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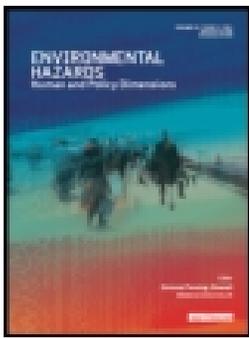**82** PUBLICATIONS **1,840** CITATIONS

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The role of disaster volunteering in Indigenous communities

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ABSTRACT

Drawing on Māori (Aotearoa-New Zealand), First Nations (Canada), and Navajo Nation (U.S.), case studies and practitioners' experiences, this article addresses a gap in our understanding of the role of volunteers in emergencies and disasters in Indigenous communities. Enablers and challenges to effective volunteering in these Indigenous communities are discussed. Cultural enablers of volunteering include building capacity during non-emergency times, using all senses when volunteering, and supporting locally emergent psychosocial recovery institutions that are based on cultural understanding and trust. Resolving systemic barriers to volunteering would require institutional and organisational changes through governance, coordination and training. Practical recommendations for supporting volunteer management in Indigenous communities are made.

Introduction

One of the core long-running tensions identified in research and practice of disaster management is the relationship between top-down command-and-control and emergent decentralised approaches to disasters (Dynes, 2006; O'Brien & Mileti, 1992; Stallings & Quarantelli, 1985). This tension is evident during response, where government-mandated actions converge with diverse actors and groups of citizens spontaneously coming together to help one another, solve problems, and manage recovery or clean-up (Ludwig, Kotthaus, Reuter, Dongen, & Pipek, 2017; Mayorga, Lodree, & Wolczynski, 2017; McLennan, Whittaker, & Handmer, 2016). It is clear that volunteers present both opportunities and challenges to disaster response. Recently, the role of spontaneous volunteers has gained international attention through an examination of case studies in specific geographic (Albahari & Schultz, 2017; Paciarotti, Cesaroni, & Bevilacqua, 2018), urban (Rivera & Wood, 2016; Twigg & Mosel, 2017), and on-line digitally enabled contexts (Griswold, 2013;

Pyle & Boatwright, 2018). Within this broad research, there is a gap in understanding of the role of volunteers for supporting community resilience efforts in Indigenous communities. This paper addresses this gap by employing a case study approach in Māori (New Zealand), Navajo (U.S.), and two First Nations (Canada) communities.

Responses to disasters in Indigenous communities

Spontaneous volunteering in a civil emergency is a normative response (Michel, 2007) that facilitates a greater sense of connectedness to the community with health benefits including increased self-esteem (Steffen & Fothergill, 2009). Helping others also enables individuals to transition from seeing themselves as passive victims of a disaster to empowered participants in the community recovery process (Steffen & Fothergill, 2009). Formal and informal volunteers are the bloodline of community response to emergencies and disasters (Whittaker, McLennan, & Handmer, 2015). The UNDRR's stance on integrated disaster management, outlined in the Sendai Framework for Disaster Risk Reduction (DRR) and emergent research (Paton, Johnston, Mamula-Seadon, & Kenney, 2014) highlight the necessity of engaging Indigenous volunteers in locally contextualised disaster management responses. The importance of Indigenous knowledge and associated institutions for DRR has been recognised in both academic and policy literatures (Mercer, Kelman, Taranis, & Suchet-Pearson, 2010; Rahman, Sakurai, & Munadi, 2017). This traditional knowledge represents a reservoir of long-term memory of adaptations to environmental and social change (Turner & Clifton, 2009) embedded in local cultures, rituals, and institutions (Berkes, 1999) that are often invisible to the outsider.

Disasters present unique challenges in Indigenous communities where well-intentioned externally driven hierarchical emergency management practices can further deepen marginalisation, trauma, and conflict within the communities, thus exacerbating disaster impacts. Howitt, Havnen, and Veland (2012), drawing on examples in Australia, illustrate how state-sponsored programmes that fail to respect Indigenous rights, as well as the relevance of Indigenous knowledge to both social and environmental recovery, work to entrench patterns of racialised disadvantage, marginalisation and vulnerability to future disasters. Externally driven disaster management practices applied to Indigenous communities raise a question of cultural fit. A focus on local understandings of risk, local knowledge of hazards, coping strategies, and locally embedded institutions as a central element of community resilience will require a re-examination of the applicability of mainstream emergency management practices in Indigenous communities (Ellemor, 2005; Howitt et al., 2012). As a case study of the evacuation of the remote Indigenous community of Warruwi, Northern Territory Australia from Cyclone Monica illustrated, recognising and respecting the resilience of the processes involved in everyday Indigenous life is central to ensuring local cooperation and effective involvement of state and national institutions in delivering effective measures during emergencies (Veland, Howitt, & Dominey-Howes, 2010). Research on recent examples of cultural influences on disaster management practices include Māori peoples responses in the aftermath of catastrophic weather and seismic events (Kenney & Phibbs, 2015; King, Goff, & Skipper, 2007), and wildfire prevention and fire mitigation practices in Indigenous communities in Canada (Christianson, Mcgee, & L'Hirondelle, 2014; Lewis, Christianson, & Spinks, 2018; Langer & McGee, 2017).

