the field of disaster risk reduction and community resilience in Canada and around the world.

Lily Yumagulova,
Editor, HazNet
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WELCOME *from the President*

This space in HazNet is typically focused on our organization's main effort, which right now is bringing people together for the National Roundtable on Disaster Risk Reduction and CRHNet's Annual Symposium. These events are particularly important this year as Canada prepares to host the Platform of the Americas in March 2017 in Montreal. We are excited to be in Montreal, where we will hear about some significant contributions to our nation's efforts to reduce disaster risk and build a more resilient Canada. See the Symposium Program. (http://www.crhnet.ca/sites/default/files/2016-10-30%2013%3A59/CRHNet%20Symposium%20Program%202016-DRAFT%20Oct.28.16.pdf)

It's also timely and appropriate to mention how proud we are of our flagship publication, HazNet, which has transformed recently from a paper-based periodical into an online magazine. This effort, led ably by Lily Yumagulova and her working group, was undertaken with three objectives:

> to enable HazNet to serve as an authoritative (accurate, reliable and trusted) source of information at the intersection of policy, practice and research;
> to provide digital publication and dissemination channels for researchers, educators and practitioners involved in understanding and addressing disaster risk; and
> to tell Canada's story, and promote the exchange of success stories, lessons learned, smart practices in reducing risk and building community disaster resilience.

HazNet provides opportunity to engage Canadians directly, broaden dialogue about disaster risk and risk reduction and support local efforts to build community disaster resilience. We now have the means, but for HazNet to achieve its objectives, we will require your active participation as both consumers and as contributors. We invite you to join the conversation.

Ernest MacGillivray,
President,
CRHNet

"Adaptation = Resilience = Sustainability"

An interview with David Diablo

By Lily Yumagulova

Tahawennon:tie David A. Diabo is Kanienkehaka (Mohawk) from Kahnawake, QC. Mr. Diabo, BTech/ Emergency Management is a Special Advisor, Emergency Management Directorate, Indigenous and Northern Affairs Canada and a Co-chair of the Indigenous Resilience Working Group which was recently formed under Canada's Platform for Disaster Risk Reduction.

LY: ***How is Emergency Management of the First Nations, the Inuit, and the Metis communities organized (governance structure, roles and responsibilities)? What is the role of Indigenous and Northern Affairs Canada and the Emergency Management Assistance Program, in particular? What other organizations play key roles in this process?***

David: For First Nations, INAC requires First Nation communities to have an emergency plan and to exercise that emergency plan. That is the most basic requirement. But it is up to the community, given that most emergency events start at the local level, to have the capacity and development to be able to address whatever event is happening in the community whether it is a small scale disaster or escalating. The position is usually a certified emergency management officer or emergency management coordinator so it hinges on the band council system. It's one of their service programs. The roles and responsibilities are pretty basic. They have to do an assessment of their community or if it's out of date to update it given that the community will expand and grow over time. New hazards are introduced into the hazardscape and they have to be addressed within the plan. The plan will tell them what the hazards are, how to mitigate them through training, exercise.

The role of INAC in this and EMAP in particular is that the non-structural mitigation and emergency preparedness part of the program, the part that I manage, will fund non-structural mitigation. We'll fund assessments, studies, flood plain mapping. So it's the soft side of the structural element: any of the technical documents that would support a structural mitigation project at some point in the future. This is what non-structural mitigation does. The emergency preparedness part of it is awareness, training, plan development, revision, cooperative and collaborative relationships with their surrounding municipalities, integrating the plan into the regional plan so everybody can work together.

The organizations that play a role in the process could be provincial emergency management organizations. They being the service providers, INAC will pay for the service which will be delivered from the province. And they have to work cooperatively and collaboratively with First Nations in delivering this emergency response service. They all have to work together. Everybody is playing from the same game book there's nothing too different from region to region. Really the only difference is what hazards are being addressed within their emergency management regimes as they'll change from province to province. And even from community to community at times, because some are more developed than others, some are more remote, for example, or have fewer services.

LY: ***Does INAC provide any planning guidance or support mechanisms or any materials to guide this planning process or is it really bottom-up community driven primarily?***

David: It's primarily bottom-up, driven by the community. INAC does provide funding support for those communities to develop emergency management regimes, whether that's a non-structural mitigation project or an emergency preparedness project that will run through that portion of the EMAP program that covers those two streams: non-structural mitigation and emergency preparedness.

We have various sizes of projects, some as small as $10,000, some as big as $2 million and they cover a variety of things, but we tell them first make sure you have your assessment done, make sure you know you're familiar with the environment and what the risks and hazards are and then develop your plan from there and the funding support usually is given to these types of projects. For example in the west we funded tsunami training, but they're also looking at earthquake training too, because those are the two major hazards in the west. Whereas in places like Alberta and Saskatchewan, where they have old growth forests and they're prone to wildland interface fires and wildfires. So we were developing the funding mechanism for the FireSmart program in those heavily forested regions.

We also do the regular stuff like emergency operations centre training, incident management system training, introduction to emergency management in Canada, emergency management for elected officials—all of the basic courses that anyone developing the emergency management regime would need to take and then refresh from time to time.

LY: ***You are personally very involved as one of the leaders and champions in this field nationally. What are some of the recent developments that you would like to share with our readers?***

David: Oh, well, I'm co-chair of the Indigenous Resilience Working Group (WG) which is the newest WG under Canada's Platform for Disaster Risk Reduction. Originally there were three WGs: the Private sector, the Volunteer sector and the Resilient Communities WG. So under the Resilient Communities WG there was the Aboriginal Resilience sub-working group, but I felt under the new Liberal government and their mandate of reconciliation, engagement and consultation, and also under the new Sendai Framework driving the platform which contains components for Indigenous people, I felt instead of being a sub-working group we should be our own stand-alone group representing Indigenous people across Canada. So I pushed forward on the Indigenous Resilience Working Group and I was granted status by the Advisory Committee of the Platform for Disaster Risk Reduction and we became our own group just a few months ago.

My co-chair is Dr. Brenda Murphy of Wilfred Laurier University. Our group is basically operating as it was before, except that we're now a stand-alone working group, and we're looking at First Nations communities in regards to the way they develop their resiliency to disasters and develop their emergency management regimes. We also expanded the group to include those Indigenous practitioners to our membership. We are hoping to have our core group include the Indigenous Representative Organizations: the Assembly of First Nations, the Metis National Council, and Inuit Tapiriit Kanatami. Being an Indigenous Resiliency working group, it has to have an Indigenous voice. So we are asking Indigenous groups to become members. It doesn't have to be the president or the national chief, but it could be a designate, who will represent their organization, and participate on whatever initiative we're working on at the time.

We're also inviting and have membership from the Indigenous technical organizations, like the First Nations Emergency Services Society in British Columbia, the Alberta First Nations Technical Service Advisory Group, Ontario First Nations and Technical Services Corporation…these are the on-the-ground practitioners and the actual operational service providers of emergency management in the communities. They are directly involved with them and they have a lot of information and knowledge that we're looking to bring to the group. We've invited them and they accepted and they're going to be part of our core group. Beyond that, we have various members of different organizations across the provinces and territories that also want to work with the IRWG, and we call them the "contributing members." When an issue comes up that needs to be considered for Indigenous people, then it will be considered by the group as a whole but the indigenous core group will speak to the issue.

Also, the Canadian Risks and Hazards Network -- that's a different kind of organization. I help bring the indigenous component to it, and help Dr. Brenda Murphy manage the Indigenous stream of their Annual Symposium. We look at the four pillars of emergency management (including resilience) and invite Indigenous communities to come down and present their stories at the annual symposium. If they've had an evacuation event then they'll come and tell us how they handled it, what went right, or what went wrong, and how they've learned from it. And any of the four pillars of emergency management: mitigation, preparedness, response and recovery. If they've had an event in any one of those areas that they'd like to share practices and that kind of thing and learn from other communities' presentations, we invite them to present on it. The academic presenters come and talk about statistical data on an environmental issue, or an atmospheric issue, or even climate change; they can come present their findings to the symposium audience. It could be relevant to First Nations given that they're living out on the land.

So those are two of the main groups I'm involved with. Working here at INAC I get the opportunity to add my two cents here and there on policies and procedures that are happening.

In fact I just came from a Public Safety Canada meeting. I was invited over there. It was a group that was presenting an initiative that they're starting at a grassroots level. They're calling themselves "The Guardians". Basically what they do is they get involved within their community, in their region, and they do a lot of monitoring type work for the environment, for the animals, for the water, the air, the land. And they work cooperatively and collaboratively with various provincial ministries and federal departments, and share their

information and their findings. They're by no means a professional group; they're not certified or qualified really in any way, they're really just a grassroots organization that basically just invites people to participate in the caring for the land.

So that was a very interesting presentation that they gave us. There's a lot of overlap for some of the work that we do like FireSmart. They are interested in preparing their communities in the event of a wildfire, fuel management, that sort of thing, adopting the FireSmart concepts. We spoke about the education and awareness pieces that they could be interested in pursuing regarding emergency preparedness and that kind of thing for training and getting them prepared to a certain level. We can fund stuff like that so it would help in a small way to get the group developed for bigger initiatives but it's a good start for them and they need to start somewhere. So this is as good a place as any. They have a really nice cultural component in bringing in the elders and working with the youth and getting everybody involved and reattached to their community…being in the environment and understanding why it's this way and why you should be involved.

LY: ***First Nations also offer a helping hand. In many contexts they are the first responders. When the boats capsize or the fire goes through, they rescue and welcome people and I think it's a really changing relationship that way.***

David: It is. It's funny you bring up that very example because of the effective emergency response for the whale watching boat that turned over… None of them were trained. They just responded instinctively to help people. Unfortunately, some people [in the whale watching boat] died but they were able to save a pregnant woman and an 80-year old woman in the water: that's a real success story. And now, because of their initiative to just help human beings, they're being incorporated into the emergency management regimes in the area and they're going to be given specialized training. They're calling it Coastal Resilience training – these guys are at the forefront because they reached out to help. And that is an incredibly inspiring story.

Another success story is with Chief Tammy Cooke - Searson in Saskatchewan, who handled an emergency evacuation all by herself because their emergency management regime was not as developed as they would like it to be; but just because of that there's attention in their area and they're going to be getting training that they need also from the Prince Albert Band Council who also did a successful evacuation of a community, and as a result, we're funding a project for them to give training to their communities, not within the entire region, but within their reach where they are in the north, and then the next year if they're successful and they've completed their project, we can look at helping them reach out to the southern communities. It's the stories like this that are really and truly inspiring. First Nations shouldn't shy away from doing this; you can actually do this and be successful at it.

LY: ***What do you see as some of the key areas of work for youth, especially Indigenous youth or students and aspiring professionals entering this field of practice? As you said there was this huge gap that you identified when you first came in, so looking at the road ahead: what is your vision of what is the most urgent and needed work that still remains to be done?***

David: The overall development of emergency management regimes for First Nations people. The parents are busy with their jobs and the elderly people are enjoying their retirement and then we have this component of this community, the youth, who want to do something. So it's a good area for them to get involved and to learn about emergency management: mitigation, preparedness, response and recovery. They don't have to follow that as a career, but they could if they wanted. Given that a lot of the volunteers that participate in emergency events are spontaneous, if youth and youth groups and students truly want to help, then there's got to be some way we can reach out to them to give them formalized training so that when they do volunteer they're actually ready to do something, because they have the type of training they need. There are lots of schools that give certificates, Bachelor's degrees, Masters degrees and PhDs in this area. Anybody truly interested in helping their community, working in their community with the population, with whatever government they have: this has

to be done. Your community will thrive and grow and develop and all that has to be protected.

LY: ***What brought you to this field of practice? Could you share some of your professional journey with us?***

David: I have a pretty varied career. At one point I was an iron worker, working on buildings in the New York City area, where I witnessed the bombing of the Twin Towers. And at that point there was a break in the works that were happening in the area where I was, so I took that opportunity to follow up on some residential construction carpentry that I was doing in my home community, and where eventually I was contacted about taking some Occupational Health and Safety training. After I completed this training, I was using it in my residential construction career.

Then I was asked to be the Occupational Health and Safety Officer on a small office complex, and when that was finished I was asked to apply for the Safety Inspector position on the bridge that goes through my community. So I did that for 3 years. I was the community band council's Safety Inspector. And towards the end of that contract a position came up in another community doing the same thing, and at the same time an emergency management position became available with the Assembly of First Nations, so I applied for both of them. I won both of them, but I had never worked in emergency management, and emergency management actually falls under the umbrella of Occupational Health and Safety, so I really had an eye on developing my Occupational Health and Safety background by taking the emergency management position at AFN. So I did that and I worked with them for 2 years.

With the political climate of the time, the funding was cut for my position, so I was offered an interchange agreement at INAC so I moved over there and started working in the Emergency Management Assistance Program. While I was at AFN I looked into getting a degree in emergency management. So, to backtrack a bit, when I started at AFN, I went to Algonquin and got an honors certificate in Occupational Health and Safety and a component of that was emergency management. I didn't want to waste any time, so I applied to Cape Breton University and got accepted into their emergency management program. Two years later I graduated with a Bachelors of Technology in Emergency Management.

LY: ***That's why I feel it's important to tell your story so others feel like they can do it. From an ironworker in New York, to shaping policy on Indigenous Disaster Resilience in Canada.***

Final question: How does your Kanienkehaka culture inform your approach to your profession?

David: There's a kind of theory that I'm developing, it is **Adaptation=Resilience=Sustainability.** So if you look back in the history at First Nations, any Indigenous culture, wherever they lived, they had to adapt to their environment. They learned how to live in their environment, they learned how to survive. All these survival skills were their resiliency, so knowing all this stuff they were able to face all the challenges within their environment, whether it was looking for food, looking for water, looking for new places to live, things of that nature, learning the trees, the medicines and how to use them and so on. So basically they adapted to their environment so everything they learned became their resilience. So the more resilient you are the more you can ensure that your culture or your community or your people will survive. And that's their sustainability. In my mind, that theory fits every indigenous culture, but for me it's not something everybody talks about, although everybody should be talking about it, and looking at it from that regard. For my culture, it's the same thing, you have to look at your environment, learn how to live in it and make sure everybody has the same information to ensure your resilience, and therefore you're able to sustain everybody. It is basically a whole of community approach. It needs a little bit more development but that's the basic idea to it. It's a sound theory, the more I work with this theory the more I'm able to develop it.

Having said that, I'll say I don't hoard knowledge, I share it. So if anyone needs my help, I'll gladly help.

To learn more about Emergency Management Assistance Program, Indigenous and Northern Affairs Canada visit:

https://www.aadnc-aandc.gc.ca/eng/1309369889599/1309369935837

"Caring society"

An interview with Gina Wilson

By Lily Yumagulova

Gina Wilson's career began in her First Nation community of Kitigan-Zibi as Executive Director of Health and Social Services and as Director of the Wanaki Treatment Centre. Ms. Wilson was a Senior Manager with the Assembly of First Nations, when she joined the Federal Government in 1996 and served as Director General, Aboriginal Affairs at Correctional Service Canada. In 2003, Gina became Director General at Human Resources Skills Development Canada, before moving to the Privy Council Office in 2005 as Director General of Engagement.

Gina was appointed in 2006 as Assistant Deputy Minister with Indian Residential Schools Resolution Canada and was a partner in the implementation of a settlement agreement for approximately 80,000 survivors of Indian Residential Schools in Canada. Her office oversaw the co-ordination of events leading to the Prime Minister's historic Apology on June 11, 2008. She then was named Senior Assistant Deputy Minister, Regional Operations, at Indian and Northern Affairs Canada.

Gina was Assistant Deputy Minister of Emergency Management and Regional Operations at Public Safety Canada in 2011-2013, where she lead a national emergency management system and then was Senior Assistant Deputy Minister, Treaties and Aboriginal Government at Aboriginal Affairs and Northern Development Canada focused on reconciling Aboriginal and Crown interests through the negotiation and implementation of modern treaties.

Gina was then appointed as Associate Deputy Minister at Employment and Social Development Canada in March, 2014.

Gina was appointed Associate Deputy Minister of Public Safety Canada on July 6, 2015.

LY: ***You mentioned 'caring society' during your speech at the Roundtable last year. Could you please expand on that?***

Gina Wilson: I was probably thinking about my own personal experience, about having actually experienced a natural disaster as a child. In my community of Kitigan-Zibi which is near Maniwaki, Quebec we had a flood in 1974 so the whole community was flooded as was the town of Maniwaki. This was a very vivid memorable event in my childhood. My brother was born just after that actual episode and I actually remember taking a boat around the community. The boat actually went around the houses of people I'd known and they were completely underwater right up to and above the windows. I remember thinking that some of my own cousins and friends were actually out of house and home at that point and time. There was ways that the community came together; there was all kinds of efforts put forward by volunteers within the community. In 1974 there was not a lot of resources in the community, but everyone just did absolutely everything they could to take care of one another and actually care for one another. So I see emergency management very much from a community perspective as the first line of support and as a way of communities to come together as individuals who care for one another. So when from my own perspective I look at emergency management, I see caring societies, the things that we do here in public safety working with provinces and territories and internationally, but also with communities.This is the kind of work we and first responders do because we care about citizens and communities and their safety.

LY: ***What brought you to this field of practice? Could you share some of your distinguished professional journey with us (from the Wanaki Treatment Centre to becoming an ADM in Public Safety)?***

Gina Wilson: I have no idea what brought me here and often these things are just a matter of circumstance I would say. So that particular community, Kitigan-Zibi, recovered very nicely. It didn't have very much at the time, it probably had no running water in many areas or paved roads or much infrastructure, but it has developed over the years, as have the people, into a community which is resilient and has capacity. A lot of the focus in my community was on education and ensuring that as many youth became educated as possible. That was the leadership philosophy for the last 40 years, I would say, developing that internal capacity. I was one of the recipients of that approach. I went to school in Maniwaki, left the reserve, and went to school in Ottawa. I actually really wanted to leave the reserve because there wasn't a lot of opportunity there at that time. I came to school in Ottawa and then, despite wanting to leave the reserve so badly before, when I graduated from Ottawa U, I actually wanted to go home just as badly, and serve my community. When I say my community believed in capacity of our people, as an example, when I came

home, by the time I was 22, I was the Director of Health and Social Services which was a fairly large organization in the community by that point. When I say large I mean about 30 employees and maybe $1-2 million annual budget. A lot of responsibility for a 22 year old now that I think about it. I think about my own daughter who's going to be 22, and I can't imagine her doing that, but that was kind of the community philosophy at our time 'let's educate our youth and when they come home let's give them responsibilities and train them and develop them'. So they supported me in my career in the community and we did a lot of work to develop our resilience, develop our health services, our social services for young people and so on. I learned a lot. It was probably the most difficult job I ever had because I didn't necessarily have the skills and competencies and abilities to lead at that point and time, but nonetheless that's what I did. I moved back to Ottawa and worked in other organizations like the Assembly of First Nations and then moved to the Federal Government and worked in a number of different departments focused on Indigenous community issues. But have gone from time to time into other areas, particularly emergency management. When I first was at Indian and Northern Affairs, I worked on Emergency Management. Then I came to Public Safety and worked in Emergency Management as an Assistant Deputy Minister and went back and did other things around Indigenous issues. But ultimately I keep coming back to Public Safety and working on issues that are important to communities, particularly when it comes to their resilience and their development.

LY: ***How does your culture inform the way you approach your profession (from the Wanaki Treatment Centre to your position today)?***

Gina Wilson: The Wanaki Treatment Centre was one stop in the community; I guess I would see things from a community perspective in any job or any role that I've held and I'm not just saying Indigenous community. From any part of the country, any part of the world, being able to understand and being able to go back to a community perspective as you are conducting analysis, as you're making decisions, as you're solving problems, as you're developing policy, as you're drafting advice to Ministers… it's always having that lens of "how does this impact people at the municipal level, the community level and citizens of Canada?". I would say that that has always been my lens and I've always tried to position myself for jobs or departments that do touch the community in some way, shape or form because that's what motivates me professionally.

LY: ***What are some of the recent developments in this field that you are working on that you would like to share with our readers?***

Gina Wilson: In my own community we have a Guardians program whereby some young people who are employed by the community go out and look at stewardship on the land, they try to find ways to protect the turtles, the fish, the wildlife, but they also look for hazards in the community including potential emergencies and they're very very proud of the work they do and there are many communities who are looking to establish Guardian-like programs as well. A program out of Squamish – The Squamish-Lillooet Regional District (SLRD) Alert System – they've done on the west coast, they've established this initiative using the EPACT Emergency Network – it ensures residents are directly notified and kept up to date on local emergencies and they get that by telephone, by text or email. This is really important to West Coast First Nation communities, particularly for tsunami, storms and other types of emergencies, such as earthquakes. That particular EPACT platform allows for the secured exchange of emergency information and eliminates the need for paperwork and time consuming process that are really difficult to coordinate in emergency situation. They are really a best practice, and are hosting an event this month. I couldn't make it but I definitely want to support them as a best practice.

