

ABSTRACT

In Australia, the *National Strategy for Disaster Resilience* mandates that emergency management authorities use effective community engagement to develop trust and respect with community members to provide effective, inclusive disaster management practices. Using these principles, researchers from the University of Tasmania reconceptualised the term 'community' as a 'community of practice' and facilitated a multi-disciplinary workshop giving authorities, managers, planners and responders a forum to meet and collaborate to identify strengths, collective capacities and needs. The workshop was attended by 48 stakeholders dealing with emergencies and identified more than 30 research and 20 training needs as well as potential funding opportunities. The workshop also identified a fertile area for research and training given the critical mass of interested academics with experience and expertise in natural hazards fields. Attendees identified the latent potential for interdisciplinary, cross-sectoral collaboration and tapped into potential resources that address disaster management needs. This process has the potential to produce similar results nationally by enabling place-based disaster research to be identified by those who need it most.

Reconceptualising 'community' to identify place-based disaster management needs in Tasmania

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Submitted: 28 October 2018. Accepted: 26 November 2018.

Introduction

The *National Strategy for Disaster Resilience* (Commonwealth of Australia 2013) mandates community engagement as a vital tool to identify the risks, strengths and capacities of communities prone to natural disasters. Despite this, emergency management authorities seldom have opportunities to openly discuss their needs, strengths and limitations in a community engagement environment. 'Community engagement' is regarded as a vital tool to develop mutual trust and respect between emergency management organisations and community members to achieve cooperative, harmonious and mutually supportive decision-making (Bryson & Mowbray 1981, p.256). Defining a community as a group of people linked by social and common ties and perspectives, who engage in joint action within geographical localities (MacQueen *et al.* 2001, p.1930), community engagement is actually a process that identifies specific capacities, strengths and priorities of communities, allowing a partnership of agencies and service.

This paper discusses the outcomes of an interdisciplinary and cross-sectoral workshop that reconceptualised the term 'community' as that of a 'community of practice'. The workshop was an opportunity for emergency managers in Tasmania to have a voice and identify their specific needs. The demographic features of Tasmania, and its vulnerability to an array of natural hazards, often results in emergency services organisations facing a complex web of issues not experienced in other states and territories. Collaboration during the workshop by the stakeholders identified and prioritised research gaps, teaching and training needs and potential funding opportunities. Feedback from the 'community of practice' identified the potential role that the University of Tasmania can play in filling gaps in knowledge and practice that hamper effective disaster management in Tasmania. Collaboration between the university and stakeholders can increase the capability of those working in the field and foster relationships and leverage partnerships that assists emergency management planning and practice.

Background

Tasmania is exposed to an array of hazards including bushfire, flood, severe storm, landslide, tsunami, earthquake, heatwave, coastal inundation and

pandemic influenza (Tasmanian Government 2016). A reminder of this was the damage and havoc created by flash flooding in Hobart in May 2018 (Australian Broadcasting Commission 2018). Tasmania also has a history of severe bushfire seasons that are faced by many small, and sometimes more isolated, communities. The existing body of research identifies factors influencing how people prepare for, respond to and recover from natural disasters that include age, health, social connectedness and access to services (Cherry *et al.* 2010, Cutter & Finch 2008, Fernandez *et al.* 2002, Horney *et al.* 2012). However, Tasmania faces additional challenges. The population is ageing faster than others in Australian states and territories (Australian Bureau of Statistics 2016) and almost 20 per cent of Tasmanians are over the age of 65 years. Issues of ageing are compounded by social and health indicators that align the state with those of rural and remote Australia (Tasmanian Government 2013). Such statistics have serious implications for natural disaster preparation and recovery, particularly considering that Tasmania has a highly decentralised population (Tasmanian Government 2012).

Community engagement

To deal effectively with issues that could compromise the safety of individuals and communities during a disaster, emergency managers and planners must identify vulnerable populations early. In Australia, agencies are mandated to engage proactively with communities through a process of engagement, described by the *National Strategy for Disaster Resilience* as '... the process of stakeholders working together to build resilience through collaborative action, shared capacity building and development of strong relationships built on mutual trust and respect' (Commonwealth of Australia 2013, p.2). To this end, community engagement is a vital process to identify community perceptions and concerns and establish effective policies and actions related to disaster risk reduction (Teo *et al.* 2017, p.38).

Typically, the term 'community', when used within emergency management contexts, has meant populations residing in a disaster-prone area. To date, the term 'community' has not put the focus on those trying to manage disasters and the resulting effects. This highlights a gap in the processes used to understand what information emergency managers and planners need to improve their capacity and capability to respond. It also highlights that emergency management, which encapsulates planning, organisation, coordination and implementation of measures necessary to prevent, mitigate, respond to, overcome and recover from an emergency (Tasmanian Government 2006) is not a homogenous process. Unique circumstances create unique issues that are often relevant to unique locations. Tasmania is an example.