The New Zealand, Canada, and U.S. contexts provide exemplars of the role of volunteers for community resilience, as Māori, First Nations, and Navajo peoples have applied traditional disaster response practices to address community needs during historical periods of adversity. Yet indigenous volunteers' actions to support community well-being following contemporary natural hazard events have remained largely neglected in the research literature (Hudson & Hughes, 2007; Proctor, 2010). This article addresses these knowledge gaps through exploring the nature of Māori, Navajo, and First Nations volunteering. Enablers and challenges to effective volunteering in these Indigenous communities are discussed and the ways in which lessons learned in these contexts may shape DRR practices of Indigenous communities residing in other hazard-prone regions, are examined.

Methods

This article is the result of a collaboration amongst Māori, Métis-Cree and Bashkir researchers, a Dine' and a Siksika practitioner, and a non-Indigenous researcher. Collectively, we draw on disaster case studies and disaster management practice in Canada, New Zealand, and the U.S. The case studies present the results of research (Whitefish Lake First Nation and Māori case studies) and practitioners' experiences managing and volunteering for emergencies (Siksika and Navajo case studies). We draw on global literature about the role of volunteers in emergency and disasters and connect them to the insights developed through this article on the practice of volunteer engagement and management in the above-mentioned Indigenous communities.

A multiple case study approach is used by drawing on academic research, reflective practice, and story-telling. A case study approach is commonly used for in-depth examination of the dynamics of disaster volunteering (Albahari & Schultz, 2017; Lodree & Davis, 2016; McLennan et al., 2016; Paciarotti et al., 2018; Waldman, Yumagulova, Mackwani, Benson, & Stone, 2017). The multiple case study approaches used in this article permit a comparative perspective while allowing for a contextual differentiation between the unique situation of each Indigenous community and the broader disaster management regime of each country. Through an iterative process of inductive theory building and analysis of emergent themes, the case study approach permitted us to build on multiple sources of evidence (journals, policy documents, academic research), to triangulate data to develop our insights (Yin, 2009), and to combine practitioner-researcher perspectives (Waldman et al., 2017).

Methods used for Māori case study

The Māori case study presents the actions of Māori volunteers who responded to support communities impacted by the 2010–2011 Christchurch earthquakes and the 2016 Kaikoura earthquake. Exemplars of Māori volunteering were documented in the 2012–2014 Maori community resilience research project and in the ongoing National Science Challenges research project: Whakaoranga marae, Whakaoranga iwi[1] whānui (broadly meaning restore Māori community centres, restore the people).

Both community-based qualitative research projects incorporate a Kaupapa Māori research approach, which ensures that the research is designed by and for Māori, addresses Māori concerns, is implemented by predominantly Māori researchers and

conducted in accordance with Māori cultural values and research practices (Smith, 1999). For the 2012–2014 research project Te Rūnanga o Ngāi Tahu, and other local Māori stakeholders, facilitated participant recruitment and Ngāi Tahu elders provided ethical oversight including cultural advice.[2]

The 2012–2014 Māori community resilience research project involved interviews with 70 Māori living in Christchurch who experienced the 2010–2011 earthquakes, and or were involved in the Māori Recovery Network. Each interview was digitally recorded, transcribed verbatim and returned to the participant for confirmation of the accuracy, and validity of the interview transcript. The researchers' familiarity with Kaupapa Māori Theory as well as Ngāi Tahu values and practices ensured that cultural elements narrated in participants' stories were interpreted in culturally appropriate ways. As the research progressed, the researchers also liaised with Ngāi Tahu participants to ensure that emergent findings accurately reflected the participants' experiences. Some participants requested further meetings to add interview commentary, as well as discuss initial findings arising from the analysis of the research results. Information on Māori volunteering following the 2016 Kaikoura earthquake was taken from tribal bulletins that were published at the time and informed by the 2017 Whakaoranga marae, Whakaoranga iwi whānui research.

Methods used for Whitefish Lake First Nation case study

The Whitefish Lake First Nation project employed a qualitative case study approach to examine evacuees' experiences. The research was conducted in partnership with members of the Whitefish Lake First Nation's Council. Once the councillors gave their support, they identified two community advisors and two community research assistants to join the research team. The researchers also met with other band council staff to learn about the evacuation and the First Nation people.

Fieldwork was conducted in July and September 2014. The two community research assistants provided advice to the research team, helped to recruit interview participants, conduct interviews, and act as interpreters during interviews where required. Purposive sampling was used to obtain a variety of perspectives. 31 semi-structured interviews were completed with 45 band members including women (30) and men (15) in different age groups (7 elders, 10 youths, 28 other adults). The research team interviewed residents who were evacuated to host communities, stayed elsewhere with family and friends, and did not evacuate. Interviews were conducted until theoretical saturation was reached. During the interviews, participants were asked to describe their experiences during the wildfire including: the evacuation process, leaving and time away from the community, returning home and any lasting effects of the evacuation. Those who stayed behind were asked about their experiences. Nvivo qualitative data management software was used to facilitate coding of interview transcripts, linking data, and clarifying themes and concepts. In March 2015 initial results were presented to the community advisors and feedback obtained from Councillors and other key community contacts.