LY: ***What are some of the recent projects you are championing that you want to share with our readers?***

Gina Wilson: One thing we're doing is we're working closely with provinces and territories as well as First Nations, Métis, and Inuit organizations to develop a national emergency management plan that will allow Canada to continuously improve and better predict and prepare for and respond to emergencies and natural disasters. It's not to say that we don't have plans in place but this particular national emergency plan will integrate a lot of the initiatives and efforts that are out there. Minister Goodale recently announced the renewed Heavy Urban Search and Rescue funding program (HUSAR). This is a program that had been in place and is now back in place to ensure sufficient capacity is available across the country. These are taskforces made up of teams of first responders such are firefighters, paramedics and so on and these taskforces play a critical role when it comes to emergency situations such when a building collapses or there are mudslides, forest fires, flooding and so on. We're now able to have the capacity with this program to have cams in Vancouver, Calgary, Toronto and Manitoba to support those municipalities to be able to have the capability to respond quickly and effectively and save lives.

LY: ***What do you see as some of the key areas of work for Indigenous youth and students, aspiring/emerging professionals entering this field of practice?***

Gina Wilson: I really want to encourage all youth, but in particular Indigenous Youth and students, to explore fields of work that involve any kind of first responder occupation. I'm talking about police, fire, paramedic, emergency management, search and rescue and anything that helps ensure the health and safety of their communities. There's a tremendous amount of pride that can be associated with these types of professions. My own partner is a wildfire forest fighter. He's been doing that for 30 years and is extremely proud of the work he does. He absolutely loves his career and he actually does his best to recruit other young, Indigenous people to join that career. It's very worthy work and certainly all communities would benefit from having qualified personnel, Indigenous and non-Indigenous, to fill these positions and to ensure that services are reflective of communities and are being provided by our own Indigenous people instead of relying on outside regimes to provide emergency services. I would encourage young people to volunteer, there are programs across the country that are available, there are ways to get training in search and rescue for instance and getting into this kind of business is a badge of pride. It's taking care of your community, it's taking care of your people and it really gets down to our warrior spirit and how we feel about our communities, our land and our country.

"Public Safety Canada helps Canadians and their communities protect themselves from emergencies and disasters related to all kinds of hazards – natural, human-induced and technological – through national leadership in the development and implementation of policies, plans and a range of programs.

The Emergency Management Act recognizes the roles that all stakeholders must play in Canada's emergency management system. It sets out the leadership role and responsibilities of the Minister of Public Safety and Emergency Preparedness, including coordinating emergency management activities among government institutions and in cooperation with the provinces and other entities. Responsibilities of other federal ministers are also set out in the Act.

The federal government is dedicated to working collaboratively with provinces and territories to support communities when disasters strike. To this end, An Emergency Management Framework for Canada was revised and approved by Federal/Provincial/Territorial Ministers in 2011. The Framework establishes a common approach for a range of collaborative emergency management initiatives in support of safe and resilient communities".

To learn more visit: https://www.publicsafety.gc.ca/cnt/mrgnc-mngmnt/index-en.aspx

"If there's one word that describes First Nations communities it is resilience"

An interview with Chief Shawn Atleo

By Lily Yumagulova

A-in-chut Atleo, Shqwi Qwal, Vancouver Island University; a Hereditary Chief of the Ahousaht First Nation in British Columbia and a former Chief of the Assembly of First Nations in Canada.

LY: ***Your community has gone through an emergency response situation to a capsized boat and the subsequent rescue which captured national attention. Could you please take us back to that moment and tell us what changes have happened since?***

Chief Atleo: I am not aware of any changes occurring with exception to announcements that were made by the provincial government and we at Ahousaht signed an agreement with the provincial government In the past there's been many incidents like this and I think that's the first thing to say. Second, what I think is different is that this is an event that happened that really was brought into the public eye. So I think the context of your question is really important. First Nations all across the country, and Indigenous people across the world are so embedded in their local ecology and landscapes. It's easily recognizable that if you have an incident happen on the water in and around my village that at any given time there's a number of boats on the water. There's fishing boats, there's people going out and gathering seafood; it's because our community is off the west coast.We are a boat dependent community and Tofino is not only the nearest [town] but it's also the nearest Coast Guard station.

So to bring attention to this I think was really important, but it also reflects a change of consciousness of Indigenous peoples in general in this country and the place that we've occupied forever in our respective territories and in a place like Ahousaht.It's absolutely second nature to help for search and rescues; it is not even something that is talked about beyond common sense. I sort of begin there. I think when I bumped into my relative Curtis Dick who was in the press afterwards, he very much participates in search and rescue on a policy perspective, as well as things like firefighting(our community is very well known for participating in firefighting efforts). We're well trained and this is in large part because when you live in communities where the large services don't exist for emergency response then by the very nature of your reality, you become very self–sufficient.

It's just the way our peoples always have been. It's embedded in our culture. There's nobody that knows the nooks and crannies of the rock and you might be able to read a chart and get around a territory but because it's such ancient knowledge: the winds, the tides, the tendencies at different times of the year, the moon… You know, our people just know so much about what's going on and you're raising one incident which is Ahousaht and the Premier came and we signed an agreement with the provincial government and we gave her a name in ceremony and she acknowledged that rescue, and recognition was given to those that provided the rescue and I think that's very important.But I do underscore that this has been happening forever. All the time growing up,Ahousahts have been deployed in search and rescue missions and all under the cover of normality.

I think what's changing now in this context, and this is where I'm really pleased to be speaking with you,is just how safety had to take its rightful place close to 25-30 years ago and we're still searching for zero incidents with many organizations. The first thing you do is have your safety moment, to have First Nations who've not felt safe structurally in their lives, in their communities, politically as well.

There's a link between policy and safety, of course, somebody like you and your publication would know this well. So I think that's where I wanted to begin answering the question and it's brought the elected Mayor and the local chief and council more closely together.

There was a follow up with a campaign to build a skateboard park in my village so the tragedy brought the community together and it puts a highlight especially on isolated communities and the challenges communities face. So many have said to me "Well, Shawn, they should just move to the cities maybe". Well, no I mean we come from where we come from. Its where we want to be and sometimes living in these isolated rough areas it can be challenging, but it's home, it's the only home we've known and by virtue of where we live in fact people are draw to come on whale watching boats because it is so beautiful and it's rough and it's remote, but it's also risky.

And if It's risky then there has to be the appropriate plans in place and so Ahousaht not only has the traditional knowledge of our territories but also possesses a lot of very modern search and rescue as well as first responder skills for dealing with hypothermia to the kind of care that's needed before somebody is transported to

a bigger facility and of course there is still a demand, getting to your question, for an increase in, a call for a better response and our tribal council is involved in that because the Coast Guard wasn't on the scene for something like 45 minutes, but you know what that's always the case. We never expect it, so it's really hard to…you can't blame anybody.It's the way the system is setup and of course it's fortunate that the Ahousaht community were there.So there is more that's required and there's more that's been promised, but I don't know if that's been followed up to the extent of satisfaction.

LY: ***You have traveled from coast to coast and worked with many communities across the country. In your experience what defines the resilience of Indigenous communities? What are some of stories that inspire you?***

Chief Atleo: Well I think if there's one word that describes First Nations communities it is resilience. The very meaning of that word talks about the ability to absorb great trauma or change and to be able to recover from that and it's only been a generation, we're only a generation removed from people like my dad being sent to Indian Residential School for 12 years and suffering all of the horrors and abuses physically, mentally and emotionally and being ripped from the arms of family and that happened for generations and it's a very real recent painful history.

As I'm speaking with you I'm looking at a picture of myself on my wall with my great grandmother. She had 17 children, of which my father is the eldest, and my late grandmother is the picture of resilience. What our people have endured, the men and women, but particularly the women, with the onslaught of external oppressive forces is horrific. It's traumatic and it's left a deep and lasting scar on families and we are in the midst of that resurgence if you will, recapturing the very best of what we know our ancestors had, and that was an ability to adapt an ability to come to grips with the reality of the situation and the world around you and while maintaining strong cores values of things like response, a close core connection to the living environment around you, that all things are living and we are connected. A real sense of balancing the individual rights with the rights of the group. The responsibility of citizenship and as such the responsibility to be included in the governance systems of your people because of our hereditary chiefs.

It's a system entirely based on the full inclusion of the citizenry and I think that this time in history, you know you're talking to me about an event that probably wouldn't have ended up on the national news stories, we're talking for a national magazine around the topic of resilience and safety when the incredible irony and a verypositive potential of this moment is that First Nations themselves have not been safe. A community like Ahousaht which is like so many communities that I've visited in northern parts of Manitoba, northern Ontario, Northwest Territories, northern Quebec and the Atlantic coast are so resilient and always so giving and willing to help while at the same time they go home to meet poverty and in stark contrast to many of the community members, it's fair to say, wouldn't be able to afford the price of a whale watching boat and would be happy to perhaps own a whale watching business but we don't have even have many instances of whale watching businesses. I think that on the upside is that we're in a period of resurgence right now.

There is a great feeling of optimism that is being driven by a very youthful demographic. More than half of our community are under the age of 25 and that's growing. So we have a burgeoning youth population that is pursuing education while maintaining a link to their culture and identity and wanting to maintain their languages and if you think about my father at age 5 telling the story of having a fellow student having his tongue pricked with a pin for speaking the only language that he knew that is really the most egregious sense of a lack of safety, being taken out of your home, punished for being who you are, and those same children growing up and ending up being the uncles and the aunts of those young people that did the rescue that day, it really is a snapshot of by and large an incredibly generous kind and caring people who are incredibly resilient and on 'the comeback trail' if I can put it that way.

And it is true right across Canada because you're right I've visited hundreds of villages and I've witnessed this over and over again and even though we have headlines today that we have issues with suicides in northern Saskatchewan, I think the one thing that's different today is that we're hearing about it and we're

actually talking about it and there is where understanding begins: it's with real conversation. I'm actually really happy to be talking to you about this.

LY: ***What role does youth play in this process? What leadership roles can they play? And what advice for you have for them in terms of this desire to get engaged and build resilience in their community?***

Chief Atleo: I think to support young people to recognize that they are inheriting a reality of a lack of safety in the relationship between Indigenous peoples and the rest of the world and for awhile it's ok to, I think it's really important not to ascribe blame, there's that old adage about the man and woman who take a walk down a road and fall down a hole. The first chapter is that they didn't see the hole. They fell down. It's ok. They're ok. They didn't see it. It takes a long time to get back out and they go on their way. In the second chapter they go down that same road and they fall down the hole a second time.They realize that they've made a mistake: they should have seen the hole, it's not good. They get out and they're on their way. In chapter 3 they go down that same road.They see the hole, and this time, they still fall down the hole and it makes it extremely difficult now because they recognize that there was a pattern, but it was like it was unavoidable. And chapter 4 is that you're going down that same road, see the hole, walk around the hole and everything is ok. And Chapter 5 is you go down a new road.

It's really a bigger story about- to look at the risks and hazards you talk about and topics like resilience - if you scope back to the large, big picture, we are in the process of a major transformation in First Nations communities and the young people are leading it because they are less encumbered by the direct pain and suffering in my and my parents' generation. And so my children are my closest example, but I've seen children all over First Nations in this country, my son is 30 he just finished getting his business degree and he helped negotiated some of these agreements I'm referring to. My daughter is 27 and she's getting her Master's degree in environmental economics at the University of London and wants to bring that home and continue to work on inclusive prosperity and build reciprocal and regenerative economic environments in our territories, which is a really powerful theme.

So young people are recognizing that the first thing required for innovation, to be truly innovative, requires safety. You cannot be innovative, truly innovative, unless you are safe. And the big explosion in innovations in areas that like technology etc. is because the systems have created and encouraged an environment for those rich opportunities to flourish. Whether it's Silicon Valley, growing up beside Stanford… you have that washing back and forth of major institutions that are helping to propel society forward. Well, now it's time for that same support to be there for First Nations.

And particularly, in the theme of education, to be there for young First Nations.So back when home, we have our tsunami drills, we've got our big horn that blows and everybody gathers at my auntie Rebecca's house and everyone knows that they have 'X' number of minutes because back in 1964 a number of our people—itwas before my time I was born in 67—rememberthat last tsunami.

When I travelled to Banda Aceh I remember the Indigenous peoples saying they want to go back to their same homelands that were destroyed, lives were lost, but that's where they come from.There's a growing awareness to recognize that old traditional knowledge, because there are Indigenous communities that were aware and knew how to react to the tsunami based on traditional knowledge. But here in Canada you had such an onslaught of an effort to dispute and discredit traditional knowledge that that is actually turning around now and being seen as a tremendous value. Everything [including] how our Indigenous people in the east would have controlled burnings in various territories to ensure regeneration, so they're actually engaging in burning of the forest order to manage the forest.

And we can extrapolate this to so many different areas here, where even major resource projects being built in this country, the time to plan is at the very beginning and I'll give you one tangible example from an industry partner that we work with. We're telling industries and companies "you need to work with Indigenous communities". There was a tragedy of a person killed on a site by bear mauling and soon after this tragedy there were

conversations with the local communities, and First Nations in that area said: 'Well, where that happened is a common bear corridor, were you to have spoken with us we would have suggested a different construction configuration and for your fences to be placed in different areas".

Now that might seem like a very minor thing, but it goes to show you that everything from how a project is planned, the original vision, the genesis of the concept needs to be co-shaped with Indigenous peoples in a manner that is safe and that encourages innovation because that's the very nature of thefoundation of Canada, that's what this country was supposed to be founded on and so in my view we're just returning to our roots, because the first settlers could not safely make it through the first winters without the support of Indigenous peoples of the St. Lawrence Seaway. So these rescues and this support, it's been going on a long time because of Indigenous peoples'close and intimate relationship with the landscape.

LY: ***You traveled around the world so in addition to Banda Aceh, what kind of lessons can we bring to Canada from the Indigenous people of the world?***

Chief Atleo: I think it's also what kind of leadership can Canada demonstrate in a way that's empowering to Indigenous peoples in other parts of the world?It's obviously well known, some of the first challenges I learned about as a child were about Indigenous peoples of South America and how they would just get moved aside and literally killed or wiped out to make way for deforestation or mining or major projects. And we're seeing a global shift in that of course because of the United Nations Declaration of Rights of Indigenous Peoples, and there's over three thousand environmental groups who I would credit largely for working with Indigenous peoples.But I say it only with a small asterisk, because there are some who would say that is also another form of manipulation or oppression on First Nations.But the example in Banda Aceh - the threat of rising waters and flooding of small countries around the world - is really impacting principally Indigenous people who have a high level of reliance on sustenance of the natural environments. India I did a march with 24,000 Adivasi, representing 80 million landless poor people in India and helped the leadership there lobby the Indian government to at least establish for the first time a table so that the tribal communities would have a say, because they don't have access to health care, they don't have access to clean drinking water, adequate housing or food. And I was invited over there as a tribal chief and saw firsthand what the kinds of challenges that these communities are faced with.

So what Canada should do well first is to address these issues in its homeland because Indigenous peoples are linked to a global network, Peru and Chile, Argentina, all over Africa, all over Asia. We raised a totem pole in China where they had the earthquake and that earthquake devastated a community.When we brought our drums over there and drummed with them at the opening of an Elders Centre near the earthquake site, it was incredible because we saw each other'sculture and that community doesn't speak Cantonese or Mandarin - they speak their own distinct language. They are their own distinct Indigenous group in China and they are a great example of incredible resilience.

It's quite natural, the ability of our communities to withstand change because we come from environments where you quite naturally are subject to the power of the environment. Our houses we built out of planks taken from a standing live tree and then would be made into big houses that could then be transported from summer to winter housing locations, but if there's also a big earthquake that house, with its 4 corner posts, will be left standing and what will happen is there will be rattling on the outside. So, very smart embedded understanding of your existence in the local ecology which we don't see replicated in cities like Vancouver. The high school that I went to is one of the most potentially deadly if Vancouver was to be hit with an 8+ on the Richter scale earthquake. There would be tremendous loss of life. So I'm just making this very small minor comparison.

First Nations views of the world around them can be so quickly dismissed: "well, you don't have grand architecture, you don't have these great buildings" and "well, that's because there was the 'live lightly on the earth concept'" as well as if you're in the Ring of Fire you don't find Indigenous peoples with structures that would be massively damaged due to challenges with flooding

or earthquakes. A very high level of intelligence with how to successfully live with the environment around you.

LY: ***They now call it 'Indigenous science' rather than 'local knowledge' so that it has equal weight. Thank you for sharing these examples of built-in resilience design principles. So much to learn from you. My final question is about you and your personal journey. What gave you strength all along this way?Where does this strength come from?***

Chief Atleo: My grandmother. My late grandmother. The resilience of both my parents. My late grandmother, to this day I'm still amazed by her. She passed on a few years ago, it's actually getting more than just a few years ago, but I remember in 2008 we were in the House of Commons listening to Stephen Harper express an apology to First Nations who had attended the residential schools. I was holding my grandmother's hand, we were sitting in the House of Commons,and I had my traditional regalia with me and she grabbed my hand and with real earnestness and I think real encouragement she said to me "Grandson, they're just beginning to see us, they're just beginning to see us." I think that for myself personally with the encouragement of late grandmother, as well as my son by the way, because this is the role that the youth are playing, they're encouraging fathers like me and the elders in their family with the recognition of what's been gone through, the pain and the difficulty, but also the beautiful resilience that we exhibit as a people. And springing out of resilience comes hope and promise and then all of a sudden you're excited to think about how you can shape the world in a better way.

And what's so interesting speaking with you is that my grandmother raised 17 children in a very unsafe time in the history of our people. And she made it through. Not only did she make it through, every single one of her 17 kids is doing well today. Every single one of them is coming through the healing as are their children, which would be my generation, of the trauma and fallout and before you know it the conversation is shifting from focusing on the pain to saying 'that is actually just a part of the narrative of this country' and in order to move forward we actually need to have an integrated cohesive narrative, but you're speaking with me and by talking with Indigenous communities about the topic and theme of the work that you do with the magazine, you are helping to stitch together the cohesive integrated narrative that is required for this country to become whole and to become what I believe it can be. And that's what my late grandmother gave to me.

All of a sudden I feel proud to have inherited this and I now have the attitude that it's never too late to have a happy childhood, and I look back on my life with such relish and I'll be in my village of Ahousaht this weekend and I'll be able to tell some of those rescuers directly that you and I spoke. I'll be getting on the water taxi in Tofino tomorrow morning and travelling from where I am, here in Vancouver, and I'll be able to tell a story: "Look, I got a call on the topic of safety and resilience and the very first sentiment that came out was what you guys did," and I know I'll get a smile and they'll feel good about it and then they'll turn around and do their business and if a rescue had to happen tomorrow they would be there without any expectation of accolades or recognition because it's just the right thing to do. It's the way our people are. It's the way we were all raised.

So I'm really glad to speak with you. I really am honoured that you took the time to reach out and allow me to make a small contribution to this topic. It actually has become close to my heart because my message is that what safety was 25 years ago, was the beginning of a real movement that required a cultural shift, a major transformation.It is probably not a bad analogy to the massive shift that we're just starting onthe full integration of Indigenous peoples and vice versa with the rest of society. I'll cap it by saying exactly what you said, that Indigenous knowledge is being seen rightfully for what it is, as a science, and standing side-by-side with brilliant thought from the Western realm. Not to diminish either - they actually should be equally lauded, appreciated and equally problematized as it were, but both seen and respected and what else is there in terms of aspirations of Indigenous peoples than to be able to shape your world. And we absolutely do that and we're going to continue to do that under the leadership of the next generation.

PRACTICE

Lessons Learned and Lessons Ignored – A Commentary on Disaster and Hazard Mitigation for the Navajo Nation and Beyond.

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Practice

Sandbag training on the Navajo reservation

A recent study by the University of Arizona revealed that the Navajo use river water in 40 different ways. Yet the average household on Navajo land only uses 5 gallons of water per day, mostly due to the lack of running water, even though 250 miles of the river runs along several communities along the northern part of the Navajo reservation. During the Four Corners gold rush, many mines were left to the communities, emptied of their treasures and the hazardous toxic waste left to leak into the waters. No one was held responsible. In August of 2015, the Gold King Mine spilled millions of gallons of toxic chemicals into the rivers of the Four Corners region. Now, barium, cadmium, arsenic, lead and several other toxic chemicals continue to rise in the sediment during moments of turbidity in the Navajo rivers (Brewer, 2016).

GNB is developing a Strategy for Emergency Preparedness. Working collaboratively to enhance the safety and security of NB and build strong, resilient communities.