To address this, a bottom-up, inclusive, community engagement process, typically used when engaging with communities located in exposed and disaster-

prone locations, was used to identify the needs of those at the frontline of emergency management. This process is a key component of the *National Strategy for Disaster Resilience* Community Engagement Framework (Commonwealth of Australia 2013, p.3) that outlines the importance of this approach to achieve community and organisation resilience. The strategy acknowledges the importance of local programs that recognise an agency's operational requirements. Of equal importance is balancing specialist expertise with community expertise for planning, decision-making, preparation and response and recovery activities. Such processes operate on three fundamental principles:

- an understanding of a community's capacity, strengths and priorities
- recognising a community's uniqueness and complexity
- partnering with a community to support existing networks and resources.

The strategy stresses that in order to understand a community's capacity, strengths and priorities, people involved in the community engagement process must respect and use local knowledge, resources (economic, physical, social and environmental) and tap into existing networks (Commonwealth of Australia 2013, p.4). This must be accompanied by an appreciation and assessment of the risks faced and an understanding of the levels of community awareness and preparedness that exist (Commonwealth of Australia 2013, p.4).

The strategy outlines that effective community engagement must recognise the complexities involved in engaging with a community and recommends engagement activities that consider a community's unique and diverse characteristics. Actions should be meaningful, inclusive and consider differing perceptions of risk. Plans should be flexible and identify and address barriers, as well as recognise that communities evolve and change over time. Understanding differences in perceptions of risk is important. As such, the strategy acknowledges the importance of considering aspects of age, gender, culture, physical abilities, geographical locations, access to services and social disadvantage within the community (Commonwealth of Australia 2013, p.7). The strategy also highlights the importance of building on existing social capital, developing initiatives that engender local action and partnering with the community; fostering relationships with community leaders and respecting community choices.

Reconceptualising 'community'

Using the *National Strategy for Disaster Resilience* community engagement principles, it was clear that such a process was capable of identifying the needs and capacity of any community. The only challenge was to reconceptualise the term 'community' to the collective group of individuals, organisations, government departments, not-for-profit organisations and volunteers who are called to action when assistance is needed. Therefore, the 'community' within this community

engagement process, became a 'community of practice' with a membership of emergency management organisations, managers, planners, volunteers and responders charged with keeping people, property and environments safe during times of extreme events.

Here, 'community of practice' included emergency services personnel, such as the Tasmania Fire Service and the State Emergency Service, local government disaster managers, government representatives from the Tasmanian Department of Health, Tasmania Networks, the Tasmanian Department of Premier and Cabinet, Mineral Resources Tasmania, the Department of State Growth and the Tasmanian Climate Change Office. Representatives from the Red Cross, the Bureau of Meteorology and the CSIRO were also included as were local hydrologists, engineers and academics from the university; representing 14 disciplines with natural disaster interests.

The aim of the community engagement process was to discover the issues faced in relation to emergency services delivery in Tasmania; what was needed to improve service delivery, what collaborations would improve practice, what those collaborations would look like and what role the university could play to facilitate these. The workshop allowed quick identification of the priority needs for Tasmania that align with the 2016 Tasmanian State Natural Disaster Risk Assessment (White *et al.* 2016). The risk assessment report is a place-based risk assessment of Tasmania's vulnerability to a range of priority natural hazards, including the risks Tasmania specifically faces associated with a changing climate including heatwave and coastal inundation. The report builds understanding and awareness of the natural hazards that have the greatest potential to impact on the state. This will assist Tasmania to be better prepared for, respond to and recover from natural disasters.

The workshop created linkages and opportunities between the university and the community by working together on Tasmanian-focused natural hazard projects and initiatives. The aim is to strengthen the capacity of these 'communities of practice' while giving voice to local disaster authorities to guide future natural hazard research initiatives.

The 'community of practice'

Almost 50 stakeholders attended the workshop held in Hobart in August 2018. Topics included risk assessment, the changing profile of risk caused by changes to the climate, theories of adaptive and resilience capacity of individuals and communities to natural hazards, community engagement strategies and issues related to providing health services in rural settings during a natural hazard event. Group discussions elicited research needs, teaching and training gaps specific to emergency planning as well as funding opportunities.

Participants discussed what they needed to enable them to fulfil their roles, improve their capacities and practices and identified who they needed to collaborate with to achieve goals and instigate positive change.

Within two hours, participants identified 34 research needs, 24 teaching and training needs, and 31 potential funding sources. Interestingly, many of the research and training needs identified were specific to Tasmania, including the state's demographic challenges, particularly in relation to evacuation, volunteerism and rural health service provision. Gaps between state and local government policy expectations and frontline emergency management capabilities were also of concern, along with the need for hazard modelling and mapping, the mental health of ageing emergency responders and problems associated with Tasmania's low literacy levels and the effect that has on hazard communication. The training gaps included specific natural hazard training in the current nursing curriculum and the need for courses on land rehabilitation, hydrology, fire management and land-use planning. Participants also called for the development of a Tasmania-focused natural hazard HUB to coordinate research between academics, practitioners and partner networks.