Methods used for Siksika and Navajo case studies

For Siksika and Navajo case studies, two senior practitioners have provided their reflective narratives of their on-the-ground experience in managing volunteers in disasters drawing

on their observations, journals, and conversations with community members. Both practitioners started their careers in supporting disaster and emergency management as volunteers in their communities. Systematic reflection on individual actions and reflective case narrative, as mechanisms for conveying lessons learned for practice improvement, are suitable methods for post-disaster learning due to the ability to (Sherwood & Horton-Deutsch, 2012 in Becker & Renger, 2017) give meaning to lived experience, help anticipate situations and envision alternative futures (Mattingly, 1991 in Flyvbjerg, 2006). In the Navajo and Siksika cases, reflective narrative is combined with story-telling and journal entries which are presented in indented quotes.

Four case studies

We present our empirical findings below organised by the case studies. The Māori and the Whitefish Lake First Nation case studies were based on the results of research, while the Siksika and the Navajo Nation study are written in first person active voice by the practitioners using storytelling. The case studies are followed by a discussion of the emergent themes and analysis. We conclude with recommendations for research and practice relating to disaster volunteerism with Indigenous communities.

Case study one: Māori volunteers in New Zealand

On 4th September 2010 Canterbury, New Zealand experienced a major earthquake (7.1Mw), followed by severe aftershocks that caused widespread devastation, injury to over 9000 inhabitants and the loss of 185 lives Christchurch city (Canterbury Earthquakes Royal Commission, 2011). Eastern Christchurch, the region most impacted by the earthquakes, is home to communities with limited socioeconomic resources, including the majority of urban Māori (indigenous New Zealanders). Despite limited resources, resident Māori immediately linked with other tribes and created a National Māori Earthquake Response Network that was underpinned by a cultural principle, 'aroha nui ki te tangata' (extend love to all people) to address the needs of the wider community. The Network's support for the community was described by participants in the Māori community-led research project:

> Welfare centres were established on our marae (cultural community centres); and they all opened even Rāpaki [a Marae on the Port Hills of Christchurch] … one of our harder hit communities with boulders smashing through their houses … the marae was open, and functioning, accommodating and supporting whānau (families). (AD, 2012)

The distribution of goods to the community was also discussed:

> … we moved a phenomenal amount of food and stuff … we had three [flat deck] trucks going from Rēhua (Marae in central Christchurch), … and had teams … going out with the drivers … each of those trucks was probably doing at least 3 runs a day. (RA, 2012)

Māori Wardens, statutorily mandated volunteers who support Māori community wellbeing (Te Puni Kōkiri, 2011), were deployed to provide logistical support after the M 6.3 February 22, 2011 Christchurch earthquake. The Māori Wardens identified households that needed resources, and passed this information to the Māori Recovery Assistance Centre to facilitate

delivery of essential resources. Although, government welfare centres began closing shortly after the February 22 earthquake, the Wardens and Māori Recovery Network continued to provide on-going support and accommodation to all people in need:

> … anyone pretty much … started to ring up and ask for help, and [we] said 'yeah not a problem.' … and I don't know how long that went on for … I guess a month or so. (NT, 2012)

Marae outside Christchurch also supported people for many weeks following the February earthquake, while Rēhua Marae in Central Christchurch operated as a Recovery Centre until late April. The combined network of Māori volunteers provided economic, social, psychological, material and health services support to 20,000 affected households (Kenney & Phibbs, 2015) and evacuees. Reflecting on the Māori response to the earthquakes, one participant in the community-led research stated:

> … from the very bad situation, it was probably … one of the most positive situations to have been in because it felt very Māori … āhua Māori [like Māori]! You know people helping. People caring … (MST, 2012)

The distressing impacts of an earthquake were revisited on 14th November 2016, when a large earthquake (7.8Mw) centred near Culverden, in North Canterbury (United States Geological Survey, 2016), triggered severe aftershocks and fault ruptures inland and off the coast of the South Island of New Zealand (Davies et al., 2017). These earthquakes caused significant economic harm to local tourism and primary industries, personal injury, two deaths, environmental damage, and destruction of built and transport infrastructure (Stevenson et al., 2017). Rural communities were isolated, particularly the tourist town of Kaikōura where access was cut off except by sea, compounding psychosocial stress amongst visitors and residents (Stevenson et al., 2017). Volunteering lessons learned from Christchurch were implemented in Kaikōura. Takahanga, the local tribal marae, opened as a welfare centre for displaced residents and tourists. Approximately 1000 people registered with New Zealand Red Cross and several hundred people slept at the marae (Te Rūnanga o Ngāi Tahu, 2016a). The tribal authority deployed Māori response teams to support local volunteers. Team One coordinated logistics in Christchurch, Team Two provided support to Takahanga marae and conducted outreach in Kaikōura and Team Three, based in Cheviot, received and arranged transport for evacuees to marae accommodation in Christchurch. Over 10,000 meals were provided to the community during the week following the 14 November earthquake. Te Rūnanga o Ngāi Tahu also funded 50 helicopter trips to carry volunteers and resources to Kaikōura and evacuate people (Te Rūnanga o Ngāi Tahu, 2016b). Other Māori tribes offered help but few resources were needed or deployed.