Native communities continue to be undervalued and put at risk for the sake of energy "progress." Hundreds of Native American Tribes, including Navajo, have joined the Standing Rock Sioux Tribe in halting, by physical presence, the continued construction of the Dakota Access Pipeline. This pipeline is intended to carry billions of gallons of Bakken Crude oil, in many areas across or contiguous to native lands. Yet no Material Safety Data Sheet exists that can accurately describe all the chemicals present in the extremely toxic crude that will flow through this pipeline, making it problematic for responders to be able to safely and effectively respond if a spill occurs. The pipeline is destined to run under the Missouri river, leading to the Mississippi, and the possibility exists of contaminating over 200 tributaries and the drinking water of 18 million people. The fact is, over time, infrastructure weakens and pipelines eventually fail. By the time a leak can be detected, major, irreversible environmental damage could already have occurred.

Oil is transported via many alternative methods including by railway and highway. Both of these methods are highly regulated by the U.S. government and boast extensive, well trained mitigation and disaster response teams. The oil companies state that their pipelines are still safer and more efficient, yet lack the same precautionary studies, methods or regulations.

Although 70% of the Earth's surface is covered with water, 78% of all water on Earth is locked in polar ice caps. 30% is found in ground water, but only a shocking 0.3% of our fresh water is found in surface water contained in lakes, rivers, and marshlands, and consequently is most vulnerable to pipeline activities. Only 1% of the Earth's water is accessible and safe for human consumption, and it is absolutely essential to preserve this irreplaceable asset and protect it for the future of generations to come. Population boom, loss of forests and rangelands and increased heat makes our future much more vulnerable. Four key themes from the findings of the 2010 Resources Planning Act (RPA) Assessment are "(1) land development will continue to threaten the integrity of natural ecosystems, (2) climate change will alter natural ecosystems and affect their ability to provide goods and services, (3) competition for goods and

CERT training has also been established on the Navajo Nation, many community members not only respond to their own areas, but they've learned how to be prepared for disasters as well.

Highway 89 in Arizona on the west side of the Navajo Nation. Dry landslide is what caused the collapse of the road.

Rose's daughter helping out at a Red Cross booth

services from natural ecosystems will increase, and (4) geographic variation in resource responses to drivers of change will require regional and local strategies to address resource management issues" (U.S. Department of Agriculture, Forest Service).

It is with this in mind, that there is great hesitancy to write of successes and "lessons learned". The lessons are not being learned. The successes are trial and error, and FEMA's After Action reports on the "next disaster" will reflect an accelerated degradation of natural and human environments. This will be most severe for marginal areas (such as tribal lands) least able to recover from the aftermath. Moreover, these areas will see a rise in "secondary disasters" (lost infrastructure, human disease, livestock death, despair, and suicide) that follow the initial disaster. How do we prepare for the next "200-year flood" that will occur in less than 5 years? How do we teach our Native children their heritage of smoking salmon, or elk, caribou when there are cancerous spots in the meat of what sustained our people previously? How do we teach our children to use every part of butchering a sheep, when the organs are the main parts that will be affected by lead poisoning? Climate change and the disaster it brings will continue to wreak havoc with the practiced norms and lifeways of Native peoples. It is with a heavy heart that it is written, again and again, that harmful change is occurring at an increasing pace. For the Emergency Managers, there is job security, but for the people there is ever increasing imbalance in our human condition.

So how do we, as Tribal people, move forward towards disaster resiliency? How does a tribal nation with historically very little funding, and poverty stricken communities prepare for disasters and move towards recovery? In one word, Resiliency. It is in our bones; it is in our blood. The earth has always moved, and our People have always moved with her. Adaptability and awareness of our surroundings has always been key.

Adaptability to ever-changing policies and accelerated disaster events can be somewhat mitigated through federal funding. This is facilitated by training, testing and credentialing of Native American professionals in the policies and practices of FEMA. As of January of 2013, the Stafford Act recognizes the sovereign ability of tribes to work with their FEMA region and request a Federal Disaster Declaration from the White House. Previously, Tribes had to work directly with the states to request a Stafford Act declaration on the Tribes' behalf, resulting in delayed mitigation and slow or no disaster recovery assistance. Many tribes are not familiar with the requirements to become a grantee for a federal disaster declaration and are still dependent upon the states to become the grantee for disasters on tribal lands. As


FEMA Corps students assisting with a Navajo Traditional Kinaalda (coming of age ceremony for our young women)

FEMA Corps student volunteers with Rose teaching them of native herbs on the Navajo Reservation

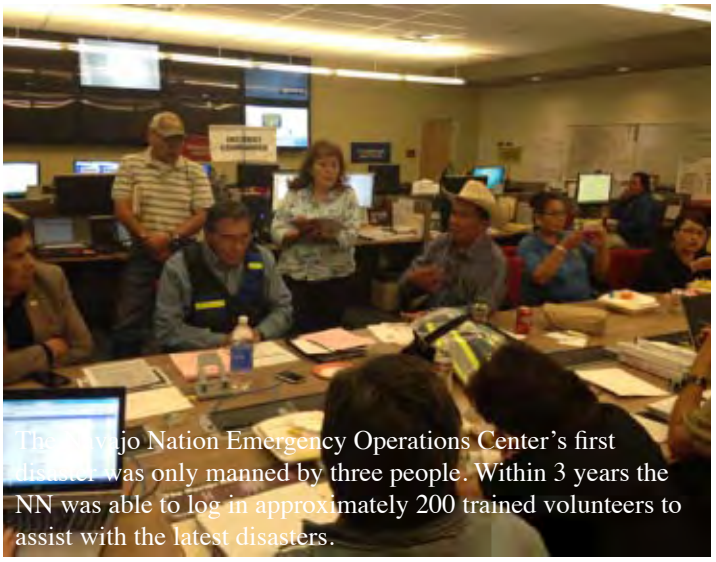
of the writing of this article, ten Tribes have requested a Major Disaster Declaration and eight have been successful. For the Navajo Nation, tribal policies had to be re-written to allow timely receipt of emergency funding.

Recently released Public Assistance Required Minimum Standards, FEMA Recovery Policy FP-104-009-4, states that "FEMA's Public Assistance program will generally require the integration and use of the hazard resistant provisions of the International Code Council's (ICC) International Building Code (IBC), the International Existing Building Code (IEBC), and/or the International Residential Code (IRC) as a minimum design standard for all eligible building restoration projects where the design standard is triggered". This will be an interesting development for Tribes that depends on unique construction and materials used for post-disaster reconstruction of longhouses, hogans, adobes and other traditional dwellings that require special consideration. Application and understanding of culturally appropriate building techniques and materials would in effect have to become part of the disaster response tool kit for those serving Native peoples.

When the Navajo Nation was hit with a prolonged winter freeze in 2012 that lasted months, the ground had frozen as much as four feet deep. Water pipelines froze in several areas on Navajo land which has a larger land base than Switzerland. As the water in underground pipes froze, the ice expanded, causing cracks in the pipelines. As one area would thaw, other areas remained frozen, causing more water damage as systems would flush and crack under the increased water pressure. The newly minted Emergency Operations Center (EOC) of the Navajo Nation was run by only three people at the time, responding to a disaster event covering an area roughly the size of West Virginia. For months over 20,000 people on the Navajo Nation were without running water.

The next year in 2014, the Navajo Emergency Management program was only allowed $6,000 for their operational budget for the entire fiscal year. The only way that disaster response could be effective under these unrealistic financial restraints was to increase operational staffing, including volunteers, through accelerated training programs. Training in the Incident Command System, Incident Action Plans, and National Incident Management Systems was necessary for all programs and personnel involved. A key part of this training was CERT (Community Emergency Response Team) training. This was held in several pilot communities in hard hit areas so that the Navajo "chapters" (akin to counties) in these areas could establish their own shelters and Incident Command Posts. Within three years and 14 events later, the Navajo Nation EOC was able to log in 200 volunteers that assisted during months of activation for wildfires, storm surges, flooding events and most recently the Gold King Mine Spill.

Another key part of training was how to properly document disaster paperwork for federal reimbursement. Many of the chapter coordinators and leadership had very little experience in the requirements needed to pass a U.S. Department of Homeland Security, Office of the Inspector General audit. Our office thus kept it simple, as we borrowed from the State of Arizona and FEMA's LEMO (Labor, Equipment, Materials and Other) Language – a simple one-page form could be filled out on a daily basis for each disaster site. (The Navajo Nation made it accessible to all chapters to be able to effectively monitor their disaster response and recovery efforts: http://www.nndcd.org/documents.aspx). The



The Navajo Nation Emergency Operations Center's first disaster was only manned by three people. Within 3 years the NN was able to log in approximately 200 trained volunteers to assist with the latest disasters.

training of the tribe's program employees and tribal volunteers is what has helped the tribe to close out a ten-year-old FEMA grant and allow for expedited processing of FEMA Public Assistance checks to impacted communities. Through governance patterns and adjusting policy to the vulnerability of their own populations and communities to disaster events, the Navajo Nation has adapted.

Mitigation and preparedness is not new to Tribes. Devolution and Reconstitution are new terms in continuity planning, but to the tribes, adaptive strategies have long included migration out of impacted zones, aid through extended family, clans and networks with other Tribes and communal support. Economic strategies have included different subsistence activities at different seasonal camps. Summer camps were built at cooler altitudes, and other camps built near resource hot spots

Recent presentation on homemade explosives to the Navajo Nation Emergency Medical Technicians.

to prepare harvesting of the crops, hunting and fishing. Winter camps had dried foods, dried meat and warmer lodging and readiness for long winter conditions. Thus, sustainable adaptation was achieved by responding to the patterns of nature and regional availability of resources, thus movement = sustainability/resiliency. Today with fixed location communities and infrastructure and lack of seasonal migration patterns, Native people more frequently suffer the consequences of local hazards, disasters, and environmental degradation such as drought and soil erosion. As the earth changes, we will not have much of a choice but to change with it. These voices of vulnerability teach as a lesson, that as disasters increase for those most at risk, wider society must learn from our Indigenous People's fate or suffer the same outcome.

Rosalita M. Whitehair,
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Rose Whitehair is from the Navajo Nation. As a very committed member of her community, she has expanded her skills in assisting disasters throughout the Navajo Nation and other Native American and non-native communities in Arizona and New Mexico. In 1994, Rose started volunteering with the American Red Cross, became an Instructor, Firefighter and an EMT; she graduated Cum Laude in Emergency Medical Services at the University of New Mexico.

As the Emergency Management Director for The Navajo Nation, along with the Navajo Department of Justice, Navajo Office of the Controller and FEMA, Rose created and established new Navajo Nation Department of Emergency Management Policies and Procedures to Administer FEMA Grants and Projects. Rose guided the Navajo Nation in funding for Hazard Mitigation funds for the tribe. She established the tribe's first fully outfitted Emergency Operations Center (EOC) and guided Navajo Nation to obtain a Disaster Declaration directly from the White House.

During her three years with the Tribe, the Navajo Nation had experienced fourteen events, including the current Gold King Mine response, where 3 million gallons of toxic waste was dumped into the 250 miles of water along 16 communities of the Navajo Nation. Other incidents include 20,000 tribal citizens without water, hazardous materials, evacuations, landslides, floods and the Asaayi Lake wildfire which burned more than 14,000 acres and involved more than 1,000 responders.

As High Water Mark's Emergency, Response and Recovery Manager, Rose is currently assisting clients in the closeout and disaster recovery management. Her work includes instructing for the Arizona Division of Emergency Management (ADEM), FEMA and projects for the National Congress of American Indians, Embassy of Tribal Nations.

Since 2004 she has reviewed, co-authored and instructed a number of FEMA/DHS/UDC publications on Citizen Corps, Tribal CERT, Tribal TEEN CERT and Tribal Emergency Management curricula. She contributed to FEMA 'Ready Indian Country' campaign initiatives and assists with testimony to the White House and Congress.

In November of 2011, Rose Whitehair was one of the first Native Americans inducted into the International Women in Homeland Security and Emergency Management Hall of Fame. Rose took the year of 2015 to assist the National Domestic Preparedness Consortium as a Tribal Advisory Council Member to enhance partnerships with historically underserved tribal, native, and territorial populations. Rose's maternal clan is Water Flows Together and can be traced back sixteen generations to Window Rock, Arizona on the Navajo Nation.

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SKILLS DEVELOPED THROUGH DISASTER AND EMERGENCY MANAGEMENT DEGREE

A background in Disaster and Emergency Management ensures that you develop the skills and mindset to tackle many different professional challenges. Here are just a few of the skills a Disaster and Emergency Management degree can help you develop:

Core Skills & Knowledge

• An ability to critically analyze and research disasters and emergencies using perspectives from sociology, politics and public policy.

• An understanding of the key concepts governing the methodology and effective management of contemporary emergency situations.

• A technical and academic comprehension of the considerations and the demands of dealing with disasters of different natures and origins.

Communication, Data Gathering and Organizational Skills

• The ability to present your thoughts clearly and intelligently in written statements and written opinion pieces

• Deduction of information from various sources and the ability to concentrate on relevant resources

• The ability to organize, understand and analyze sources of information and to apply novel forms of technology or new information to different professional settings and tasks

• The capacity to critically analyze problems, think creatively and make sound decisions while considering different sides of an argument

• The skills to collect various types of information, assess them, analyze and incorporate potential linkages from different fields, put them into writing and efficiently convey your message and the goal of your work

Management and Teamwork

• The ability to interpret and analyze information presented by peers and efficiently and constructively support or challenge their proposals, theories, ideas and reports in order to achieve a project's intended and successful end result

• Skills enabling you to work effectively in group situations, partaking in decision-making, leading and contributing in various capacities to the ultimate success of the team and task

• The ability to debate, persuade, mediate and present your thoughts and opinions to others, as well as the capacity to recognize and incorporate other potential solutions or applications to given problems

• The capability to identify priorities and proper courses of action, to plan the execution of tasks and to determine and dele-gate responsibilities to group members to most effectively carry out projects.

Inspiring Resilience: A Reflection of Indigenous Public Health and our Chi'lange'lth (Inherent Birth Rights)

By Shirley L. Williams

It is an honor to share 'A Reflection of Indigenous Public Health and our Chi'lange'lth (Inherent Birth Rights): From Resistance to Restoration to Protect the Salish Sea through the Spirit of the Sxwo'le for the Next Seven Generations' with HazNet.

It is inspiring to see that HazNet is looking beyond the current system to civil society to seek measures for disaster resilience. As we have observed, the Coast Salish People lived simply on mother earth for tens of thousands of years with an understanding and respect for their sacred responsibility to protect their land, water, salmon, reef net, language and way of life, but in a little over one hundred years, any tourist visiting the Royal BC museum can see that it took but a century for colonization to cause near genocide to this region's indigenous language, culture, freedom, way of life and ecological health.

After only a few generations disaster has set in, as we see the increasing rate in endocrine disruption, reproductive disorders, and cancers in both man and animal. The killer whale is said to only have 25 years to live and if it beaches itself it is treated like toxic waste. The salmon people are said to be at 10% or less natural stock. Their health reflects our health, and as our elders

A part of the paradigm shift: in 2016, after 100 years, the SJI National Parks Service allowed the true history of the land t
as the First People gifted them with a reef net captain and two salmon storyboards
Photo authorized by http://dustrude.com/nps/ and SJI NPS

have told us, 'they are our brothers and sisters and they are giving us a message.' Their message is clear: without our environment, we do not have our health.

As a Community Medicine RN who resides with, is enrolled in and is employed by a federally recognized indigenous nation in the United States, I am concerned about how quickly the continuous violations to our inherent rights to clean food and water has affected our ecological health and what it will mean for the next seven generations if civil society does not move swiftly together across the international transboundary border to protect our resources. I have been told by my respected elder that this sacred responsibility is for each one of us to honor and if it is not supported it is cultural/spiritual genocide - for these are our gifts from the Creator.

It has been an honor to witness the resilience of indigenous leaders throughout the world as they remain resistant to the government's foundational desire to 'divide and conquer,' and continue to implement the restoration of the ancestral way of knowing the power of 'one mind and one heart.'

NPS and Distrude
Photo authorized by http://dustrude.com/nps/ and SJI NPS

"American Indians have succeeded in the face of adversity", yet these "successes and paths of resilience largely have been ignored by public health and health research communities."

(National Institute of Health, 2015).

Even though the memory banks of our indigenous people's DNA are filled with the impacts of recent historical trauma due to the perpetual cycle of ambiguous loss which has led to adverse childhood experience, resilience shines through as they address the conventional government, societal mindset and systemic structure that continues to do more harm than good.

It has become apparent that the short term financial gain made by certain corporations and governments has had profound negative impacts on the long term safety/risk management of our ecological health and continues to promote an increased risk of disaster as evidenced by the last one hundred years in the Salish Sea territory of the Salt Water People. It appears, as we are faced with the impacts of the industrial flood and the stranded assets of the wealthy, there are signs of a paradigm shift as we begin to stand united as a common people to support the methodologies of our indigenous and grass root people of mother earth:

- In 2012, the US Department of Health and Human Services and National Institute on Minority Health and Health Disparities funded the Center for American Indian Resilience (CAIR). CAIR determined from a public health perspective they would research the models of resilience within NA/AI communities that are leading to successes through the use of, among others, collective memory, traditional based knowledge and digital story telling.
- On March 25, 2013, President Obama declared the San Juan Islands a National Monument. In Presidential Proclamation 8947, he called out the rich history of the Coast Salish People and the Sxwo'le (reef-net) and stated, "The protection of these lands in the San

Juan Islands will maintain their historical and cultural significance and enhance their unique and varied natural and scientific resources, for the benefit of all."

Lummi Reef-Net Revitalization
http://nwtreatytribes.org/lummi-nation-members-honor-traditions-at-historical-fishing-site/

http://indiancountrytodaymedianetwork.com/2016/08/24/watershed-moment-pole-story-boards-installed-ancestral-village-site-165558

- In 2011 and 2016, both the United States and Canada announced their support for the United Nations Declaration of the Rights of the Indigenous Peoples.
- In 2014, the Canadian Supreme Court made a historic decision 8-0 that made it easier for aboriginals to establish title over their lands.
- In 2015, Senator John McCoy was able to pass Senate Bill 5433 making it mandatory that schools must teach Native American History in Washington State.
- In 2016, the Army Corp of Engineers ruled against the largest coal terminal to be placed in the ancestral territory of Lummi Nation, recognizing the negative impacts to the environment, and honoring the nation's fishing treaty rights and ancestral site.

Based on Whiteswan Environmental's presentation of 'A Reflection of Indigenous Public Health and our Chi'lange'lth (Inherent Birth Rights): From Resistance to Restoration to Protect the Salish Sea through the Spirit of the Sxwo'le for the Next Seven Generations,' WE offer these thoughts to ponder as WE hope to inspire a continued measure of resilience: as the Chi'lange'lth (Inherent Birth Rights) is superseding treaties in First Nation territories (Louise Mandell, Q.C. First Nation Aboriginal & Treaty Rights lawyer) and as our treaties and public trust doctrines are two essential tools to help protect our environment (Mary C. Woods, Environmental Law Scholar), we envision a Coast Salish Tribal Heritage Field Institute will forever allow our people to practice their treaty rights and inherent birth rights and in doing so, offer a measure of cultural, historical, scientific, and ecological health protection and sustainability that can be modeled across the United States and Canada as they also work with their community with one mind.

Kari Neumeyer, Northwest Treaty Tribes
Photo authorized by Kari Neumeyer of Northwest treaty tribes

CONCEPTUALIZATION

Colonization → Ambiguous Loss → Cultural and environmental disruption → Adverse Childhood Experience → Decreased ecological health → Urgent Need → Cultural revitalization → Resurgence of Indigenous Values and Natural Laws

TREATY 1855
DAWES ACT 1887
General Allotment Act
BOARDING HOMES 1905-1932
Assimilation through Education
INDIAN RELOCATION ACT 1956
BOLT DECISION 1973
CLIMATE CHANGE
TANKERS, PIPELINES, COAL MINING, TAR SANDS (TRANSPORT OF FOSSIL FUELS) TERMINALS

Improve human and ecosystem health for the next seven generations
COAST SALISH TRIBAL HERITAGE FIELD INSTITUE AND INTERPRETIVE CENTER

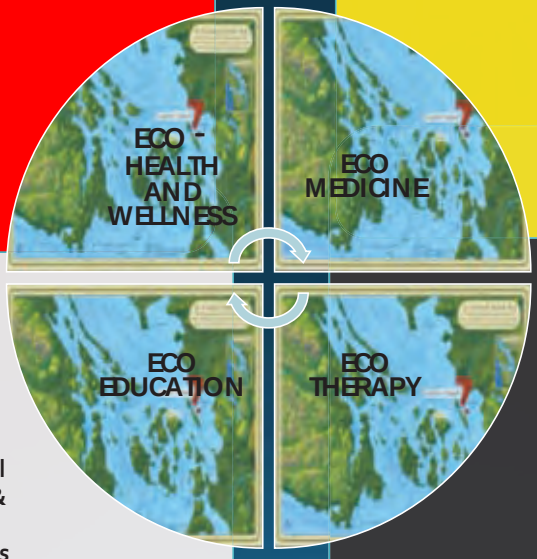
Keepers of the Tradition and Protectors of the Circle of Life

Kari Neumeyer, Northwest Treaty Tribes

HOLISTIC HEALTH AND WELLNESS REQUIRES BALANCE WITH THE WESTERN WAY OF LIFE AND OUR SCHELANGEN

- **PHYSICAL**
- WE return to the old ways as urged by Native American doctors to cure a population hit by chronic disease.