The earthquakes occurred in the Canterbury region, home to Ngai Tahu (tribe) which led both Maori disaster responses. Research participants' talk confirmed that culturally embedded Māori kaupapa (values) underpinned Māori volunteers' actions to address the needs of their communities. The key values enabling Māori volunteering following the 2010, 2011 and 2016 earthquakes were kotahitanga (unity); manaakitanga (respect/support/hospitality), whanaungatanga (relationships); and marae (community centres). The principle of kotahitanga reinforced collective approaches to decision making and collaborative response actions, ensuring a unity of purpose and social cohesion amongst volunteers.

> If we were able we came and helped … some Ngāi Tahu was accountants and managers, it didn't matter it was cool. We all pitched in did what we had to do to get the job done to the best of our abilities … so it was kotahitanga, unity eh … (WM, 2012)

Volunteers' actions also exemplified respect for others and support to those in need, practices associated with enacting the Māori value manaakitanga [hospitality], which is an indicator of a secure cultural identity.

> … to serve, respect … the need to manaaki [serve others] as mana whenua [a member of the local tribe], care for everybody. … what I see is tikanga [cultural protocols], is embodied, so its embodied knowledge and people … know how to act. (RJ, 2012)

Thus, volunteering amongst Māori is associated with positive self-esteem as well as recognition within the broader Māori community. The communitarian culture was evidenced in how volunteers leveraged relationships and networks to access additional volunteers, and resources. In combination these drivers of Māori volunteers' actions ensured that Māori disaster risk reduction practices were well organised, quickly implemented and effective.

> At the end of the day, what was set up was effective … the [Māori] response [network] … the other thing that worked well for the tribe was the networking … (TRJ)

Lessons learned in Canterbury have been shared with Māori in other parts of New Zealand, and inspired upskilling of Māori disaster volunteers and the implementation of risk mitigation measures at marae that are registered as local welfare hubs.

There are tensions around the integration of volunteers with the emergency management infrastructure. Ngāi Tahu reported that after the February 22, 2011 earthquake, it took eight days to develop a relationship with the Ministry of Civil Defence and Emergency Management. Communication delays hindered the engagement of Māori volunteers and marae civil defence hubs with the mainstream response. Volunteering by Māori responders was also discouraged. Māori wardens were deployed to deliver outreach support by Te Puni Kōkiri (the Ministry of Māori Development), yet the police attempted to limit wardens' activities to providing urban security. Māori medical team members providing primary health care in Eastern Christchurch (Batt, Atherfold, & Grant, 2011), were also required by the Canterbury District Health Board to provide proof of professional competence, despite such documentation being accessible online (Kenney, 2016). Such tensions suggest that Māori volunteers were marginalised and unwelcome following the Canterbury earthquakes.

In contrast, the Māori response to the Kaikōura earthquake(s) engaged with the emergency management infrastructure within 24 hours through a direct link to central Government. Local Māori established a closer working relationship with New Zealand Red Cross, and communication between both sectors ensured rapid distribution of volunteers and resources to the Kaikōura Welfare Centre (Takahanga Marae) and local households. Television channels broadcast live reports, showcasing Takahanga Marae's effective response, and Māori volunteers' recovery efforts. However, limited communication and knowledge sharing between key emergency management responders and Māori volunteers prevented a well-integrated approach to regional recovery (Solomon, 2017). In response, a recent ministerial review of the formal response to both events has recommended establishing inter-agency collaboration and working partnerships

with iwi at every level of emergency management (Department of Prime Minister and Cabinet, 2017).

Case study two: Whitefish Lake First Nation volunteers in Canada

Whitefish Lake First Nation (Atikameg) 459 is located in northwestern Alberta and its three reserves cover 8299.7 ha of boreal forest. The First Nation has a total registered population (2015) of 2615 with 1186 living on reserve. Over half (53.9%) of the population speak Cree at home (Indigenous and Northern Affairs Canada [INAC], 2016).

In May 2011, Whitefish Lake First Nation was evacuated due to the Utikuma Complex Fires which threatened the community and burned approximately 100,000 ha. Residents stayed in nearby towns (High Prairie, Valleyview, Grande Prairie) and the City of Edmonton for up to three weeks, and the community was without power for over a month. Approximately 20 residents did not evacuate during the wildfire and were able to provide security and information for evacuees as well as fight a fire that ignited near the reserve. No structures were lost, although there was significant damage to community infrastructure including the water and sewage plants. Local residents and the community are still recovering from the evacuation.