- **SPIRITUAL**
- WE restore our relationship to land, nature, water ways & way of life of our ancestors to achieve holistic balance.



- **MENTAL**
- WE integrate and respect our Schelangen (way of life) and the Western Science; becoming aware that the power of who we are and where we come from, our traditional place names, treaties, Indian laws, & proclamations have the power to protect mother earth for generations to come.

- **EMOTIONAL**
- WE address the underlying wounded spirit from loss of land, language, traditions and cultural identity by returning to the ancestral lands of our people.

Shirley Williams (KASTLMUT) Shirley Williams (KASTLMUT) Community Medicine RN and President of **W**hiteswan **E**nvironmental, **WE** (One Mind for the Purpose of the Work) is a member and resident of the Lummi Nation. She is employed by the Lummi Tribal Health Clinic and has been working at the satellite medical office at the Lummi Youth Academy since 2008. She will be presenting her reflection on Indigenous Public Health, as she has come to assess the needs of the youth and community she serves and the public health issues that have affected the individual and community across the trans-boundary international connection.

WE have moved swiftly to build relationships and provide education that supports intergenerational knowledge democracy amongst cultures who share stewardship of the Salish Sea. WE organized the Coast Salish Mini University gatherings, the historical storyboard dedication at the San Juan Island National Parks Centennial Celebration and are the vision keeper for the Coast Salish Tribal Heritage Field Institute and Interpretive Center. WE have been working on short to long term restoration projects with the San Juan Islands National Historical Parks, San Juan Islands National Monument, FRIENDS of San Juans and San Juan Islands Conservation Corps to provide community healing through the natural, cultural and historical restoration to the Salish Sea for the next seven generations.

WE believe that by integrating and respecting our Schelangen (way of life) and the western science/STEAM curricula, there will be intergenerational indigenous education on the ecological health issues of the past, present and future, therefore creating a resurgence of the Keepers of the Tradition and Protectors of the Circle of Life or the next generation of historians and conservationists.

Kari Neumeyer, Northwest Treaty Tribes
Photo authorized by Kari Neumeyer of Northwest treaty tribes

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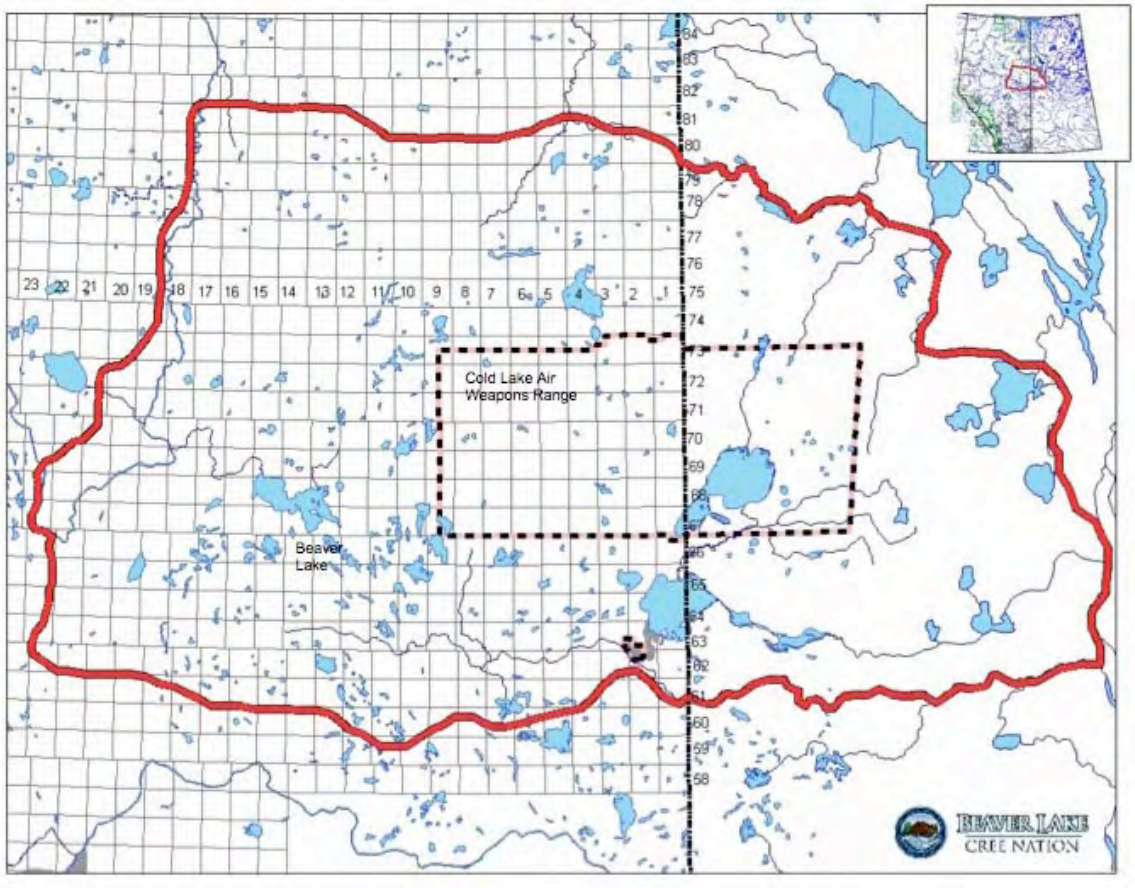
Lessons Learned from the Beaver Lake Cree Nation on the Front Line of the 2016 Fort McMurray Wildfire Evacuation Efforts

By Dylan Landstrom and Crystal Lameman



The Beaver Lake Cree Nation (BLCN) is located in Treaty No. 6 territory, Alberta, approximately 220 km northeast of Edmonton, Alberta. The BLCN has approximately 400 members living on-reserve, with a band list of approximately 1200. The BLCN are a fully self-sufficient, self-governing First Nation with housing and complete infrastructure. The community has a school, head start, daycare centre, health services centre, addictions treatment centre, administration building and maintenance department. The Beaver Lake Cree are a Cree tribe who still actively exercise their inherent and Treaty Rights to hunt, trap, fish and gather, while practicing sustainable management of their resources. The Beaver Lake Cree actively practices community principles, hence the immediate response to assist the Fort McMurray evacuees, of whom at final count the Nation had accommodated 45 evacuees and provided resources to and assisted 189 evacuees.

On May 3, 2016, after strong effort, the Beaver Lake Cree Nation opened up a reception center for the evacuees involved in the Fort McMurray wildfire. For Dylan Landstrom, the newly appointed Director of Emergency Management (DEM), opening up a reception center felt like quite a lot to handle at first:

"Overall the evacuation reception centre was an excellent experience and also great practice. On the morning that Fort McMurray and the surrounding areas had started evacuating, I had just been appointed the new Director of Emergency Management (DEM), so it was all new to me and I must say pretty nerve-racking as well. Thankfully, the former DEM was with me every step of the way. Also, I am very thankful for all the volunteers who gave their time, and for the generous donations we received at our centre. Even though the first few days were hectic, everything eventually fell into place and ran smoothly throughout the duration of the centre remaining open. Being a part of this effort definitely made me feel good knowing that our community had played a big role in helping the people in need."

In the event of fire, or in any other times of hardship, it is in the nature of our community to lend a hand whether it be directly within the community, or offering support to other communities needing help or assistance. On the morning of May 3rd, after being notified of the mandatory evacuation, we held an emergency meeting and all departments within the Nation responded quickly and soon thereafter discussion and planning began. During the planning and preparation anyone who was involved did their due diligence and very best in ensuring that the center was set up on time to receive evacuees. These departments included administration, health, education, public works, band gas bar, treatment center, recreation, campground, Chief and Council, along with the community elders and members who volunteered their time. As the days went by, we began receiving help from local businesses and departments from the town of Lac La Biche and its County, as well as other local nations and metis settlements.

Every individual who came to our center in need, seeking a place to sleep and/or looking for resources was accommodated. However, during this time, with the little space we had to offer, we struggled with sheltering the number of evacuees we received, the main reason being that there was not and still is not one main sleeping quarters. We were able to mitigate this by utilizing multiple spaces within the community: the school gymnasium and both band halls. We were also able to utilize a few family units at our treatment center that were not being used at the time of the evacuation. Finally, for some evacuees who were able to escape the wildfire with their motor homes, travel trailers, etc., we offered free camping at the Spruce Point Resort located within our Nation.

> "I have also learned that it takes a great deal of organization, and communication is key."
>
> Dylan Landstrom,
> Director of Emergency Management

Overall, this event showed us that we have a high community response capacity. This was proven by the response from all departments who immediately came together from the very beginning, ready to take action. The Beaver Lake Cree has learned a valuable lesson in community response and preparedness, especially regarding shelter, communication, and organization. We have recognized and flagged these as key areas that we need to work on and build capacity around so that if an event such as this ever occurred again we will be better prepared and equipped to handle such an occurrence.

We also recognized the need to designate a dedicated emergency management communications team and a fixed volunteer schedule, as we had many volunteers step up when we first opened the centre offering to assist but we were not prepared to delegate tasks, and as time passed and volunteer numbers dwindled we faced volunteer burn out.

> "Now that I have begun my training as the DEM, this should improve our response capacity, as well as other areas that were weak."
>
> Dylan Landstrom,
> Director of Emergency Management

The BLCN is a community dedicated to humanity, all living beings, and all that sustains life. In the face of adversity, we have maintained our strength as a nation and one that exercises self determination and principles based on community and helping one another. We are original stewards of this land and it is our responsibility to care for it and all of its inhabitants; we have always maintained such and we will continue to.

Dylan Landstrom is the Director of Emergency Management (DEM) and the Traditional Land Use Research Assistant for the Beaver Lake Cree Nation. He is a proud member of the Beaver Lake Cree Nation where he also resides. Dylan graduated grade 12 in 2009 and in 2011 enrolled in the local college and began his post-secondary journey to become a Natural Resource Technician. Dylan enjoys outdoor activities that include camping, quading, and swimming and pretty much anything to do with the outdoors. Dylan has recently began exploring his Cree culture by attending ceremonies, harvests, and other community events with cultural components.

Crystal Lameman is a mother of two and a member of the Beaver Lake Cree Nation, Treaty No. 6, where she is employed as the Treaty Coordinator and Communications Manager. Crystal resigned her position as the Tar Sands Program Coordinator for Sierra Club Canada and the Alberta Climate and Energy Campaigner for Sierra Club Prairie Chapter in June 2015 to work directly for her nation, after holding those positions for 3 years. Crystal has experience working with organizations like the Indigenous Environmental Network and the International Indian Treaty Council.

Crystal's United Nations work involved participation at the Rio +20 United Nations Conference on Sustainable Development in Rio de Janeiro, Brazil. She was a participant at the Preparatory Conference for the United Nations World Conference on Indigenous Peoples in Alta, Norway. She was a participant at the 21st Session of the Conference of the Parties, United Nations Framework Convention on Climate Change in Paris, France. And she most recently participated at the 15th Session of the UN Permanent Forum on Indigenous Issues in New York City, NY.

Crystal holds a 2 Year Social Work Diploma from Maskwacis Cultural College (2002), Bachelor of Arts and Sciences from Athabasca University (2010), and a Bachelor of Education from the University of Alberta (2012); but above all her continued education of her Indigenous ways of knowing and being as a guide to how she lives her life is her greatest achievement.

RESEARCH

Fire Protection Management Within On-Reserve First Nations Communities

By Alice Cullingford

Compared to the rest of the Canadian population, the number of fire incidents and fire injuries per capita for First Nations is nearly two and a half times greater, and fire fatalities are ten times higher than what is seen in the rest of country (Canada Mortgage Housing Corporation [CMHC], 2007). The majority of fire-related deaths on reserve can be seen as preventable with measures such as the installation of working smoke alarms, fire prevention and education, and increased training of fire crews. However, without first understanding the power imbalances and the greater context of First Nations people, the assessment of fire protection cannot be properly addressed, and is still poorly understood due to the complexity of psychosocial and historical factors dating back to the Indian Act. As a further complication, fire protection cannot be solved in the absence of inter-disciplinary organizations and agencies: the intricacy and delicacy of managing on-reserve life safety issues is such that stakeholder approaches and agendas are varied, and policy regarding First Nations fire protection has often been shaped without the inclusion of First Nations peoples themselves. Even within an atmosphere of a common goal or vision, plans and agendas of one organization often take precedence over another stakeholder's (King, 2007).

Complexity

Challenges that exist within First Nations are inherently complex in part due to imbalances of power – be it between the various levels of Canadian government and First Nations, or Band council and its members. This imbalance can create problems in communication due to different views and expectations over what is deemed to be correct and fair (LeBaron, 2015). In addition, solutions are often provided through the lens of outgroups who are often the main cause of cultural conflict and pain. One must be cognizant that culture is not simply limited to being First Nations people, and that many complex strata of subcultures exist within First Nations bands, First Nations groups, and individuals who identify as being First Nations. Adding to the complexity, different governances found on reserves depend on treaties signed that no longer place certain reserves under the auspices of the Indian Act. Further, public organizations, especially those relating to government, are often trapped by procedures limiting effective problem-solving applications (Zweibelson, 2012). Although there are many federal policies, strategies, and initiatives that are currently in place, execution and implementation is not always effective due to lack of infrastructure. Additionally, mandated and consistent implementation of fire inspections is lacking, and fire risk is compounded by overcrowding, unregulated housing construction, poor infrastructure, lack of firefighter training, and in many cases, inadequate community fire safety awareness.

Domain Specificity

First Nations fire protection needs to be addressed via psychosocial, socio-economic, and political disciplines in collaboration with First Nations. Public and private organizations must make proper choices in a timely manner so that actions can be executed effectively. This is especially difficult during a time when challenges specific to First Nations are still not clearly understood, and some approaches–especially misinformed ones–can create more harm than good–draining valuable resources and morale. Büyükdamgacı (2003) provided a sobering statement that "solving the wrong problem may prove to be more detrimental than ignoring the problem altogether" (p. 327). This reinforces the need to ensure that the assessment of fire protection is not addressed without First Nations members and sub-

ject matter experts that include, but are not limited to, the areas of fire services management, aboriginal relations, reconciliation, and northern/remote development.

Assumptions

What is unclear is if First Nations want exterior stakeholder help in creating fire protection measures outside the parameters of the provision of federal funding. The assumption is that they do. However, in this current climate for change, one cannot solve challenges that First Nations on-reserve communities face without understanding or being aware of stakeholder cultural biases and agendas. In addition, a major assumption is that some First Nations reserves want out from under the auspices of the Indian Act, or that the communities that are self-governed have the ability, capacity, and resources to manage fire protection.

Constraints

Emotions surrounding issues that having been plaguing First Nations communities continue to run high, and limit the ability to find solutions suitable to each particular reserve. The problem, however, is that not all stakeholders are necessarily respectful of where First Nations are situated emotionally regardless of what calls to action have been made. Building back trust is a crucial first step that takes time and resources before any other work can begin. Without trust, it is near impossible to build inter-disciplinary collaborative processes between governments and First Nations councils, public and private stakeholders, the media, and the public.

Closing thoughts

There are many federal fire protection frameworks that are currently in place to help support the need for safety and inclusion. However, due to the contentious history the federal government has had with First Nations, well-meaning actions may not always be readily received. All stakeholders need to be cognizant that some approaches and applications of fire protection strategies in many on-reserve First Nations communities can create an unhealthy and unsustainable cycle of dependency, and the social issues that contribute to the effective implementation of fire protection programs need to be examined. Because each on-reserve community varies socially, economically, politically, and geographically, the solutions to First Nations fire protection is complex and culture-specific. Many answers can be found by looking at pre-existing data available from other federal and international organizations, provided that the information is applicable in a First Nations and Canadian context. Ultimately, success requires buy-in and ownership: First Nations leaders and band members, armed with proper knowledge, training, and resources, can help to find sustainable solutions that are specific to their particular region. Calls to action addressing governments, institutions, and agencies can lead the way in creating fire protection mandates and mechanisms that will have far-reaching positive impact on all Canadians and First Nations.

Acting Captain **Alice Cullingford** has been a career firefighter since 2001. She also works as a consultant specializing in hegemonic human relations issues, diversity, and employee engagement, attraction and retention for both public and private sector organizations. She holds a Master of Arts in Disaster and Emergency Management.

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Traditional Knowledge and Disaster Resilience of Indigenous Peoples

By Arshad Khan Khalafzai and Jamila Nawaz

Arshad Khan is a DRR/M[1] practitioner and has 24 years of experience in the fields of DRR/M[1], and socioeconomic and human development. Presently, he is pursuing his Ph.D. degree at the University of Alberta, Edmonton, Canada. His research focuses on ice break-up and jamming-related flooding on a First Nation Reserve in northern Ontario, Canada.

Jamila has been actively contributing in the fields of DRR and climate change has completed several projects since 2007. Presently she is working for the Oxfam G.B Pakistan Program as Manager, DRR and Climate Change.

Traditional knowledge (TK) can play a critical role in building the disaster resilience of Indigenous people because it can potentially contribute to building resilience to natural hazards risks.

What is Traditional Knowledge?

Berkes defines TK as "a body of cumulative knowledge, practice, and belief, evolving by adaptive process, and handed down through generations by cultural transmission about the relationship of living being (including humans) with one another and the environment" (Berkes, 1999; Berkes et al., 2000, p. 1252). His definition signifies the oral traditions of several generations, integrated socioeconomically, culturally and ecologically with a strong spiritual foundation embedded in values, beliefs and practices. TK has cultural and local meaning: for example, in the Canadian context, the

[1] Disaster risk reduction (DRR) and disaster risk management (DRM).

'Inuit way of doing' things based on past, present and future knowledge; experiences and values of the Inuit society; or the 'collective wisdom' of Cree Indigenous people. TK consist of all the experiences and knowledge of a social group which in essence is a social and mental construction, which guide, organize, and regulate a community's way of life. While TK has been historically devalued in many fields of scientific and social science research, indigenous-knowledge contributions have also been well documented in many fields—including fields of agro-forestry, traditional medicine, biodiversity conservation, customary resource management, impact assessment, and risk reduction (Nakashima et al., 2012).

Recognition of Traditional Knowledge

Unequal power dynamics between western science and TK have undermined the potential role that traditional knowledge-holders can play as active participants in many fields including DRR. During the colonization and modernization eras, TK and Indigenous values were devalued as an 'impediment to development' (Koike and Payyappallimanai, 2010) and early sociologists such as Karl Marx (1867) conceptualized such values and traditions as the 'idiocy of rural life' (Layfield, 2008). Contrary to such opposing views, anthropologists have traditionally recognized the value of TK by acknowledging Indigenous peoples' perspectives as a distinct world view. Furthermore, cultural ecologists also regarded TK as useful and beneficial as they see the knowledge systems and practices emerging from a particular cultural context. Scholars with empirical views such as Fikret Berkes (Scared Ecology: 2008) consider it useful and beneficial.

TK is now widely recognized by and is of interest in many disciplines such as anthropology, geography and ecology (ethnology and ethnobotany). This recognition of TK is evident from the fact that knowledge systems are being legislated (in Canada and internationally) in natural resource management, land-use planning, environmental assessment and understanding, and adapting to climate change as well as mitigating natural hazards risks. The value of such knowledge systems is now widely recognized by scientists, managers, and policy-makers, and is becoming subject of national and international law (Anaya, 1996; Mauro & Hardison, 2000). While scientists are often skeptical of the value of traditional knowledge systems, Scott (1998) asserts that they tend to value it after recasting it in scientific terms, making it more rational, empirical and objective.

Disaster Resilience and Traditional Knowledge

In the face of natural disasters, disaster resilience refers to a community's ability to survive and deal with events by reducing impacts and sustaining minimum damage. A community's disaster resilience is seen as proactive and a positive characteristics when dealing with natural disasters. Community resilience building focuses on the adaptive capacity of individuals, households and communities such as people's resources and their collective strategic action, social networks/capital, and knowledge, skills and learning (Cutter et al., 2008; Berkes & Ross, 2012). Indigenous people's social networks, organizations and traditional knowledge can play a crucial role in developing adaptation strategies.

For example, Indigenous community location-specific flooding-related TK can guide flood adaptation. In this respect, as 26 percent of Aboriginal peoples still live close to the land[2], they possess valuable TK that can contribute to their adaptation and resilience (Newton, 1995; Berkes et al., 2000; Norris & Clatworthy, 2011). Similar to TK, Indigenous people's resources, social institutions/networks, cultural values and attitudes can enhance their adaptive capacity in building disaster resilience (Berkes & Ross, 2012; United Nations University, 2013). Indigenous communities have demonstrated their resilience by surviving increasing number of natural hazards, and socioeconomic issues.

Empirical evidence indicates that Indigenous communities are expected to experience disproportionate impacts due to the changing climate and increasing natural hazards; this claim is consistent with recent climatic events, their increased frequency and intensity across the globe (Newton et al., 2005; Lynn et al., 2012). In addition, the authors' professional experience also suggests that the changing climate, its ensuing natural

[2] According to Norris and Clatworthy (2011), as of 2006, 26 percent Aboriginal peoples are living on Reserves in Canada.

events and impacts have been unevenly affecting local communities elsewhere. Their intensity is also expected to increase keeping in mind projected global warming. The unevenness and severity of the impacts are fundamental because of the interconnectedness, interdependence and complexity of the natural environment and systems and varying levels of vulnerability, resilience and adaptive capacity of Indigenous communities.

The concepts of resilience, vulnerability and adaptation are interrelated. Vulnerability, for example, also resides in the resilience of the system that experiences a hazard. Resilience is also important for vulnerability because it helps assess hazards holistically in the context of human-environment systems, emphasizes people's adaptive capacity and is forward-looking (Berkes, 2007; Gaillard, 2007; Maru et al., 2014). Similarly, the resilience of a community can be determined by the condition of vulnerability as well as adaptive capacity. People's adaptive capacity contributes to reducing their vulnerability to hazards (Nelson et al., 2007). Furthermore, adaptation and resilience overlap with adaptive capacity because adaptive capacity helps to build people's resilience. Adaptation and resilience are positively correlated while having an inverse relationship with vulnerability. In a nutshell, a community's resilience is enhanced through improvement in their adaptive capacity.

TK is evolving all the time. It involves adaptive management or learning-by-doing, experimenting, and knowledge-building; the evolving process depends upon community members' ability to constantly observe the climate and environmental changes occurring around them. Such observations have been crucial for climate history, community adaptation, and community-based DRM (CBDRM). The resurgence of dormant traditional adaptive capacities will not only reduce the vulnerabilities and risk exposure of Indigenous communities: it will also contribute to enhancing their disaster resilience. TK may not necessarily fit with every scientific model; however, more in-depth research is warranted to identify points of convergence where indigenous knowledge may help improve the disaster resilience of Indigenous peoples.

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Discovering Resilience – The Quadra Island Story

By Shaun Koopman, Protective Services Coordinator - Strathcona Regional District preparedness@strathconard.ca

Quadra Island is the largest and most populous of the Discovery Islands, with 2700 year round residents. It is located between Vancouver Island and the mainland coast of British Columbia. Throughout August 2016, I conducted 8 face-to-face interviews with senior Quadra Emergency Program (QEP) volunteers. This process was complemented by a similar electronic questionnaire with 8 other QEP volunteers. The questions focused on (1) volunteer recruitment strategies, (2) if the participants felt their community was resilient and, (3) what inspired them to join the QEP.

History

Back in 2007, Quadra Island had no emergency program, no trained volunteers, and not one designated reception centre. Fast forward to October 2016. QEP now has over 100 Emergency Support Services volunteers, 14 Amateur Radio Operators, and an emerging - but flourishing, Neighborhood Emergency Program. From 2007 to 2016 the QEP averaged 2,200 volunteer hours per annum. In less than a decade a "black hole" of emergency preparedness emerged into a resilient community. What happened in between? What inspired this community to become resilient?

Cape Mudge Lighthouse

The QEP began in 2007 when Eileen McKay took an ESS Reception Centre course through the Justice Institute of British Columbia. She immediately recognized there was an urgent need for an emergency program on Quadra Island given the island's rural and isolated nature. Eileen recognized the recruiting talent that her good friend Judy Hagen possessed and Eileen laid down a challenge to Judy: to recruit 100 volunteers for the QEP. For the first year, Eileen targeted volunteers with specific talents and Judy became an ESS instructor in order to teach the new recruits their Level 1 and Level 2 courses.

Volunteer Recruitment Strategies

Quadra's volunteer recruitment strategy consists of two components. The first is the Welcome Wagon. When newcomers move to the island they receive a $150 gift basket that includes information about the Quadra Emergency Program as well as emergency information relevant to Quadra Island. 25% of QEP's volunteer base was recruited from the Welcome Wagon. "We moved to this new community and the information provided by the Welcome Wagon allowed us to connect with a group and meet new people in our new home" stated Neighborhood Program Coordinator Karen Bailey. This initiative was started by QEP's Emergency Support Services Director Judy Hagen in conjunction with the Quadra Island Chamber of Commerce. The


Judy - photo of Judy Hagen

Welcome Wagon plays a huge role in recruiting people to the emergency program.

The second component is targeted volunteer recruitment. 60% of the QEP's volunteers were specifically targeted by either Eileen McKay or Judy Hagen. "In a small community you can target people because you know their backgrounds" Eileen explained. Very rarely does the QEP host an open house style volunteer information session. 13 out of the 16 volunteers that were interviewed listed either Judy or Eileen as the key influence that inspired them to become part of QEP. During Eileen's interview she reiterated the importance of Judy Hagen's unique abilities as a recruiter, "Judy has the rare ability to identify the right person for the job and is not threatened by that person's education, abilities, skills, knowledge, possibly being greater than her own."

A Resilient Community?

All sixteen QEP volunteers expressed that they felt their community was resilient. The sense was that Quadra Island attracts a pool of self-reliant individuals who can act in an emergency without needing the additional resources and infrastructure that is available in an urban setting. These people tend to be caring and possess a sense of responsibility towards others. This community spirit is common in rural communities.

Why the Program is Successful with Volunteer Recruitment and Retention

Many of the volunteers attributed the grassroots bottom-up management style as the key attribute that is responsible for QEP's success with recruiting and retaining volunteers. Amateur Radio Operator Frank Wallace feels that the QEP leaders are "Willing to delegate and listen to suggestions. There are quite a few strong characters in the core group who would be unlikely to stay if they had not found a niche that they could run without interference."

Conclusion: Lessons Learned

In small communities, volunteer program leaders are in a better position to target and recruit volunteers that possess the skills and abilities that the program requires. However, every program needs a leader "with the gift of gab" to help promote the program. A handful of passionate, motivated individuals can play an incredible role in increasing their community's level of resilience and preparedness. The key lesson for the Emergency Coordinators that support these programs is to find these potential champions, give them your support - and most importantly, trust in them by providing them both the freedom and flexibility they require to run the program. On Quadra Island this philosophy inspired the community to become more resilient.

Shaun Koopman is a Protective Services Coordinator for the Strathcona Regional District. Shaun is also the Editorial Assistant for HazNet.

JUSTICE INSTITUTE OF BRITISH COLUMBIA

JIBC wins prestigious interactive media awards.

JIBC has won six Horizon Interactive Awards for a number of its innovative new training websites and mobile apps for industry professionals and students in JIBC's public safety programs.

Included in these awards was a Bronze Award for the ESS2go iOS App. Developed by a group that included staff from Technology Enhanced Learning and Teaching Centre (TELT) and the Emergency Management Division (EMD), the app eliminates the need to use some paper-based planning and operational materials. It was created for use as a support tool in training scenarios and as a tool for use during a disaster with nearly all the functions available without the need for Internet access. In September, accessibility of ESS2go was expanded with the launch of the app for Android devices.

JIBC also received Bronze Awards for the Introduction to Reception Centres and the Introduction to Group Lodging Open E-Learning courses offered by EMD. Developed in partnership with Emergency Management BC, the websites were created primarily to support training for people who live in rural and remote communities. In addition to these awards, the Introduction to Intelligence Analysis course, part of the Bachelor of Emergency and Security Management Studies, was named a 2014 winner of a Blackboard Catalyst Award for Exemplary Course.

"JIBC has made it a strategic priority to improve public safety education and training by developing innovative new e-learning tools and simulations based on the latest applied research," said Dr. Michel Tarko, President and CEO of JIBC. "These awards recognize the ground-breaking work that is being done at JIBC and is a testament to our focus on educational excellence and student success."

JIBC won three Horizon Interactive Awards for its Rural Disaster Resiliency Planning Community Toolkit.

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

RESEARCH

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Local Practices of Resilience in Bihar: The case of Kusheshwar Asthan

By Alex Tsakiridis

This article discusses coping mechanisms and flood risk reduction measures employed by locals to tackle periodic flooding of the Kosi river, or the "sorrow of Bihar", India.

When waters engulf the land, particularly in low-lying areas of the Kusheshwar Asthan Purbi block, at the Darbhanga district of Bihar, villages become detached from the rest of the world. Due to the unique characteristics of the wetland in the area, covering 14,000 hectares (Singh, 2000), some propose to identify it as a Ramsar[1] site which could be developed for eco-tourism (Islam and Rahmani, 2008; Jha et al. 2011). The State government had already declared them as "protected sanctuaries" for conservation, but nothing else has been done since then (Singh 2000). Other areas are covered with diara lands, situated between natural levees of the river and formed due to its course changing behavior and meandering (Kumar et al. 2013), and tal lands which are bowl-shaped depressions. In the meanwhile, it is in these floodplains that villages resort to living on raised levels of land and feed themselves with snails, chartángas (crabs), kálmi sáag (water spinach or Ipomoea aquatica) and leaves of aquatic plants found in land depressions.

Cháurs or depression basins are naturally formed by changes in river courses but can be artificially maintained. They are prevalent in Kusheshwar Asthan, and include the cháurs of Larail, Mahrail, Mahisath and Bargaon. Máuns on the other hand are defunct loops of rivers distinguished from the main rivers. With dry land being submerged for 6 months, wetlands as areas of faunistic and floristic diversity become sources of livelihood. These can include pisciculture

Photo taken in Muzaffarpur district by Pooja Kulkarni

[1] A Ramsar site is a wetland site designated of international important under the Ramsar Convention or the Convention on Wetlands, established in 1971 by UNESCO.

Photo taken in Muzaffarpur district by Pooja Kulkarni

(fishing) conducted in the non-rain season, or cultivation of prickly water lily (Euryale ferox) or makhána (Singh, 2000). In fact, the fish productivity in cháurs is 15kg/ha/yr while in máuns it is between 60-150 kg/ha/yr (NAAS, 2013). These activities state that besides the land economy, north Bihar also invests in a water economy (Singh, 2000) which provides multiple other services besides food security, such as flood protection, groundwater recharge and water supply - provided that, of course, the wetlands are protected from anthropogenic pressures and are de-silted regularly.

The aquatic plants such as the théthar (pink morning glory or Ipomoea carnea) originating in these water bodies are used for food, fodder, fuel, housing and protection from erosion , suggesting a remarkable sense of adaptation from the side of locals (Jha, 2015). For instance, Eichhornian crassipes (or kechulí in the local language), an invasive species of water hyacinth in the tropics providing shelter to mosquitoes which might be vectors of malaria, is actually used for constructing floating bridges. The same plant is also used as fuel for cooking and manure for crops, as well as for a traditional method of fishing known as jháng. The floods of 1974 caused the uprooting of orchards and as a consequence led to the lack of firewood, which made people use Sesbania rostrata, another aquafyte called Manager by the locals. This plant acts as a source of fodder during flooding and as a protecting measure for crops against kechulí's invading tendency. On the other hand, these cases of relying on natural resources have their limits; Eugenia jambolana trees (or jamún) being scarce, iron sheets are now being used for carving boats (ibid).

The reader may find below a table on the coping mechanisms and the flood risk reduction measures undertaken in the vicinity of Ujua and the nearby Kolatoka village in the Kusheshwar Asthan Purbi block of the Darbhanga district. Due to the main feature of the landscape, the river basin, these capacities and activities may also be found in the greater area. This table also presents a clear distinction between "coping capacity", as the ability of households to surpass a crisis, and "disaster risk reduction", as the systematic intervention in reducing the risk or impact of a disaster.

Photo taken in West Champaran by Bipin Kumar Chandra

Coping Mechanisms	Disaster Risk Reduction
1. 10-15 out of 2,158 persons (Census, 2011) have access to credit or remittances from friends and relatives or have adequate savings, but it is mostly the households (HHs) of the landlords (217 HHs) who are able to retain their livelihood during disasters. 2. 5-7 out of 190 households among the low caste HHs and all the ones of the landlords (217) have sufficient stock of assets to mortgage or sell. 3. 5-7 out of 217 HHs of the landlords are covered under insurance policies and have access to latrines during disasters. 4. 50% of the low caste HHs (190) and all the HHs of landlords (217) have sufficient foodstock for at least a week. 5. The residue of maize (tháthera) is used for fuel after taking out the grains, in the case of shortage. 6. During flooding, people usually buy small boxes (200-400 INR or 4-8 CAD) in order to store and save their valuables. 7. Almost everyone knows how to swim.	1. The HHs which have the economic ability would elevate their houses on a small hill of soil. The cost of levelling land for an area of 5mx4m (20sq2) is 100,000 INR (1,980 CAD). 2. Similarly, HHs would make use of cement pillars (introduced in 2012) instead of bamboo ones that are more vulnerable to water (worn-out after 1 year). The cost of one pillar is between 600-700 INR (12-14 CAD) and a regular kátccha house requires 10 pillars. 3. A pond is located in Ujua village and several low-land areas in various places between settlements, as well as behind houses facing the river bank, which get filled up with water from April to September (6 months). 4. The roofs of all kátccha houses are covered with regular, waterproof polythene. 5. 5-7 out of 230 HHs of the landlords own packing materials (sacks, cartons, bags, trunks, etc.) for the relocation of essential goods. *A kátccha house is made of mud and thatch while a paccá house is made of cement.

Photo taken in Darbhanga distric by Alex Tsakiridis

The pictures illustrate various flood risk reduction measures in different districts of Bihar: the pictures from Muzaffarpur were taken by Ms Pooja Kulkarni, the ones from Sitamarhi by Mr Yuvraj Singh Rajput and those from West Champaran by Mr Bipin Kumar Chandra; students from the Tata Institute of Social Sciences undertaking an internship in September 2015. The pictures from Darbhanga were taken by the author in November 2015 during his internship with the NGO Praxis - Institute for Participatory Practices in Patna for the needs of a vulnerability assessment of the village of Ujua.

This excerpt is part of the author's Master dissertation entitled "The Political Economy of Disaster Risk Reduction: Factors that promote and hinder the prevention of disasters and root causes that integrate or exclude Disaster Risk Reduction from the development models of India and Greece". The dissertation received the best research award for the year 2016. His supervisor was Prof. Janki Andharia, Professor at the Jamsetji Tata School of Disaster Studies in Mumbai, India. The author would like to thank Mr Anindo Banerjee and Mr Sanjay Kumar Paswan from Praxis, as well as Mr Narayan Jee Chaudhary from the NGO Mithila Gram Vikas Parishad, for their immense support and direction, without which the author's thesis would not have been possible.

Alex Tsakiridis hails from the domain of Political Science, which he studied in Greece and Denmark. He is a Disaster Risk Management specialist, trained in South Asia with field experience in India and Nepal. Alex Tsakiridis locates his interest in the politics of risk and more specifically in the nexus between development and disasters.

Photo taken in Sitamarhi by Yuvraj Singh Rajput

Photo taken in Sitamarhi by Yuvraj Singh Rajput

Photo taken in West Champaran by Bipin Kumar Chandra

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Whakaoranga Ōtautahi: A pre-emptive Māori approach towards actioning the Sendai Framework for Disaster Risk Reduction in Christchurch, New Zealand

(Original Research)

By Dr Christine Kenney PhD and
Dr Suzanne Phibbs PhD

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Takahanga 2

Introduction

The 2010-2011 Canterbury earthquakes caused extensive damage in Christchurch, New Zealand. Anecdotal evidence suggested that Māori responded effectively to facilitate community recovery and resilience. As Māori cultural attributes that are protective in times of adversity had rarely been documented, research was conducted in partnership with the Christchurch Iwi (tribe) Ngāi Tahu, to explore and record how Māori cultural factors facilitated disaster risk reduction and community recovery following the earthquakes. Research findings suggest that Māori values linked with understandings of cultural identity act as key strengths during adversity by promoting social behaviours and practices that facilitate community resilience. Therefore the Māori approach to earthquake recovery is an exemplar of best practice in accordance with the Sendai Framework for Disaster Risk Reduction (2015). This globally accepted framework requires emergency management infrastructure engagement with local communities to embed cultural diversity in the creation of disaster management policies and implementation of recovery practices.

Context

On the 4th of September 2010 a magnitude 7.1 earthquake occurred in Canterbury New Zealand heralding a sequence of earthquakes that caused wide spread devastation within the region. A magnitude 6.3 earthquake centred under the country's second largest city Christchurch, on February 22, 2011, caused injury to over 9000 inhabitants and the loss of 185 lives. The majority of residents experienced damaged homes, as well as prolonged loss of utilities such as power, water and sewerage, and damage to roads. The worst structural damage occurred in the central city, urban hillside region and coastal eastern suburbs with the latter area being affected by widespread liquefaction, while the central business district remained largely cordoned off until the 30th of June, 2013.

At the time of the earthquakes, 25,725 Māori lived in Christchurch comprising 7.3% of the population, while the local tribe Ngāi Tahu (10,965 individuals)

was a minority (42%) group within the Māori demographic. The Māori population was concentrated in the lower socio-economic Eastern suburbs suggesting that in comparison to the wider community, Māori were disproportionately affected in terms of reduced resources, access to basic necessities, sanitation, power, transport and support from responders. However, anecdotal stories of Māori community resilience in Eastern Christchurch indicated that local Māori had drawn on cultural attributes to create effective earthquake response and recovery initiatives.

Research Design

The Joint Centre for Disaster Research at Massey University partnered with Ngāi Tahu to explore and document the effective Māori disaster management approaches that were drawn on in Christchurch. A qualitative research approach based on Ngāi Tahu values shaped the community-based participatory project. Seventy Māori participated in research interviews during which information about Māori understandings and practices associated with risk reduction and mitigation, as well as disaster preparedness, response and recovery was gathered.

The Māori Earthquake Recovery Response

The Māori Recovery Network was collaboratively established within 24 hours of the February 22, 2011, earthquake at an earthquake response strategy development meeting, which was held at Rēhua marae (the central city Ngāi Tahu community centre) on February 23, 2011. The meeting was attended by over 60 representatives from a range of organisations including Te Rūnanga o Ngā Maata Waka, (Christchurch Urban Māori Authority), Te Puni Kōkiri (Ministry of Māori Development), the Te Tai Tonga (Southern Māori) electorate, the New Zealand Police, and the Ōtautahi Māori Warden's Association. At the meeting it was agreed that the network would focus upon ensuring that the mainstream response to the earthquakes was inclusive of, and accessible to, the diverse communities in Christchurch. Attendees also agreed that the Māori response would be led by Te Rūnanga o Ngāi Tahu and driven by Māori values. A community responder described the

creation of the initial mission statement: "On the first day the leaders adopted a theme - 'aroha nui ki te tangata' love to all people - so it didn't matter who we come up against, we helped them" (MW). The Māori value 'aroha nui ki te tangata' signalled that local Māori community intended to provide support to the entire population not just the local Māori community, and this message was reinforced in media releases from the Māori Recovery Network.

Research Findings

Māori emergency management capability as well as capacity is evident in the actions of the Māori Recovery Network following the February 22, 2011, earthquakes. Historically, marae (Māori community centres) provide a sense of place that is central to Māori collective identity and wellbeing as well as rapidly mobilised centres of support that unite Māori communities when adversity strikes. Ngāi Tahu marae opened immediately following the February earthquake and provided shelter, food, water, hospitality as well as access to health services and social support to the wider community. Whānau (families), the core units of Māori cultural capital, operationalise marae. Familial networks enacted whanaungatanga (social relationships) through sharing resources, providing emergency accommodation, ensuring the safety of family members, staffing marae, securing and/or clearing damaged property and assisting Christchurch residents to negotiate the bureaucracy of responding government agencies. Other tribal risk mitigation initiatives included establishing a 24 hour telephone help

line, arranging financial support, receipt, storage and distribution of donated goods through makeshift offices at Wigram a disused air force base, logistical support for Māori wardens and 'barefoot' medical teams that were working in Eastern Christchurch, as well as liaison with government, NGOS and responding agencies. In total the entire Māori Recovery Network contacted and/or provided shelter, food, water clothing, toys, finance and other non-perishable goods to over 20,000 households following the February earthquake. Findings suggested that Māori values which are embedded in sets of understanding about identity act as cultural strengths during adversity through shaping social practices. In the Christchurch context exemplars included kotahitanga (enacting community unity), whakapapa (operationalising familial networks) whanaungatanga (utilising social relationships), manaakitanga (extending respect, support, hospitality), kaitakitanga (ensuring protection, guardianship) and marae (activating community support centres). The research outcomes also indicated that New Zealand's Civil Defence Emergency Management policies and disaster risk reduction practices could be enhanced by the respectful integration of Māori knowledge and strategies.