Volunteering played an important role during the immediate evacuation, as the community was remote and quick outside help from agencies was non-existent. Interview participants picked up residents who did not have a vehicle (generally an older family member) during the evacuation. One participant described walking down the road until a pickup truck stopped for him, and he climbed in the back with four others who were also stranded. Eleven interview participants spoke about how they coped during the evacuation by volunteering, which helped them keep busy. Helping others was identified as one of the positive aspects of the evacuation.

> Bein' helpful as much as I can, I started volunteering here and there too, just to keep my day going … Actually, I had lived like that before, where I had to keep myself busy and be a workaholic, that was my motivation. (Participant 201.2)

> But I'm glad there was people around that helped a lot in our community that helped each other. That was one of the good things too … Well some of them were doing the, making cheques for people, accommodating them, giving them gas money, kept telling them where to go, like go to this place, there's room here, checking on these things, doing all that. And then making sure, giving us an idea what's going on, where we're gonna have meals, where we're gonna do this, things like that. (Participant 4)

A few participants spent time talking with community members to provide support during the evacuation:

> We went for dinner a couple of times 'cause I wanted to see … everybody … Because … you wanna make sure your community members are OK. There's times where people are sitting there and they're not talking. I just go there and make them laugh. 'Cause there are some that they don't say anything, but they're down. And some of them felt so out of place because they're more the bush people, they don't really like public. (Participant 212)

Participants were concerned about the impact of the evacuation of Elders, so community health nurses and volunteers spent extra time checking on Elders and many community

workers and volunteers stayed behind an extra week to look after Elders and other residents who had to stay evacuated:

> We stayed there for a while for a reason, 'cause we had to help with the Elders, older people older than me, help them and check how they were in their room and go check on them and see how they're doing. So that's why I stayed back. (Participant 12)

Another group of volunteers were residents who refused to leave during the evacuation, despite claims of being threatened with arrest by the Royal Canadian Mounted Police (RCMP). Those who stayed behind organised themselves into a security team, and met daily with the RCMP and a councillor who brought in gas and food for those who remained in the community. The power was out on the reserve during the evacuation because power poles had been burned. This meant that there was no water or septic services available during the fire to those who stayed behind. These volunteers drove around the reserve to examine the fire situation, watch for potential looters, and feed animals that remained behind. This group of volunteers also fought a fire that threatened the community of Whitefish River. Later in the evacuation, the volunteers went around to homes in the community to remove spoiled food in fridges and freezers.

> We had to break into houses too. Band administration gave us a list every 2 days, whose place to go into. They gave us the keys, if we couldn't get the keys we had to break in. 'Cause they didn't wanna come home to a smelly house. And then ended up throwing their deep freeze and fridges out. (Participant 6)

These volunteers were also an important source of accurate information about the wildfire for evacuees. They were able to correct rumours about wildfire damage on the reserve, which helped reduce distress for evacuees, and were able to provide an accurate on-the-ground update directly to community members.

> There was guys left behind to watch the area, right, and they practically updated us on what was happening, like they were feeding the dogs and stuff like that. And they were cleaning out the fridges, deep freezes, and just basically what was going on back here … Yeah, we heard that one rumor there, but my brother-in-law confirmed that everything was OK. (Participant 5)

These volunteers obtained their information through either patrols, the police scanner, phone calls, or text messages. However, these volunteers who stayed behind said they felt abandoned by agencies and the media

> Nobody came through to talk to us about anything. Nobody at all, we listened to the radio, all they ever did was talk about Gift Lake and Slave Lake [that were threatened by wildfires at the same time], how 'bout us and the white guy put us on this reserve here and they should be looking after us here too. We are just a little dot here on this reserve. Nobody come and told us nothing. (Participant 7)

Band members that were heavily involved in the evacuation as volunteers, described the toll the evacuation took on them. The participants who stayed behind said they found the experience exhausting:

> The people were over here thinking that we were on vacation and I said come home then, take care of your own house 'cause I'm tired of it. 'Cause after the 10 days you're just tired, you're stressed because every day the cops are telling you go over here, we might have to leave. This happened for 15 days, every day. (Participant 8)

Those who were volunteers in the host communities also felt exhausted after their experience:

> I just didn't want to go anywhere, do anything, I just wanted to shut my phone off, my house phone, hide my vehicle. (Participant 1)

One common frustration amongst interview participants who volunteered during the evacuation or stayed behind was that there was no acknowledgement of their hard work. Many said they did not want a formal acknowledgement, but being thanked by Chief and Council and outside agencies (like the provincial wildfire agency) would encourage them to volunteer in the event of a future wildfire:

> Yeah, I don't need no glory or anything, but it would be nice to be recognized for something like that in the community, or even in with the forestry people … a hell of a hard time there, especially with that fire when we had no help from anybody. Not even a fire truck. (Participant 8)

Despite the exhaustion felt after the evacuation, most interview participants who volunteered felt proud of how many in the community volunteered during the evacuation.