Māori indigenous knowledge, values and practices enhance disaster management, earthquake recovery and community resilience in Chrischurch, New Zealand.

Indigenous peoples and the Sendai Framework for Action:

"There has to be a broader and a more people-centred preventive approach to disaster risk. Disaster risk reduction practices need to be multi-hazard and multisectoral, inclusive and accessible in order to be efficient and effective. While recognizing their leading, regulatory and coordination role, Governments should engage with relevant stakeholders, including women, children and youth, persons with disabilities, poor people, migrants, indigenous peoples, volunteers, the community of practitioners and older persons in the design and implementation of policies, plans and standards. There is a need for the public and private sectors and civil society organizations, as well as academia and scientific and research institutions, to work more closely together and to create opportunities for collaboration, and for businesses to integrate disaster risk into their management practices." (p.10)

Priority 1: Understanding disaster risk

"To ensure the use of traditional, indigenous and local knowledge and practices, as appropriate, to complement scientific knowledge in disaster risk assessment and the development and implementation of policies, strategies, plans and programmes of specific sectors, with a cross-sectoral approach, which should be tailored to localities and to the context." (p.14)

Priority 2: Strengthening disaster risk governance to manage disaster risk

"To empower local authorities, as appropriate, through regulatory and financial means to work and coordinate with civil society, communities and indigenous peoples and migrants in disaster risk management at the local level." (p.18)

Role of stakeholders:

"Indigenous peoples, through their experience and traditional knowledge, provide an important contribution to the development and implementation of plans and mechanisms, including for early warning." (p. 23)

Read more: http://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf

RESEARCH

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An Exploration of United States Federal Policy Targeting American Indian and Alaska Native Disaster Vulnerability

by Lucy Carter and Lori Peek

This article addresses American Indian and Alaska Native tribal engagement with US Federal disaster planning programs and the challenges that may be faced by tribes.

As of September 30, 2015, more than three-quarters of all Native American and Alaskan Native (AIAN) tribes were ineligible to apply for FEMA grants and cannot receive federal funding for disaster mitigation projects. The research presented in this article, which draws on Carter (2016), summarizes a comprehensive policy analysis that included the review of 66 federal documents focusing on disaster mitigation and American Indian tribal sovereignty and explores FEMA tribal disaster declaration data and tribal mitigation planning data.

In the past four decades, 120 disasters have affected tribal areas according to FEMA disaster declaration records. The number of disasters has increased steadily over time, and 2010-2016 had the most tribal disasters on record (see Figure 1).

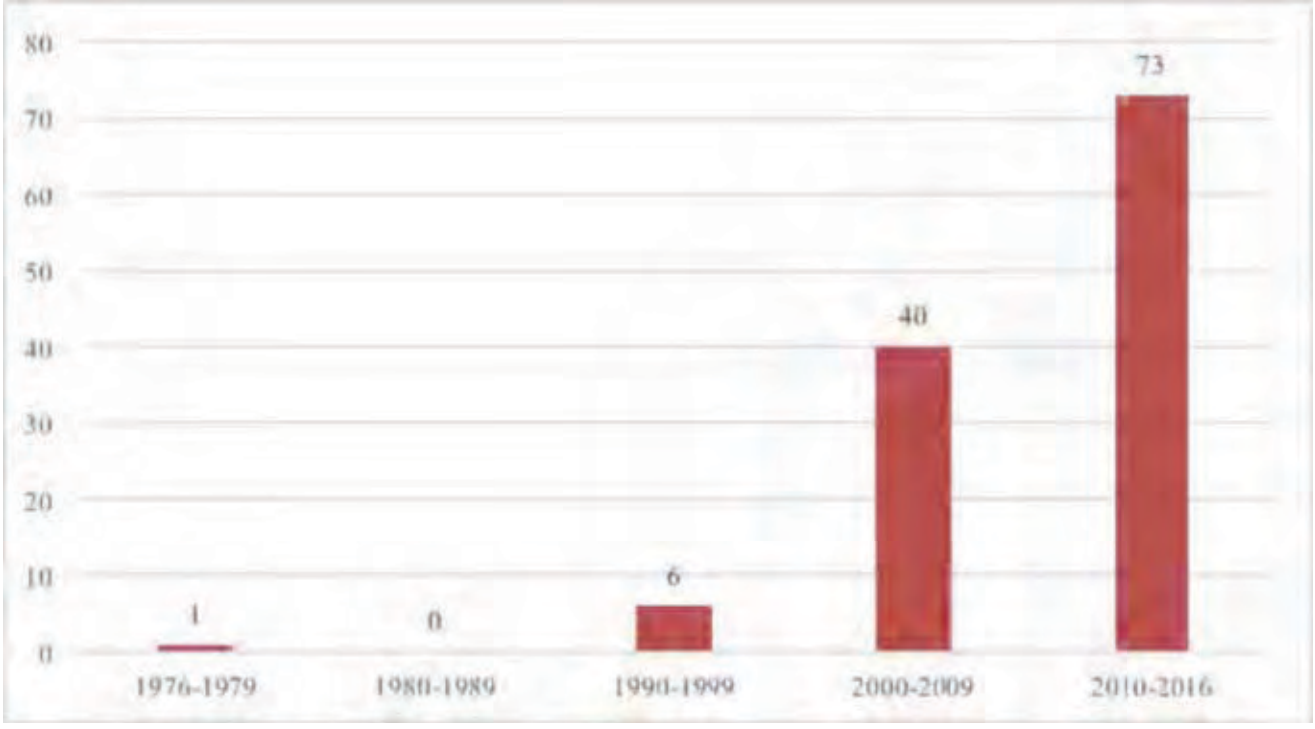

Figure 1: Number of Tribal Disaster Declarations by Decade (1976-2016)

The most common type of disaster experienced by tribes is severe storms, accounting for 59 of the 120 disaster declarations since 1976. Tribal areas have also been routinely affected by floods and fires, as well as several other natural hazards (see Table 1).

Disaster Incident Type	Number of Incidents
Severe Storms	59
Floods	31
Fires	15
Snow	4
Hurricane	4
Mud/Landslides	2
Drought	1
Tornado	1
Freezing	1
Power Outage	1
Ice Storm	1

Table 1: Disaster Incident Types (1976-2015)

Until recently, tribes were unable to request a disaster declaration as a grantee through programs under the authority of FEMA to assist in mitigating hazards. Instead, the governor of their state had to request a declaration on their behalf. Tribes had the option to request a disaster declaration as a sub-grantee, but some deemed this process a violation of tribal sovereignty.

The status of tribes changed in 2013 when the Sandy Recovery Improvement Act was passed, which ultimately led to the amendment of the 1988 Robert T. Stafford Act. The amendment recognized tribes as distinct from local governments and gave tribes a direct channel to request a presidential disaster declaration. Since then, seven tribes have used this method, side-stepping states in the process. Yet, since only 20 percent of tribes have federally recognized disaster mitigation plans in effect, the vast majority are ineligible to participate in the FEMA mitigation process.

The FEMA dataset that was used for this analysis included information for 566 federally recognized tribes. Those tribes were not distributed evenly across the United States or across the ten FEMA regions. Indeed, the number of tribes varies dramatically by region (see Figure 2 and Table 2), with the highest number of tribes located in FEMA Region X (where there are 270 tribes, with 228 tribes in Alaska alone), and the fewest in Region III (where there are no federally recognized tribes).

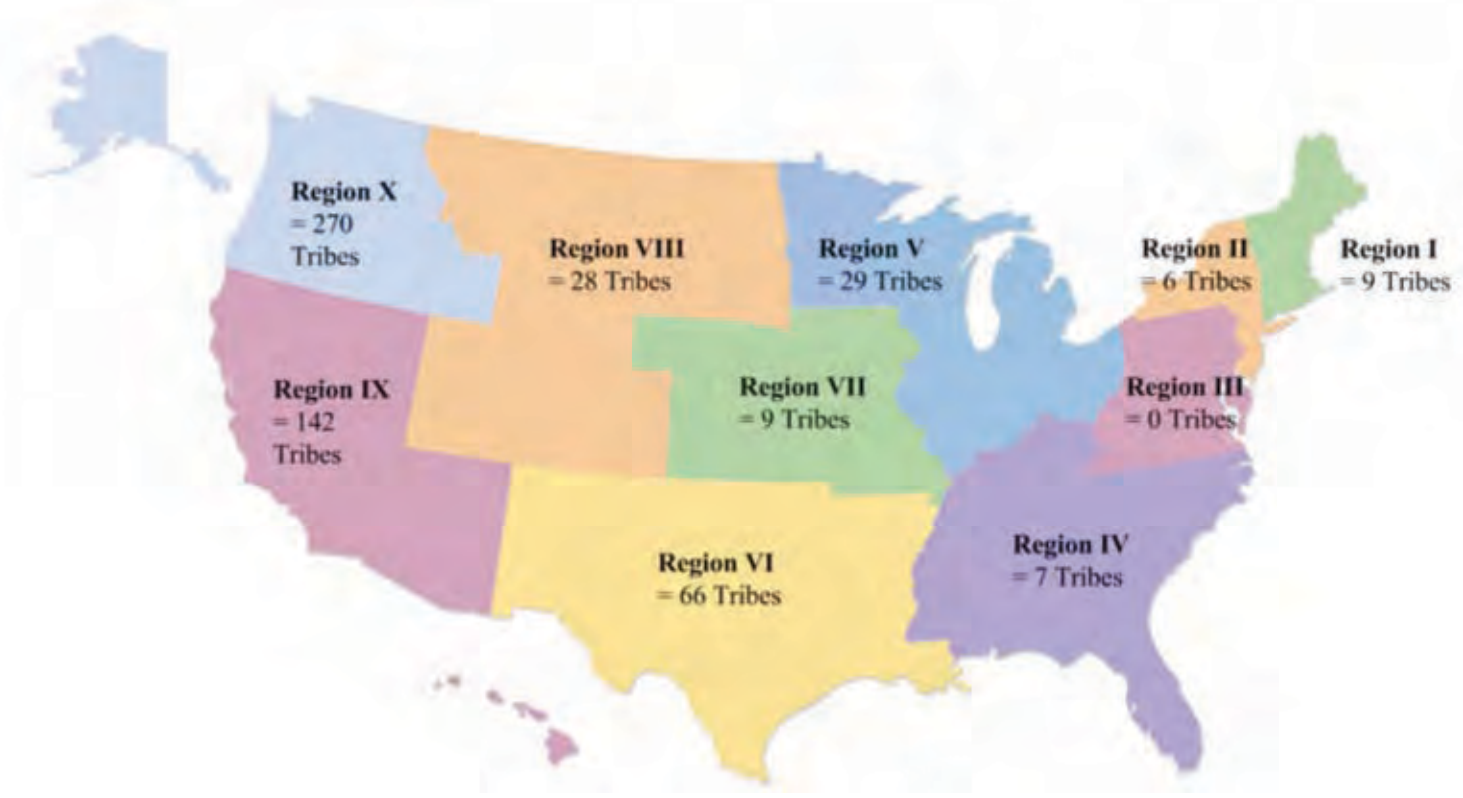

Figure 2: Map of Ten FEMA Tribal Regions with Number of Tribes per Region

Connecticut, Maine, Massachusetts, and Rhode Island, has the highest proportion of approved plans per tribe, with six of the nine tribes (66.7 percent) having mitigation plans. Conversely, in Region X—which spans Alaska, Idaho, Oregon and Washington—only 24 of the 270 tribes (8.9 percent) have disaster mitigation plans in effect. In Alaska, the state with the largest number of tribes, FEMA reports that just 3 of the 228 tribes (1.31 percent) have currently approved disaster plans. This is further illustrated within Table 2 below.

FEMA Region	Total Number of Tribes in the Region	Tribes with No FEMA Engagement and No Disaster Plan in Effect	Tribes Engaged with FEMA with No Disaster Plan in Effect	Tribes Engaged with FEMA with Approved Disaster Plan in Effect
Region I	9	3 (33.3%)	0 (0.00%)	6 (66.7%)
Region II	6	5 (83.3%)	0 (0.00%)	1 (16.7%)
Region III	0	N/A	N/A	N/A
Region IV	7	2 (28.6%)	1 (14.3%)	4 (57.1%)
Region V	29	17 (58.6%)	5 (17.24%)	7 (24.1%)
Region VI	66	26 (39.4%)	11 (16.7%)	29 (43.9%)
Region VII	9	4 (44.4%)	1 (11.1%)	4 (44.4%)
Region VIII	28	14 (50.0%)	2 (7.14%)	12 (42.9%)
Region IX	142	84 (59.2%)	28 (19.7%)	30 (21.1%)
Region X	270	219 (81.1%)	27 (10%)	24 (8.9%)
Total	**566**	**374 (66%)**	**75 (13.25%)**	**117 (20.67%)**

Table 2: 2015 Regional Comparison of Tribes Regarding Disaster Planning Status

Challenges and Future Suggestions

While some federal funding is available for disaster mitigation planning, producing a disaster mitigation plan can still be a challenge for AIAN tribes. For instance:

1. A typical disaster mitigation plan for a tribe may range between 100-500 pages depending on the size of tribe. For smaller tribes that do not have dedicated emergency management teams, the production of a mitigation plan or of a grant application could be nearly impossible without outside assistance.

2. Physical isolation represents another challenge in the planning process. In Alaska, for example, 42 percent of the AIAN population are living in areas not accessible by a road (Goldsmith, 2008). Other tribes are located in similarly remote regions of the United States, especially in the West.

3. Some American Indian and Alaska Native governments have reported experiencing difficulty balancing traditional beliefs with modern, westernized approaches to mitigation planning. This includes the federal frameworks often not appreciating traditional knowledge viewpoints that account for culturally sacred sites and culturally specific resource management practices (Redsteer et al., 2013: 396).

Even if these challenges are overcome, there is no guarantee that a plan will be accepted by FEMA on the

first review. Multiple revisions may be and often are required before a final copy is approved. FEMA also requires that a tribe's disaster mitigation plans be updated every five years. In order to underscore the urgency of making planning participation for tribes a priority, the following steps should be considered:

1. FEMA has an existing Tribal Affairs Branch and Regional Tribal Liaisons for each of the ten FEMA regions. How this branch and the liaisons work with the tribes, and how receptive the tribes are to these outreach efforts, have not been systematically documented. Further investigation into these relationships and other potential barriers to participation is clearly warranted.

2. The disaster data that was analyzed (see Carter, 2016, for complete results) indicates that some tribes have experienced repetitive losses, yet still have not engaged with FEMA to mitigate future disasters. These tribal disaster hotspots should be prioritized for outreach from FEMA Regional Tribal Liaisons as well as technical and financial support to encourage mitigation planning.

3. Disaster mitigation planning is only likely to be successful if other forms of social, economic and environmental vulnerability are addressed. As such, disaster mitigation planning can and should be tied to other efforts to move toward more socially just and equitable tribal policies.

4. The minority of tribes that have actively engaged with FEMA and have approved disaster mitigation plans available should be invited to share the lessons they have learned during the process and the technical and financial resources they drew upon to successfully plan and mitigate future hazards. There are many lessons to be learned from these mitigation leaders, and future research should document their trials and triumphs with the planning process.

An earlier, lengthier version of this article "Participation please: Barriers to Tribal Mitigation Planning" co-authored by Lucy Carter and Dr. Lori Peek was published in the April 2016 issue of The Natural Hazards Observer.
https://hazards.colorado.edu/article/participation-please-barriers-to-tribal-mitigation-planning

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Lucy Carter is a research associate at the Center for Disaster and Risk Analysis at Colorado State University and a Research Officer for the Joint Centre for Disaster Research at Massey University. She received her M.A. from the Department of Sociology at Colorado State University.

Dr. Lori Peek is an associate professor in the Department of Sociology and co-director of the Center for Disaster and Risk Analysis (CDRA) at Colorado State University. She has published extensively on vulnerable populations in disaster. Dr. Peek will be taking over as the next director of the Natural Hazards Center at the University of Colorado, Boulder in January, 2016.

RESEARCH WORLD

Building resilience through Child-Centered Climate Change Adaptation and Disaster Risk Management- an Inclusive approach

By Jamal Namo, Solomon Islands Development Trust

Children are a powerful agent of change in building a long term, sustainable and friendly environment for a resilient community. Solomon Islands Development Trust (SIDT) with its 34 years working in rural communities believes that Solomon Islands need a child-centered approach to planning for longer term change in Solomon Islands.

SIDT embarked on a project called Child-centered Climate Change Adaptation and Disaster Risk Reduction (4CA) in two provinces, Makira and Central Islands provinces. The project is financially supported by PLAN International Australia.

The overall aim of the project is to ***'build safe and resilient communities in which children and young people contribute to managing and reducing the risks associated with changes in the climate.'***

The project provides the opportunity for youth, children and communities to strengthen their resilience to the impacts of climate change through meaningful participation. Children's unique experiences must be taken into account and provide spaces where they can express themselves on issues that affect them. SIDT designs programs, children and youth forums and other friendly spaces where children and youth express their views and experiences to leaders and the public.

Children and young people and the communities are assisted, through a series of training programs, to build their knowledge and skills to prepare and respond to risks and climate changes related impacts. They are trained in environmental management, first aid training, and disaster risk management. They assess risks at their schools and in their communities and identify appropriate actions to address them. They undergo school safety and simulation exercises and see how to respond to disaster. Drama is used to educate the wider community on climate change and reducing disaster risks. Activi-

C change

CCA Awareness

ties relating to the protection of their environment are aligned to school programs and promoting tree planting.

SIDT firmly believes that strengthening the village governance structure is crucial in addressing issues of disaster and the increasing impacts of sea level rise. Therefore, SIDT uses community development tools and incorporates them with training. Modules on effective meeting, proposal writing, advocacy and networking, gender and development, basic financial management and an open forum are integrated and systematized into the training sequence. At the end of the project an open forum is hosted in which the community presents its community action plan, which is then translated into a project proposal document to invite donor, private sector and stakeholder collaboration. This is tailored towards building resilience through sustainability in exploring other available opportunities to support their endeavors.

One of the community participants expressed what he learned from the capacity building excises on conducting effective meetings as "eye opening for many of us and we learnt a lot of new things. We put into practice what we learnt and it worked. I recalled some village meetings that took couple of hours which at time concluded with pocket of people remaining."

Awareness is employed as an essential tool to disseminate information on climate change related impacts and disaster risks to the wider community and schools. "Community education and awareness remains the best tool to inform the vulnerable communities" (The University of the South Pacific, 2011). Rural settings where illiteracy is high and accessibility to communication and technology and media is limited or even non-existent require continual awareness activities. The use of drama in awareness is most effective and targets the specific needs and reality of the community.

DRR CCA Champions

The Solomon Islands Development Trust (SIDT) has been working closely with government departments: the National Disaster Management Office (NDMO), Climate change division; the Ministry of Education and Human Resources; and the Ministry of Women, Youth, Children and Family Affairs. Other NGOs are key partners as well, including the Solomon Islands Red Cross (SIRC), World Vision and other local community and faith based organizations and more so the targeted communities and schools.

Adaptation to climate change for Pacific Island countries like Solomon Islands is something beyond adaptation to the impacts of climate change: it is about doing the right thing and making the right decision.

Students of Hills Primary school, Makira province, doing an exercise on what to do if a building collapses - Safety at School Training

Achievement/Outcomes

1. Formation of Village Disaster Risk Committees (VDRC). The National Disaster Risk Management Plan 2010 provides the institutional framework for addressing disaster risk in the country. SIDT works in partnership with the Red Cross and NDMO to establish VDRCs at the community level and develop their village disaster plans. So far three communities have developed their disaster plans and are working hard to pursue their priorities, with relevant government, NGO and private authorities for possible support.

2. The development of a climate change supplementary resource book for grade 5. The resource material comprises a Learner's book and a Teacher's guide. The material aligns with the National Curriculum Statement and Primary Social Science Syllabus. The materials were distributed as a supplemental resource to schools in the project sites to support teachers and students.

3. Tree planting and rehabilitation of forest. Children in the four schools and communities became involved in tree plantings near to the coastline to act as wind breakers and to prevent erosion and in planting of local species further inland. The willingness of the schools to integrate tree planting as extra-curricular activities has marked the unfolding of heightened consciousness around protecting and caring for the environment and is an adaptation initiative to climate change impacts.

Community leader

Hills Primary School students doing tree planting

Children are doing presentations of their group work - DRM training

Group Work Communities of Russell Islands, Central Province during Community Based Disaster training

Students of Fly Harbour constructing sea wall at the school sea-front to prevent further erosion.

Students of Fly Harbor School (Russell Islands) doing a play on climate change at the village open forum, Central Province

Conclusion

Children are so central to their environment and can be an exemplary agent in building a better and resilient future. Thus, disaster education and readiness for children must be prioritized throughout the Solomon Islands. Community participation in adaptation and disaster risk reduction activities is remarkable for enabling mentorship for children and young people.