> You got to work together, to make your community work together and that's the strongest part of what we did, we worked together. That's when everybody comes together you could feel how other people feel. (Participant 7)

Case study three: Siksika Nation volunteers in Canada

The Siksika Nation is located 110 kilometres east of Calgary, Alberta, Canada. It covers a large geographic area (71,087.5 ha). Approximately 3386 Nation members live on the reserve.

On 21 June 2013 eight communities and three smaller outlying ranches along the Bow River, which flows west to east within the Siksika Nation, were devastated by a flood. Two main bridges and 171 homes were affected by the flood, and over 1000 people were evacuated.

Historically, community members 'ispommitaa' (help out, assist). Family and friends helping each other, and community is the Siksika way of life. Volunteering connects members of the community with each other, revitalising co-operative cultural traditions and creating a sense of belonging through participation in a shared event. Relatives and friends volunteered in many ways to assist extended families and friends who were affected by the 2013 flood.

After the state of emergency was enacted the on-site management team comprised of six full-time staff supported by Siksika Family Services and 20 summer students (who helped during July and August). July was a very rainy month and the emergency management team began the process of moving approximately 700 flood-affected clients to hotels in nearby cities, booking rooms and ensuring meals for evacuees.

Initially, departments within the Siksika Nation were delegated to set up the evacuation site at the local Deerfoot Sportsplex. Once the news of the flood affecting the Siksika Nation was made public, volunteers came from surrounding communities, other First Nation communities from Northern and Southern Alberta. Organisations such as Red Cross, Save the Children, Samaritan Purse, Alberta Health Services, the Calgary Korean Church, Alberta Parks and Recreation and others also provided support.

There were eight communities affected by the devastation which required evacuations. Volunteers were personally affected by the floods and were managing family issues arising from the evacuation and responding to the needs of the community. Volunteering within the Siksika Nation was inclusive, with voluntary work being offered as a therapeutic tool for members of the community, including special needs youth. Siksika volunteers were encouraged to use observation skills and get information from the family if the child/youth is a special needs child.

Once the Siksika Nation State of Emergency officially ended 11 July 2013 at 4:00 pm the delegated staff from the majority of departments were no longer assisting with the flood evacuees. Siksika Family Services Corporation and Siksika Employment Services continued to support the flood recovery efforts. In September 2013, the site management team was down to four staff, evacuees were still in hotels, camping or with family and friends.

Volunteers took on multiple roles over an extended period of time. A diverse skill set was needed to address the inter-personal, managerial and logistical challenges that arose during the evacuation. These included dealing with domestic violence, ensuring that children were safe (because the evacuation trailers were not designed for families), and most importantly ensuring that the spiritual, mental, emotional and physical needs of the community members were met.

As explained by Darlene Yellow Old Woman-Munro, an evacuee, a retired community nurse and a former Chief of the Siksika Nation, who went from a nightshift volunteer to becoming one of the community recovery managers:

> … when you are working with individuals who are experiencing a disaster remember to show empathy, compassion, listen, use the senses the creator gave you – sight, hearing, and smell— to ensure you are using the cultural medicine wheel which includes the physical, mental, emotional and spiritual aspect of each individual.

Indigenous volunteer engagement and representation as part of the main response/emergency organisations was important for ensuring culturally appropriate response and relief services. Siksika's experience shows that when external non-Indigenous organisations come to assist, it is important to have a cross-cultural meeting with the individuals from these organisations to ensure that they respect and understand the culture. Indigenous staff can serve as critical translators in this process. Having an individual who understands the culture and speaks the language is a definite asset. In Siksika, the affected individuals were more forthright in expressing their concerns, needs, emotional and physical trauma that they were experiencing when communicating in Blackfoot.

Given centuries of oppressive policies towards Indigenous communities by colonial governments, lack of trust is a major factor in the effectiveness of any initiatives. This is amplified during emergencies, as noted by Darlene:

> With First Nations, there's always the trust issue. Who do we really trust? Who can we really share with? Individuals from within the community are an asset because they know the community members and trust is already established. Client visits are productive and listening is key.

Siksika Nation relied on volunteers, and staff recruited by Siksika Family Services, until funding from Federal and Provincial governments was provided to support the health and well-being of the flood-affected clients. As Darlene notes:

Every day we hear about climate change and the impact it will have on mother earth; are our people prepared? Research findings indicate that those affected by disaster have multiple service needs, even months and years after the traumatic event. The greater the unmet service needs, the more strain and distress. Hence, the greater need for the role of the community and departments in providing and enhancing resources, services and supports to address the families' diverse needs after a disaster. Most disasters are unpredictable and hard to control, but we do have control over our disaster preparedness and what happens after a disaster occurs.

Case study four: Navajo Nation, U.S.A.

The Navajo Nation occupies 71,000 km^2 that transects the States of New Mexico, Colorado, Utah and Arizona. The boundary where these four States intersect is located on territory belonging to the Navajo Nation and is known as the Four Corners region. The Navajo have approximately 298,000 enrolled members with 173,000 living on the reservation. Most homes do not have running water, electricity or telephones (Moore, Benally, & Tuttle, n.d.). The average household on Navajo land only uses 5 gallons of water per day, mostly due to the lack of running water, exacerbated by inequitable access to rights to draw water from the San Juan, Little Colorado and Colorado Rivers that run alongside and through several communities within the Navajo Nation. Local access to potable water has been restricted further by a combination of industrial activity and climate-related events.

During the 1800s, the gold rush resulted in toxic waste being left to leak into the Navajo Nation waters. Localised contamination of groundwater with heavy metals restricted its utility for agriculture and human consumption in several areas across the region. In August of 2015, the Gold King Mine spilled 880,000 pounds of toxic heavy metals into the rivers of the Four Corners region. 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).

When the Navajo Nation was hit with a prolonged winter freeze in 2012 that lasted for months, the ground froze as much as four feet deep. 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 established 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 (62,000 km²). For months, over 20,000 people on the Navajo Nation territories were without running water.

In 2014, the Navajo Emergency Management programme was allocated US$6000 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 programmes. Training in the Incident Command System, Incident Action Plans, and National Incident Management Systems was necessary for all emergency management programmes and personnel involved. A key part of this training was CERT (Community Emergency Response Team) training. Training 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. In less than three years, and 14 events later, the Navajo

Nation EOC was able to call on 200 trained volunteers that assisted during activations for wildfires, storm surges, flooding events and most recently the Gold King Mine Spill.

Financial constraints forced the Navajo to build tribal volunteer capacity and capability. Experience of disasters has enabled them to provide advice about managing volunteers in emergency situations including dealing with the second wave of disaster, an influx of material and human resources that impede rather than aid response and relief by over-stretching the local resource through the need to deal with spontaneous and uncoordinated volunteers showing up to help.

The Navajo experience shows that there is a value in volunteer training. In the U.S.A., Volunteer Organizations Active in Disasters can be reached at the local level with many faith-based, community-based and non-governmental organisations actively involved in their communities. These volunteer organisations would also do the necessary back ground checks on potential volunteers. Based on the experience in managing volunteers in Navajo communities, background checks were identified as a necessity to screen people (e.g. those who may not have the right training for volunteer placement in a childcare centre or have a history of domestic violence or theft).

In the U.S.A. context, public liability and health insurance are also another consideration for tribal communities receiving spontaneous volunteers as well as people from volunteer organisations following a disaster. Conversations about insurance need to happen prior to a disaster, as noted by Rosalita Whitehair, a Navajo Nation disaster management professional:

> What if someone gets hurt? Will the Tribe cover its volunteers? Will the community organization allow others to help during a disaster breathing in contaminants or walking through bio-hazard waters in a flooded neighborhood? Who covers death or bodily injury? And if so, how much is the policy? How much is the deductible and will the volunteer actively engage in discussion about possible injury or death with his/her family before deployment to a disaster? These are uncomfortable discussions but they must happen, ideally before the emergency strikes.

The role of social media during disaster in Indigenous communities needs to be better understood. Social media has the capacity to prevent deaths through providing real-time information to a large number of people (Williams, Valero, & Kim, 2018). For people in disaster situations social media may be used to provide first-hand accounts, monitor situations, co-ordinate disaster response efforts, provide help through crowd sourcing resources, enhance social cohesion and express grief (Santoso, 2017). However, social media may also be used to disseminate rumours and undermine authority (Alexander, 2014). The Navajo had a negative experience of social media use by an individual who 'volunteered' at a shelter during a wildfire evacuation, as described by Rosalita Whitehair:

> An impoverished community with no funding source, no disaster training and no volunteers are dealt a horrible disaster. A nearby school is designated as a donation center and shelter for a wildfire. Local community members come to help. One young man shows up and posts his selfies on social media of how he is helping. Weeks go on, people come and go. On Friday evening, the shelter manager consults the Tribal Emergency Manager (TEM) and shuts down for the night, with arrangements for the donated food transfer in the morning,

> Next morning the young man appears, sees the locked doors and immediately posts on social media, 'Tribal President shuts down shelter and steals all the food!!!' People share the post and it spreads like wildfire. Death threats come into the EOC. The Incident Command Staff arrives

at other shelters to assist with logistics but are driven away with community members shout-
ing and throwing donated items at them. TEM asked the shelter manager how this man was
vetted and how often he came to help? He was not vetted as the man only showed up once.
Invest in, train and have your volunteers vetted.

For the Navajo, this experience of unethical behaviour underscored the importance of
developing tribal volunteer capacity through on-going emergency management and
response training.

Discussion

Several common themes were identified based on the findings above. Indigenous values
and practices were identified as cultural enablers of volunteering. Māori volunteers were
enabled by kotahitanga (unity); manaakitanga (respect/support/hospitality), and wha-
naungatanga (relationships), while the principle of kotahitanga reinforced collective
approaches to decision making and collaboration, ensuring a unity of purpose and
social cohesion amongst volunteers. In Siksika, using all senses to communicate with
the affected communities and speaking the same language (Blackfoot) for 'ispommitaa'
(help out) was a major enabler of trusted relationship between the service providers, vol-
unteers, and community members. Culturally appropriate disaster response services and
programmes were considered a priority by Siksika Nation volunteers involved in the dis-
aster response.