Adaptation to climate change for Pacific Island countries like Solomon Islands is something beyond adaptation to the impacts of climate change: it is about doing the right thing and making the right decision.

Jamal Namo (bottom right) with students learning from climate change adaptation materials.

• **The University of the South Pacific** (2011) Community-based adaptation to climate change: A review of good practices in the Pacific. Available at: http://eugcca.usp.ac.fj/Portals/0/Documents/Report-Good_Practices_CCA_Pacific-22Nov2011.pdf

Executive Director's Report

By Marion Boon

One of the exciting initiatives this past year has been the growth of HazNet. It is truly a place to share and learn and we greatly appreciate the work of Editor Lily Yumagulova and her editorial team. This fall 2016 issue is an extremely informative and useful read!

It is fall time here in Canada and that means our annual CRHNet Symposium will be held shortly. I am enthusiastic about our 13th Annual Symposium and what the Symposium Program Committee has arranged. The Symposium will be held November 23-25 in Montreal, offering an opportunity to experience Quebec's unique culture. More importantly, it provides an opportunity to participate and learn innovative ways to advance our resiliency and disaster risk reduction efforts and initiatives. The Symposium is an opportunity to build networks, and creates the ideal environment to debate, discuss and influence change within public, private and grassroots sectors.

A feature of the Symposium is the presentation of the annual CRHNet Awards. This year we have three categories of awards: the Student Travel Bursary, the Larry Pearce Education Award and the Lifetime Achievement Award. New this year, the Lifetime Achievement Award will be awarded to the late Professor Joseph Scanlon who inspired many of us here in Canada and overseas with his research and teaching on disaster risk reduction.

The CRHNet Annual General Meeting will be held during the November 24th lunch hour of the Symposium. At the AGM, the Board will report to the membership on activities and achievements in the past year, address any special resolutions, and conduct the elections of the executive and directors for the 2016-2017 year. It has been a busy and productive year and much has been accomplished by our Board members and our very active Standing Committees. I encourage all CRHNet members to attend and participate in the business of your association.

I look forward to meeting many of our HazNet readers in Montreal; be sure to say hello.

CRHNet Representative to the Advisory Committee of the National Platform for Disaster Risk Reduction

The objectives of the Canadian National Platform for Disaster Risk Reduction (DRR) are to create the enabling environment to raise awareness and enhance dialogue, provide strategic advice to policy makers and enhance stakeholder collaboration on disaster risk reduction (DRR) activities. A key component of the Platform is an Advisory Committee consisting of representatives from across key DRR sectors that guides, sets priorities and support the development, implementation and operation of Canada's Platform. The Advisory Committee has 9 permanent and 4 elected members who represent six key sectors through both permanent and rotating membership: private; public; Aboriginal; academic; non-governmental, community and faith based organizations; and professional/industrial associations.

The CRHNet, who worked closely with Public Safety Canada to establish the Platform, is a permanent member of the Advisory Committee. Marion Boon, CRHNet's Executive Director, completes her two-year term as a member of the Committee at the end of 2016 and will be replaced by CRHNet Board member Shona L. van Zijll de Jong.

Shona L. van Zijll de Jong (PhD, ABCP) is a research scientist/adjunct professor (Laurentian University) involved in natural hazard disaster risk management projects (Canada, New Zealand, Samoa and Australia). She has two decades of experience in sustainable development and global environmental change and human security projects (Africa).

Active in her community, Shona serves as a national and regional judge for the WHERE Challenge, and volunteers in the Canadian Risk and Hazard Network, the Canadian Federation of Earth Sciences, the Geological Survey of Canada and other organizations, focusing on earth sciences and public health and safety, sustainable economic development and corporate and social responsibility. She has recently received professional recognition/ awards from the Hollyhock Social Venture Institute and the United Way. She holds her Doctorate of Philosophy from Carleton University, and her Advanced Business Continuity Professional Certificate from Disaster Recovery Institute, Canada.

CRHNet's2016 Awards Winners

The Canadian Risk and Hazards Network is proud to encourage, promote and recognize excellence in Canadian disaster education, research and practice. To that end, the CRHNet Awards Committee is pleased to present the 2016 national awards to nine deserving recipients. This year's recipients are recognized through three awards, the inaugural "Lifetime Achievement Award", the "Larry Pearce Education Awards", and the "Symposium Travel Bursaries". Award winners are presented with their awards at the 2016 Annual CRHNet Symposium held this year in Montreal, Quebec.

Lifetime Achievement Award

The CRHNet Lifetime Achievement Award is CRHNet's highest honour. Newly established in 2016, this award honours the lifetime contributions of outstanding individuals who have made exemplary contributions to Canadian disaster risk management through research, education, training and/or practice. This year, CRHNet is/was proud to honour the lifetime contributions of the late Professor T. Joseph Scanlon and to present the award posthumously to his family.

Joseph Scanlon, a veteran journalist and esteemed journalism professor was equally recognized as an internationally accomplished disaster scholar. Professor Scanlon's career in disaster research spanned close to five decades. Born in Ottawa, he attended Carleton University and graduated with the Gold Medal for Journalism. He then earned a Master in Arts (Politics) at Queens University, but declined a doctoral fellowship to pursue journalism. Among other posts, he served as the Parliamentary and Washington correspondents for the Toronto Daily Star before turning to full-time teaching. Already an established lecturer, in 1966 he joined the permanent faculty of the Carleton University School of Journalism (later renamed the School of Journalism and Communication) and served as its director from 1966 to 1973.

In 1970, he became interested in the study of rumours, or how information passes from person to person. This soon evolved into the study of crises, from hostage takings to earthquakes, and from forest fires to airplane crashes. His research was done by using what are called snowball samples, which means starting with

a small random sample then expanding the interview base by tracing the flow of information across a community. This innovative approach to research led to funding from the Operations Research Establishment of Canada's Defence Research Board and later from Public Safety Canada. For nearly 20 years, Professor Scanlon organized and ran a field research team–Carleton's Emergency Communications Research Unit–that responded to emergency incidents in Canada and documented what happened using questionnaires. The resulting body of research and publications was the foundation for a prolific career as a disaster researcher, lecturer and consultant in Canada and around the world, in parallel to his journalism career. Among other accomplishments, in 1987-88 he was Visiting Professor at the Disaster Research Center, Department of Sociology, University of Delaware.

In 1994, he was elected President of the International Research Committee for Disasters Research, International Sociological Association. In 1995, on retirement from Carleton University, he was appointed Professor Emeritus. In 1996, he became general editor of a series of six books on disaster sponsored by the Research Committee. In 2002, he received the Charles Fritz award for a lifetime contribution to the Sociology of Disaster.

Professor Scanlon's papers, including the transcript for an unpublished book on the Halifax explosion, are now part of the Enrico (Henry) L. Quarantelli collection at the Disaster Research Centre (DRC), University of Delaware. He made an indelible contribution to the study of disasters and his death, in May of 2015, was strongly felt across the disaster research community.

Joseph Scanlon

Larry Pearce Education Award Winners

This competitive award recognizes outstanding work and research contributions of students to the field of disaster risk management, and it is granted to help defray the cost of education. This is a tiered award offering first place ($1,000), second place ($750), and third place ($500) awards. In 2016, the CRHNet committee is pleased to recognize the following award recipients: in first place, Faraz Hassan; in second place, Catherine Kenny; and, in third place, Zalma Sahar. Their work and research efforts are highlighted below:

Faraz Hassan

Faraz Hassan (Muhammad Syed) (Victoria) - is a graduate of the Master's in Disaster and Emergency Management program at York University and is currently a doctoral student at the University of Victoria. Building on nine years of large-scale disaster management experience with the World Health Organization, UNICEF and UNOCHA, Mr. Hassan's proposed research topic is "Pilot-testing the feasibility and effectiveness of an Asset-Based Youth-driven DRR toolkit as an extracurricular activity in an urban-slum community school". Beyond his academic work, he has recently co-authored a report entitled "Synthesis of the Disaster Risk of Eight Selected Countries in Central and South Asia" which will be published by UNDP in December of 2016, and he continues to volunteer as a member of the National Evaluation Team for the Canadian Red Cross – Disaster Management Program where he has contributed to the evaluation of five major responses across Canada.

Catherine Kenny

Catherine Kenny (York) - is a graduate student at York University completing a Master's in Disaster and Emergency Management and a graduate diploma in Refugee and Migration Studies. Within these fields, she is interested in critical examinations of the global refugee regime; in examining health inequities that arise during and after disasters; and, in exploring ways to promote social justice through emergency management. At York University, Ms. Kenny is the Academic Liaison of the Disaster and Emergency Management Student Association (DEMSA), as well as a member of the Centre for Refugee Studies Student Caucus, and is currently completing independent research on governmental and non-governmental planning efforts for Canada's Syrian refugee resettlement initiative. Upon graduation, she hopes to work in the field of disaster management either in Canada or abroad, specifically working with populations to promote community resiliency and social justice in disaster preparedness.

Zalma Sahar

Zalma Sahar - Born in Kabul, Afghanistan, Ms. Sahar moved to Scarborough, Canada at an early age. By day, she works in international education at York University, supporting international students with

first year transition. By night, she rigorously works to complete her Masters in Disaster and Emergency Management at York University. Additionally, she leads the Disaster and Emergency Management Students Association (DEMSA). She has a background in program development related to international education as well as leadership training, and understands the effects of crisis in a country and its direct impact on the community. Ms. Sahar aims to take pursue her PhD, and would like to take what she has learned back to Afghanistan to help them prepare to reduce risks and hazards.

She has been involved in many community projects, and works hard to follow her passions: education, community development for risk reduction and sustainability.

Symposium Travel Bursaries

This is the fifth year in which the CRHNet membership offered the Symposium Travel Bursaries to five students. Winners of this reward each received $500 to offset travel expenses incurred to attend the Fall Symposium in Montreal. Congratulations to each of the following 2016 Bursary winners (presented in alphabetical order)!

Arielle Dalley (British Columbia) - is a Master's student in the School of Community and Regional Planning at the University of British Columbia. Growing up in Vancouver, BC, she became aware of the risks associated with earthquakes at a young age. This sparked her interest in hazards and disasters, which she has continued to explore through both undergraduate and graduate studies. In 2011, she graduated with a Bachelor's of Knowledge Integration and a minor in Earth Science from the University of Waterloo. The transdisciplinary Bachelor of Knowledge Integration program allowed her to explore her interests while gaining skills to help solve complex, 'wicked' problems, like those found in the planning discipline, such as how to plan for hazards and disasters. For her undergraduate thesis, she researched best practices for cities preparing for earthquakes, and evaluated the earthquake preparedness of both San Francisco and Vancouver. Most recently, she researched and prepared a report for the City of Surrey which recommended actions the City could take to enhance community resilience. In her spare time, she enjoys photographing the beautiful landscapes of the west coast.

Alexandra Rutledge (Waterloo) – is a second year Master's student at the University of Waterloo in the Faculty of Environment. Her interests in hazards, risk and disasters began with an elementary school project on flash flooding, and grew during an undergraduate course at UBC on Natural Hazards and Disasters. Inspired to pursue hazard-related research, she is now studying coastal adaptation to sea level rise, coastal flooding and climate related extremes in Metro Vancouver. Direct experience with the 2013 Calgary floods provided her with a real-time insight to flooding and its far-reaching impacts. Beyond school and research, she enjoys running, hiking, going for long walks with her dog, and playing soccer when she is back home in Calgary. In the future, she hopes to be involved in disaster, adaptation and resilience planning for communities in Canada.

Amber Silver (Waterloo) - is a third year doctoral candidate in the Department of Geography & Environmental Management at the University of Waterloo. Her research focuses primarily on the ways that severe weather information is obtained, interpreted and perceived by end-users as it relates to protective-action decision-making. She believes the insights gained from

the sessions and from meeting other researchers in these fields is invaluable as she prepares to scope the theoretical focus and empirical goals of her dissertation.

Lacey Willmott (Waterloo) – is a doctoral candidate in the Department of Geography and Environmental Management at the University of Waterloo. Born and raised in the Niagara region, she is no stranger to water and her life-long love for water and the environment merged with her passion for health, human development and security in her current research. Ms. Willmott has a background in sustainability, livelihoods and international development and is currently conducting research on natural disasters and global health. Internationally, her work adopts a 'gender lens' to examine the connections between the HIV response, health systems and water related disasters in sub Saharan Africa. Through this lens she seeks to identify capacities, resiliency and systems that can be leveraged for drought and flood disaster risk reduction and response. Domestically, her interests centre on emergency and quality management in drinking water systems, flood preparedness and response, and emergency/disaster communications. Knowledge integration, praxis and collaboration are central components of her research and teaching on global development, sustainable livelihoods and environmental management, and build on her experience in public, private and not-for-profit sectors. She is grateful to have found the nexus between her passion and profession, and looks forward to continuing this journey through her PhD work and beyond.

Notice for CRHNet Annual General Meeting

CRHNet will be hosting its Annual General Meeting on

Thursday, November 24th 2016

1245h to 1330h

Hyatt Regency Montreal
1255 rue Jeanne-Mance, C.P. 130,
Montréal, Québec
Canada, H5B 1E5

Agenda

1. Welcome
2. Review of Agenda
3. Minutes of previous AGM
4. President's Report
5. Treasurer's Report
6. Executive Director's Report
7. Special Resolution – change of office address
8. Election of Board Members
9. Additional Items
10. Adjournment

Any Member in good standing will be eligible to vote in person
Join CRHNet and help us promote and strengthen disaster risk reduction and emergency management in Canada.

www.crhnet.ca

A new CRHNet initiative: a national mentor program

By Ron Kuban, Ph.D. CRHNet past-president

Ron Kuban, Ph.D., has been engaged in different facets of emergency management for over 30 years. He has been on the CRHNet Board since its inception, and is its current past president. He is the co-Chair of the newly established National Mentor Program for emergency management.

The term 'mentor' is derived from the Greek name Mentor, who was a counselor and a very close friend of Ulysses. Legend has it that during Ulysses's ten-year infamous odyssey he entrusted the care of his son to Mentor; and the rest, as the saying goes, is history. The mentor role continues today and touches our field of emergency management.

Regardless of your belief in Greek mythology, mentoring relationships have long been an accepted process in the teaching and learning of the arts, especially when one 'studied under a Master'. Over time, the formal and structured Master-student relationships evolved to become what we now readily accept as mentor-protégée relationships, or more simply as mentor relationships.

Mentor relationships have a long and significant history in human development; they have now become indispensable in our rapidly evolving world and are prevalent in all forms of human endeavor that require intellectual and experiential growth. In fact, these endeavors have repeatedly been facilitated and even expedited through mentor relationships, or the transfer of otherwise-hidden knowledge to someone just starting in their organization, industry or field of practice. No longer restricted to the Arts, such relationships are acceptable globally and are at last formally encroaching into the thinking and practice of emergency management professionals and academics.

The Canadian Risk and Hazards Network (CRHNet) has long valued the application of mentor relationships within the field of practice broadly known as 'emergency management' (EM). It noted that many practitioners become involved in EM through 'professional evolution', or by being involved in another field (e.g., fire, policing, health, or utilities) and then taking on added responsibilities related to emergencies or disasters. Similarly, many students attend EM-relat-

ed courses or programs to expand their knowledge or skills, often gained in another field of practice. In either case, these individuals invariably enter a relatively new operational environment with its own culture, language, concepts, rules, players and stakeholders. Many of these newly-entered EM professionals or students would greatly benefit from a mentoring relationship. In fact, given the rapid evolution of 'emergency management', the engagement of someone with a 'guiding hand and wise counsel' may benefit even those who have been in the field for a while. That 'someone' is a mentor.

CRHNet now offers a national mentor program for Canadian students and practitioners in emergency management. This program is part of the CRHNet mission to create a strong professional foundation that would enhance Canada's resilience to disaster. In developing this program, CRHNet is committed to maintaining a formal structure and related processes; these would facilitate diverse mentor-protégé interactions, which would fully enable the creativity and dynamic interplay that such relationships could (and should) generate.

The mentor program is based on a dynamic interplay between two unique individuals: the mentor and the protégé. A 'mentor' is someone who takes a personal interest in another person's professional growth and guides him or her towards that goal. The literature uses other terms to describe this role: coach, counsellor, guru, teacher, advisor, hero, transitional figure, moral supporter, confidence builder, rabbi, tutor and patron. They all help to describe the broad and interesting role of a 'mentor'. In fact, the Dictionary of Occupational Titles describes mentoring as the highest and most complex level of functioning in people-related skills. The role provides both the encouragement for planned personal growth and the linkages to resources to make this growth possible.

The 'protégé' is a person who is willingly engaged in a dynamic relationship with a "mentor" to achieve professional and personal growth. However, having a mentor is not a guarantee for one's success: like all other human relationships, mentor relationships depend on the amount of dedication and commitment put in by each member of the relationship and the 'chemistry' between them.

The benefits are numerous and appear at many levels. The most readily recognized benefits, because they are the main objectives of mentor relationships, are those that are gained by the protégés being mentored. Mentors are typically better informed, positioned, resourced, and connected than their protégé; typically, they are also more experienced in the ways of their profession, organization, industry, or network. Protégés may gain information, resources, contacts, exposure, or opportunities that they may otherwise not have. By having a mentor, protégés may also gain through added confidence or the availability of a sounding board to safely explore new ideas.

Mentors also benefit from the mentoring relationship. The literature on the topic indicates that mentors gain a fresh perspective (i.e., of their long-held beliefs, current or future professional reality, and its practice), improved own performance (i.e., being 'energized'), satisfaction from assisting in another person's growth, professional recognition (or 'standing') for their contribution, and a potential friendship (or collegiality) with someone that may otherwise have been overlooked.

Organizations including agencies and businesses also gain much from mentor relationships. These relationships reduce the time and challenges of integrating employees into new positions or roles. They also create a positive and dynamic environment that helps incubate new ideas, increases motivation, reduces time spent on 're-inventing the wheel', reduces operating errors or costs, facilitates succession, and promotes overall growth.

As an aside, mentor relationships are bound to assist our field of practice by advancing the transfer of related knowledge, allowing the exposure of new ideas or perspectives into the overall dialogue, and increasing the number of successful 'players' in the field. Therefore, CRHNet is convinced that this mentor program will ultimately also enhance Canada's resilience to disaster.

The CRHNet mentor program is intended for practitioners, students, public officials and academics who are engaged in any of the many elements of disaster risk reduction and response (DRR-R), including emergency planning, disaster response, business continuity/recovery, the sciences (e.g., natural, health, engineering), recovery and reconstruction, community development, resilience or capacity building and many more.

Age, gender and level of experience are not intended to limit either those seeking a mentor, or their mentor. However, mentors in this program are expected to be profoundly experienced in and well informed about their unique sector of DRR-R, and/or well positioned in their respective organization to guide and assist their protégée.

Protégés must be living in Canada. While Canadian mentors are encouraged, this program may accept them from other countries that have similar disaster-related values as Canada. Mentors and protégés may be of the same, or of different gender. However, they both need to agree to that arrangement, as per the process identified below.

The program clearly expects mentors and protégés to be honest with each other regarding their expectations; similarly, they are expected to share openly the information (including issues or challenges) that forms the basis of their mentor relationship. Mentors and protégés are expected to have strong inter-personal communication skills or willingness to improve these skills through this relationship.

Mentors are expected to

- Serve as a role model,
- Explore the professional aspirations of their protégé,
- Be available and responsive (i.e., prompt) when needed or requested,
- Help the protégée set professional goals,
- Provide honest, respectful and tactful advice, guidance or feedback,
- Readily share knowledge and relate experiences,
- Serve as a sounding board, and be willing to explore new ideas or strategies,
- Make recommendations towards helping to advance the protégé's goals and aspirations (as appropriate),
- Promote the protégé (within the organization, industry or network), help the protégé make connections (as appropriate), or advise the protégé of related opportunities, and
- Strive to build the protégé's confidence.

Protégés are expected to

- Have the desire to learn, grow and succeed; the Mentor is not responsible for the protégé success!
- Be open and honest with their mentor (e.g., identify existing skills, desired skills or opportunities, challenges, goals),
- Be prepared to set and work towards goals agreed-to with their mentor,
- Be willing to work hard as guided by their mentor,
- Be willing to take risks and operate outside their comfort zone,
- Be supportive of their mentor,
- Respect their mentor's time, knowledge and effort,
- Be responsive (i.e., prompt response or action),
- Disagree respectfully, and
- Provide timely feedback to their mentor.

Mentor relationships are not meant to make the protégé a replica of the mentor; they are to help the protégé fully grow into his or her own professional or academic best.

Mentors and protégés need not be in close physical proximity to each other, although when possible such proximity facilitates valuable face-to-face interactions: they are encouraged to use any electronic means available to them (i.e., Email, texting, Skype, social media and so on) to maintain frequent contact. The frequency of interaction may vary based on the needs, availability and circumstances of either member in the relationship, however, CRHNet expects at least one meaningful contact per month. Mentors and protégés are expected to commit to a minimum of two years.

While mentors and protégés are free to set up their relationship on their own, should they do so through this program, each needs to adhere to the procedure set below. Each has a right to withdraw at any time and is requested to advise CRHNet accordingly.

Individuals interested in becoming either a mentor or a protégé need to apply to CRHNet (through the Mentor Program Co-chair) and identify their interest.

(Appropriate forms are available on the CRHNet website at www.CRHNet.ca). Mentors are requested to identify their experience, knowledge base, qualifications, geographical location, area(s) of interest as a mentor, and preferences for a protégé. The latter may include protégé minimum qualification (academic or experiential), degree of professional exposure (e.g., neophyte, limited experience, or experienced), current field of practice, and gender preference (if any). Similarly, protégés need to identify their background and interests(in a two-page essay and a short application form), as well as their preferences or limitations (if any) regarding their mentor. The received applications will be held by the Mentor Program Co-chair who will strive to match mentors and protégés based on information available through the application form.

As the first step in the process of matching mentors and protégés the Program Co-chair would consider what the two individuals identified would prefer to avoid. For example, if a request is made for similar gender mentor/protégé then this would be the factor that may screen out one or the other member. Similarly, expressed restrictions of geography, academic background, operational environment, language, age difference, and so on would also be respected and mismatched pairing avoided.

Otherwise, mentors/protégés will be paired on as many of the following criteria as possible, in order of descending priority:

- Academic background and interests,
- Operational background or experience,
- Organization/Industry (seeking similarity of exposure),
- Geography (aiming to provide the closest proximity possible), and
- Personal goals/objectives.

When a possible 'match' is made by the Mentor Program Co-chair, the application of the protégé will be sent in confidence to the mentor who would be asked to 'accept' the protégé. If accepted, the mentor and protégé will be formally connected by the Program Co-chair; a formal letter/email of mentorship initiation will be sent to the mentor and protégé sharing the contact details of one with the other and re-emphasizing the program expectations. Applications that are turned down by a potential mentor will then be offered, where appropriate, to another potential mentor until a match is made.

Once established, the mentor-protégé relationship is left under the direct and complete control of the two individuals until it is ended by either party. Ideally this program may well generate lifelong mutually-beneficial relationships. However, to ensure the continued success of the program, the Mentor Program Co-chair will send an annual reminder to both members of that mentor pairing to get a sense of the current state of their mentor relationship, its successes, and potential learning points (i.e., best practices) about mentoring.

Three forms are part of this program: Mentor request application (by protégés), Offer to mentor form, and Feedback and recommendation form. Applications by interested protégés or mentors will be shared in confidence with the appropriate mentoring partner. All other related information may be shared in broad (non-specific) terms with the CRHNet Board on an as-needed basis. Applications and related personal information will be erased immediately after CRHNet is advised that an individual wishes to withdraw from the program, OR a year after the relationship becomes inactive, OR two years after an application has remained unfulfilled.

CRHNet is now eager to garner as many potential mentors as possible to get this much needed initiative rolling across Canada.

For more detail about the program please visit www.CRHNet.ca

Please email any program-related questions (including feedback or suggestions) to either of the Mentor Program Co-chairs:

Ron Kuban rkuban@shaw.ca
Melanie Goodchild
m2goodch@uwaterloo.ca

Samahquam Ucwalmicw – Taking Charge for Resilience

By David Carson

Canadian society is only recently waking up to the devastating effects of historical and continuing colonialism on Indigenous people and their communities. The horrors of residential schools have penetrated the slumber but we remain groggy. We are not yet alert enough to comprehend the many other manifestations of our systematic and institutionalized devaluation of other human beings. Many will find these words challenging, but how else do we explain that it has been acceptable to maintain very disparate levels of services for two groups of people within one very wealthy country.

We have read in the newspapers that half of the First Nations across Canada have little or no fire protection and that First Nation people are 10 times more likely to die in house fires. This has been falsely attributed to lack of equipment, facilities, and training. The actual causes are economic marginalization, poor housing, second-rate health care, underfunded schools, and lack of food security. Remoteness and isolation is also a factor, but instead of respecting the importance of connection to the land our reaction has been to displace the communities and exacerbate the above mentioned causes.

Indigenous people and communities are clearly resilient, as cultural genocide has failed. One community, Samahquam Ucwalmicw of the St'at'imc, is demonstrating the resilience of their community by taking the lead in ensuring resilience in the face of disaster. Samahquam is taking a self-dependence approach to emergency response preparedness despite a starting point of disadvantage.

Located at the 33km mark of a logging road, the Samahquam village of Q'aLaTKú7eM is deep in the forested lower Lillooet River valley. In the event of any natural or environmental emergency the outside world will not respond quickly. Self-dependence will be vital. However, Q'aLaTKú7eM is not alone. The neighbouring villages of Sachteen, Skatin, Tipella, and Port Douglas share friends, relations, and common exposure to the risks of natural and human caused disaster. With regard to emergency preparedness the villages are "in it together".

Q'aLaTKu7em

Burned house

Samahquam has initiated the development of an emergency preparedness community for all the villages and for all those with a stake in the health and safety of the people and property of the lower Lillooet River. Early in 2016 Samahquam prepared the Lower Lillooet River Emergency Management System which provides a framework for each community to undertake emergency planning, response, and recovery in a united and coordinated way.

This system brings together the many organizations which have important roles to play in managing emergencies down-river. All government agencies, businesses, and institutions which have jurisdiction or interests in the valley have a stake in the integrity of their operations and the safety of the people. All partners can pull together into a unified program. They can collectively best utilize the limited resources available.

Elements of the approach include the establishment of a shared institution to operate the system and attract resources, a unified Emergency Management Committee, standard operating procedures, and institutionalized roles and responsibilities to ensure ongoing response effectiveness.

Samahquam is currently developing their individual community all-hazards emergency management plan within the framework. It is hoped that the other communities will follow suit.

Next steps include joint training and preparedness exercises, and building local emergency social services capability.

The greatest challenge is the establishment of sustainable funding, but perhaps we are putting economic marginalization behind us - perhaps.

This community-based emergency preparedness concept goes well beyond the writing of a plan. They are building an emergency preparedness community and culture. Starting from a point of disadvantage is difficult, but the resiliency of the people will prevail.

David is a husband, a father and father-in-law to six, a professional forester, and a resident of the land of the W_SÁNEĆ people. David, through his firm Land Forest People, works with Indigenous communities to foster social, cultural, economic, and environmental sustainability.

An Indigenous community, resilient in the face of colonialism, takes control of emergency preparedness to ensure community resilience in the face of disaster.

Legacy Fire Truck

New research examines resiliency in children and youth from 2013 southern Alberta floods

When southern Alberta was overwhelmed with flood waters as rivers and creeks breached their banks spilling into streets and homes in June 2013, flood waters forced Melissa Palmer from her home and her community.

She was worried for her two children, both by the catastrophe that was unfolding around them, and the uncertainty of their futures. Drs. Robin Cox, Julie Drolet, and Caroline McDonald-Harker are hoping to better understand the resiliency of children in order to bring peace of mind to families like the Palmer's and strengthen communities when disaster strikes.

A new research project supported by Alberta Innovates - Health Solutions (AIHS) at the University of Calgary, Mount Royal University, and Royal Roads University aims to help children and youth during times of disaster. The Alberta Resilient Communities project (ARC) will work with children, youth and their communities to inform and strengthen child and youth mental health and enhance disaster preparedness, reduce risk and build resilience in southern Alberta. ARC will help better understand the social, economic, health, cultural, spiritual and personal factors that contribute to child and youth resiliency while empowering them, their families and communities to build resiliency.

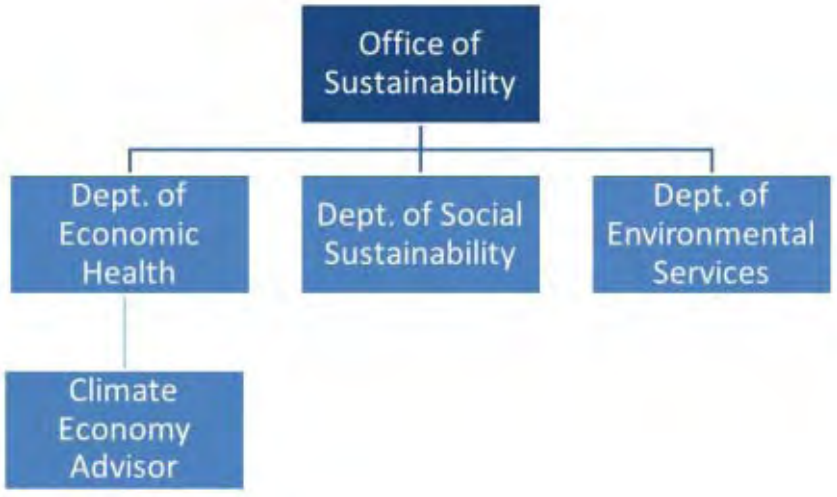
"We are very aware that children and youth can effectively contribute to their own recovery and that of the people and places around them, but that they often lack the opportunities to do so," notes Dr. Cox. "Youth are uniquely positioned to contribute to disaster risk reduction and resilience as conduits of information to family and peers, as early adopters of new technology, and as current and future leaders in their communities. As part of the ARC project, we will partner with youth to enhance their leadership and research skills, and to support their capacity to innovate real-world resilience strategies in their communities."

INSIGHT

Economic Resilience and Economic Development: Reflections on Breaking Down Silos in Planning

By Jeremy T. Stone
Recovery and Relief Services, Inc. / University of British Columbia

Fort Collins governance model



Over the past two years I have been working on a number of economic resiliency projects in the US with J&M Global Solutions, an emergency management and disaster recovery consultancy based out of Alexandria, Virginia. Economic resilience planning is an interesting area of study and practice, mostly because it is still in its infancy. Much of the academic literature from pioneers like Kathleen Tierney, Adam Rose, and Stephanie Chang has traditionally been focused on direct business impacts such as lifeline losses, while most of the mainstream discussions have focused on measures of loss and impacts on GDP. There are far fewer academics or practitioners that have treated the issue of planning for economic resilience in a systematic manner.

In the US, this has started to change as Federal policies like the National Disaster Recovery Framework (NDRF) have been implemented. With the focus on pre-recovery planning and collaborative governance, lead agencies of various Recovery Support Functions (RSFs) have encouraged/pushed stakeholders on the State and local levels to integrate resilience into their

general planning practices. In terms of the economy, the Economic Development Administration (EDA) has been incentivizing the addition of resilience principles and practices into Comprehensive Economic Development Strategies (CEDS) and other State and local planning documents that guide economic development. Similarly there has been an increase in the number of toolkits and case studies being made available by NGOs for local economic developers to increase their economic recovery preparedness and planning (such as publications from the International Economic Development Council). These efforts have been driven in part by the acknowledgement that economic development and economic recovery are symbiotic: sustainable economic development increases the likelihood of local economic recovery after disasters, while integrating resilience practices into economic development planning increases the quality of the economy even in the absence of a disaster.

Following the 2013 Colorado floods, EDA and the Department of Local Affairs at the State of Colorado contracted with J&M to evaluate economic resilience planning in 25 affected jurisdictions, both through reviews of existing economic development plans and through interviews with local emergency managers, economic developers and government officials. A year later J&M was invited by the North Central Texas Council of Governments to hold a series of workshops that brought together emergency managers and economic developers to learn more about economic resilience principles and practices. In both situations we spent a great deal of time with practitioners discussing the relationship between economic development and economic resilience planning. Although there are many more insights and findings than can be discussed in this forum, there are a few worth highlighting from a planning perspective.

1. Economic resilience planning in most jurisdictions was under-developed or non-existent.

In the Colorado case we developed a 52-element tool to evaluate economic development plans as well as supplementary documents like emergency management plans, etc., for each jurisdiction. The elements we chose were correlated with a range of "best practices" identified in the literature and from our experiences participating in economic recoveries. We looked for evidence of SWOT analyses that included hazard threat assessments, the presence of planning for infrastructure and utility redundancies in case of disruption, the use of "buy local" programs or technical assistance initiatives that could be repurposed during a recovery, etc. We took a very liberal approach in giving partial credit for even the slightest mention of a principle or activity that could be correlated with economic resilience. Across all plans and jurisdictions we found that only 8% of the elements were fully observed, while another 24% were partially observed. Nearly two-thirds of the elements were not present in any of the economic development or emergency management documents publicly available. At first we thought that this might just be a function of "thin plans" (i.e. perhaps there were practices that simply weren't recorded in writing). However, validation interviews predominately supported the review findings: jurisdictions just weren't planning for economic resilience or recovery.

2. Economic developers and emergency managers are rarely integrated for planning.

Although some jurisdictions include economic stakeholders in response exercises, overall coordination and planning for resilience is usually an emergency management practice. Few jurisdictions exhibited any systematic coordination between economic development agencies and emergency managers. Many economic developers seemed to be approaching these concepts for the first time.

3. Emergency managers were often circumspect in their interest in economic resilience.

Many emergency managers are responsible for an ever-expanding portfolio of risks and impacts to prepare for. As such, the suggestion that they might have an instrumental role in economic resilience planning seemed, for lack of a better word, stressful. Multiple EMs pushed back that economic recovery and resilience was a private sector responsibility and one that they could not take on.

4. Economic developers and local government officials were often compelled by an emphasis on low-cost growth initiatives.

When contextualizing economic resilience in terms of preparing for economic recovery, relevant activities seemed to be burdensome or additional to local stakeholder responsibilities. However, when economic resilience was described in terms of initiatives to increase growth, local officials were far more engaged in conversations. This was also true when low-cost, repurposable initiatives were emphasized like having economic development information hotlines that can be also be used for economic recovery information, etc.

While much of this might appear dismal, it also signified numerous opportunities for economic resilience planning. Even though evaluating the economic development plans yielded few results in current planning practice, the presentation of the results gave local stakeholders something tangible to reflect on, and allowed a range of conversations about economic resilience to occur. Subsequent conversations with various Colorado jurisdictions like the Town of Estes Park and the East Central Council of Governments demonstrated that concrete planning activities for economic resilience resulted, especially when supported by grants from EDA or other sources (the presence of financial support is always a great incentive).

Another opportunity we identified was in helping to identify roles for different stakeholders. Emergency managers don't necessarily have to take on the responsibility of economic resilience planning, but they can certainly play a coordinating and promotion role that is less resource intensive. Many economic resilience initiatives are in fact economic development activities, so EMs can feel more comfortable promoting the benefits of economic resilience to relevant agencies and identifying intersections in planning processes. For economic developers and local governments, helping them to identify the technical assistance organizations and partner agencies that can implement resilience initiatives can also make the involvement in resilience planning more palatable.

If there is a single takeaway from all of this work that would be most significant, it is that bureaucratic silos seem to be the largest barrier to economic resilience planning. Economic development agencies and emergency managers need to be better aligned for planning. An interesting model we found in our research was that of Fort Collins, Colorado. Within their city government is an Office of Sustainability under which are departments of Environmental Services, Social Sustainability, and Economic Health. These departments are functionally linked, and plan together to enhance mutual outcomes and reduce negatives externalities. It is essentially the triple-bottom-line in bureaucratic form. Most recently, Fort Collins has added a Climate Economy Advisor to their Economic Health Department to help businesses increase resilience through adaptation planning and investment. This is an innovative approach that structurally and functionally integrates disaster preparedness across what was traditionally discrete governmental agencies. If we have any hope of achieving whole community resilience we should consider models like Fort Collins, and find ways to better organize our planning mechanisms into mutually integrated systems rather than individual and disconnected silos.

Jeremy is executive director of Recovery and Relief Services, Inc., a small consultancy focusing on disaster recovery and resilience planning. He is also a doctoral candidate at the University of British Columbia where he is researching the resilience of low-income communities to urban crises like gentrification.

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INSIGHT

A Dialogue from First Nations on Emergency Management Across Canada

by Emily Dicken, University of Victoria
(emilykatedicken@gmail.com)
and Lily Yumagulova, University of British Columbia
(lily.yumagulova@gmail.com)

For Indigenous minorities in colonized states, past and present colonial legacies represent the edifice of a catastrophic unnatural disaster that has spanned generations. This decidedly unnatural disaster has eroded the social, cultural and spiritual infrastructure of communities and is tied to impacts such as: rapid depopulation; forms of physical, mental, and social illness; loss of identity, language, cultural practice, religious belief and property; and incomprehensible violence, rapid environmental change and deliberate destruction of materials and places of cultural and ritual significance. For Indigenous communities across Canada, the onslaught of colonization began in the late-1400's and is still very much alive today in the form of settler colonialism. Present day settler colonialism is understood as an ongoing process where the ultimate goal is to settle and/or control the land as well as eliminate and/or assimilate the Indigenous population by erasing their way of life and being.

When acknowledging colonialism as an unnatural disaster, parallels can be drawn between contemporary settler colonialism and the field of practice of emergency management. From its military roots, the command and control frameworks that guide emergency management have traditionally been approached through the values and understanding that often align with that of the dominant culture. As such, emergency managers often subscribe to professional approaches that exhibit colonial patterns such as legislated government control, paternalistic forms of engagement and forced evacuation from land. Thus, when faced with a disaster, an Indigenous community is not only affected by the immediate impacts of that event, but also by the underlying trauma experienced through the unnatural disaster of colonization.

Within Canada, colonialism remains an ongoing process, shaping both the structure and quality of the relationship between settler society and Indigenous peoples. For emergency management programs, building a respectful relationship involves dismantling a century-old political and bureaucratic culture in which, all too often, policies and programs are still based on failed notions of assimilation. To begin to understand the complex interface between colonialism and disasters, it must first be acknowledged that the outcomes of a natural disaster are often mediated by the unnatural disaster of colonial and post-colonial policies and practices.

To address this complex interface within the field of emergency management, it is critical that practitioners acknowledge what reconciliation means for them, for their organizations and more broadly, within their field of practice. To better understand this, the following table represents concepts and ideas that can start the dialogue on reconciliation. This table is not intended to be an exhaustive list, but rather a starting point to inspire greater dialogue.

At the 2016 Emergency Preparedness and Business Continuity Conference in Vancouver, BC, co-presenters Lily Yumagulova and Emily Dicken led a session titled A Dialogue from First Nations on Emergency Management Across Canada. This session not only highlighted approaches in understanding colonial legacies as unnatural disasters, it also inspired a dialogue from participants. Through this dialogue, Lily and Emily have written a discussion paper that is available at www.haznet.ca

What can *I* do differently?	What can my *ORGAZNIZATION* do differently?	What can *WE* do differently as a community of practice?
1 LISTEN… 2 Situate your practice within historical context. Acknowledge history and trauma. 3 Invest time in sincere relationship building 4 Incorporate Indigenous Science in my work 5 Expect and confront racism. 6 Develop cultural competency (e.g. ask to learn how to approach Elders; community comes before an individual; the importance of intergenerational living and learning)	7 LISTEN… 8 Increase representation and diversity (e.g. hire Indigenous people to work with Indigenous and non-Indigenous communities and portfolios). 9 Elect Indigenous persons on boards/ working groups/etc. 10 Incorporate Indigenous Science 11 Create a space for an Indigenous worldview within work with/for First Nations communities	12 LISTEN… 13 Be open to allowing flexibilities in ICS 14 Incorporate Indigenous Science 15 Expect and confront institutionalized racism. 16 Enable a new generation of First Nation, Inuit and Metis emergency managers. 17 Re-think standard operating procedures within the context of reconciliation: 18 Evacuation vs forced relocation and residential school environment 19 Top down control structures that discount local knowledge, practices and needs

Emily Dicken is a PhD candidate at the University of Victoria as well as a practitioner with Emergency Management BC. As an Indigenous academic, Emily is working to explore decolonization within the field of Emergency Management.

Lilia Yumagulova is a researcher at University of British Columbia and a coordinator of the "Preparing our Home" program which focuses on enabling the next generation of emergency management leaders in Indigenous communities: www.preparingourhome.ca

Canadian Risk and Hazards Network: Knowledge and Practice

Réseau canadien d'étude des risques et dangers:
connaissances et pratiques

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HAZNET is a bi-annual magazine of the Canadian Risks and Hazards Network (CRHNet) that brings together the latest in research and practice to enhance resilience in Canada.

HAZNET aims to facilitate public, professional and scholarly discussion through analysis, views, lessons learned, and insights into current and future issues of disaster risk reduction in Canada and internationally.

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CRHNet is a not for profit association established to:

• initiate the development of a Canadian interdisciplinary 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;

• create a Canadian annual Symposium for dialogue focusing on disaster risk reduction and facilitate policy formulation and the adoption of best practices in Canada;

• provide a Canadian venue to learn from the experiences of other countries by inviting internationally reputed scholars, practitioners, and participants to the annual Symposium and to share Canadian experience and efforts in disaster reduction;

• publish a bi-annual magazine, HazNet, comprised of articles on a wide range of topics within the emergency management and disaster risk reduction sectors.

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