The research presented in this article echoes the research in Indigenous communities in
Australia on the role of culturally embedded local institutions that are reflective of the Indi-
genous ways of understanding and responding to change in general and for providing
essential but 'unofficial' and often volunteer-based services during the emergency in par-
ticular (Howitt et al., 2012; Veland et al., 2010).

Our findings also support literature that shows that volunteering gives a sense of
purpose and improved mental well-being (Steffen & Fothergill, 2009). For Māori and the
Siksika Nation Indigenous volunteering during a disaster strengthened tribal bonds and
reinforced cultural traditions associated with co-operation and inclusion. Concern for
the well-being of others led many evacuees to volunteer during the wildfire evacuation
of Whitefish Lake First Nation, which improved the experience for many evacuees. Partici-
pants felt volunteering helped them to cope during the evacuation because they kept
busy and felt they were contributing to their community. However, stress and burnout
were identified as challenges for volunteers, which underscores a need for oversight for
volunteer well-being.

Our findings indicate that volunteer training is crucial for building long-term capacity. In
Siksika, a lack of funding for emergency management training remains an issue particu-
larly in light of an increasing risk of flood-related disasters resulting from the impacts of
climate change. The Navajo Nation is continuing to respond to disasters resulting from
on-going pollution of the waterways well as climate-related events. Financial constraints
on emergency preparedness and response, as well as issues of trust, have the potential
to negatively impact disaster preparedness and response efforts within the Navajo com-
munity. The Navajo case highlights the challenges of spontaneous volunteers and the
need for volunteer training. Experience of managing volunteers in disasters has under-
scored the importance of providing background checks, being clear about public liability

and health insurance as well as social media protocols. It also shows the power of building long-term capacity through volunteer training by developing distributed Incident Command Posts as a mechanism to train and draw on local volunteers in the hardest hit areas. In less than three years, the Navajo Nation EOC grew from three people to being able to call on 200 trained volunteers that assisted during activations for wildfires, storm surges, flooding and spills. Our cases show that this response capacity is critical to the immediate response functions (evacuations; dealing with the injured, and providing for basic needs). These early response functions are often carried out by the ones closest to the scene, such as family members, friends and neighbours given that it may take hours or even days before professional emergency teams arrive, depending on the location of the disaster, the extent of physical disruption to transport and communications, and the capacity of official organisations to respond (Twigg & Mosel, 2017). This is particularly the case for remote Indigenous communities which makes building local capacity central to effective response.

Our findings also indicate tensions between non-Indigenous and Indigenous disaster response and recovery systems. Our findings show the importance of ensuring that neighbouring, state/provincial, and national authorities recognise the cultural safety components, understand Indigenous institutions and develop strong relationships with them prior to a disaster. Developing approaches that limit conflict and trauma needs to be a priority, especially in contexts where emergency services risk overriding local protocol (Veland et al., 2010). Engaging Indigenous volunteers and creating opportunities for external volunteers to engage through locally appropriate protocols is one such important area for practice and research of disaster volunteering. Organisations assisting disaster-affected Indigenous communities would ideally recruit a staff member from the community who understands the culture and can speak the language of the community they are assisting.

Conclusion

This article helps to fill the gap in the literature about the role of volunteers for supporting community resilience in Indigenous communities. Collectively, as practitioners and researchers we identified enablers and barriers for volunteering in Indigenous communities. Our cases show that there is a need for more coordinated systems-oriented disaster preparedness and response that is built on Indigenous values and institutions.

Disasters create disruptions in nearly every level of an individual's and community life. Volunteering in disasters provides benefits to health and emotional well-being but can also lead to increased stress and burnout. Our cases point to the need to find context-specific and culturally aware ways to draw upon and coordinate the resources of the entire community and external service organisations to ensure the most effective response and recovery.

Our article points to gaps between research, policy, and practice. While the importance of Indigenous knowledge and associated institutions for community resilience has been recognised in both academic research (e.g. Berkes, 1999; Rahman et al., 2017; Turner & Clifton, 2009) and policy (e.g. Sendai Framework for Disaster Risk Reduction), in practice institutionalisation of this knowledge remains a challenge. Locally emergent volunteer institutions that eventually get formalised (such as the Dancing Deer Disaster Recovery centre) present an excellent opportunity to investigate the connection between the role

of volunteers in short-term response (which has been the focus on disaster volunteering studies) and long-term disaster recovery in Indigenous communities (a largely unexplored topic).

Notes

1. The Te Reo (Māori language) term iwi means 'people' or 'nation', and is often translated as 'tribe', or 'a confederation of tribes'. The word is both singular and plural and may be capitalised in text when specific reference is made to a particular Māori 'tribe'.
2. Ethical approval to conduct both projects was received from the Massey University Human Ethics Committee, with the 2012–2014 Christchurch-based research also receiving ethical approval from Te Rūnanga o Ngāi Tahu Research Services.

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No potential conflict of interest was reported by the authors.

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