Conversations were rigorous, demonstrating a genuine interest in working together. Attendees had a strong sense of cooperative goodwill, generosity and collegiality. Post-workshop evaluation surveys identified a number of additional research ideas and some projects have entered planning stages. The success of the workshop and energy generated had fed into a collaborative community-based forum on bushfire preparedness in two ageing communities and a natural disaster symposium for academics and external stakeholders undertaking natural hazards research. This will showcase the breadth of research activity on natural hazards being undertaken and foster the continuation of collaboration and information sharing.

Outcomes

The Bushfire and Natural Hazards CRC has undertaken and produced a significant body of work (<http://www.bnhcrc.com.au/research/cluster/communications-warnings>). To expand on this, the workshop identified research, training and potential funding opportunities specific to Tasmania. This will increase the probability that Tasmania is well-positioned to fill gaps and meet emerging needs in emergency preparedness, response and recovery. Many attendees expressed that the partnership support of the university would increase the capacity of those working in the emergency management field and foster relationships and partnerships that would help the community of practice build the resilience and wellbeing of individuals and communities in Tasmania.

Qualitative researchers understand that complex personal and social problems are best solved by drawing on multiple viewpoints and that those viewpoints are expressed best by people with lived experience (Lapan, Quartaroli & Riemer 2001). The methods used to collect those viewpoints form the basis of inclusive community engagement processes used by emergency managers working within communities. It is logical that people working in the field as a community of practice allows

for their unique viewpoints and experiences to be heard and actions identified. Accordingly, research institutions are well-positioned to both inform future research and training and improve the capacity of those in harm's way, particularly when strengthened by partnerships with those working at the coalface.

Conclusion

The multi-disciplinary, cross-sectoral workshop on natural hazards and disasters identified a fertile area for research and training. Key to the success of the workshop was that it brought together complementary knowledge and skill sets of research teams that included disaster management, geo-spatial mapping, health-impact assessment and community resilience with the wide range of stakeholders planning for, preparing and responding to events when they occur. This community-of-practice process has the potential to produce good results nationally, by enabling place-based disaster research to be identified by those who need it and use it.

Acknowledgments

This paper was authored by the University of Tasmania from the faculties of Earth Science, Antarctic Climate and Ecosystems Corporative Research Centre and the Centre for Rural Health. Team member research includes natural hazards and the impact on populations and the environment.

References

- Australian Broadcasting Commission 2018, *Hobart weather: Record rain, flash flooding inundates CBD and parts of southern Tasmania*. At: www.abc.net.au/news/2018-05-11/hobart-weather-flash-flooding-record-rainfall/9750032 [11 September 2018].
- Australia Bureau of Statistics 2016, *Census of Population and Housing: Reflecting Australia – Stories from the Census, 2016*, Australian Bureau of Statistics Cat: 2071.0. At: www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/2071.0~2016~Main%20Features~Ageing%20Population~14 [12 September 2018].
- Bryson L & Mowbray M 1981, *Community: The spray-on Solution*, *Australian Journal of Social Issues*, vol. 16, no. 4. pp.255–266.
- Cherry, KE, Galea S, Su LJ, Welsh DA, Jazwinski SM, Silva JL & Erwin MJ 2010, *Cognitive and psychosocial consequences of Hurricanes Katrina and Rita among middle-aged, older, and oldest-old adults in the Louisiana Healthy Aging Study*, *Journal of Applied Social Psychology*, vol. 40, no. 10, pp.2463–2487.
- Commonwealth of Australia 2013, *National Strategy for Disaster Resilience: Community Engagement Framework*. At: <https://knowledge.aidr.org.au/media/1761/handbook-6-national-strategy-for-disaster-resilience-kh-final.pdf> [10 September 2018].
- Cutter SL & Finch C 2008, *Temporal and spatial changes in social vulnerability to natural hazards*, *Proceedings of the National Academy of Sciences*, vol. 105, no. 7, pp.2301–2306.
- Fernandez LS, Byard D, Lin CC, Benson S & Barbera JA 2002, *Frail elderly as disaster victims: emergency management strategies*, *Prehospital and Disaster Medicine*, vol. 17, no. 2, pp.67–74.
- Horney JA, MacDonald PDM, Willigen M & Kaufman JS 2012, *The importance of effect measure modification when using demographic variables to predict evacuation*, *Risk, Hazards & Crisis in Public Policy*, vol. 3, no. 1, pp.1–19.
- Lapan S, Quartaroli M & Riemer J 2011, *Qualitative Research: An Introduction to Methods and Design*, vol. 37, 1st edn, John Wiley & Sons, CA.
- MacQueen K, McLellan R, Metzger D, Kegeles S, Strauss R, Scotti R, Blanchard, L & Trotter, R 2001, *What is community? An evidence-based definition for participatory public health*. *American Journal of Public Health*, vol. 91, no. 2, pp.1929–1938.
- Tasmanian Government 2006, *Emergency Management Act 2006*. At: www.legislation.tas.gov.au/view/whole/html/inforce/current/act-2006-012 [11 September 2018].
- Tasmanian Government 2012, *Rural and Isolated Communities: Guide to Engagement*, Department of Premier and Cabinet. At: www.dpac.tas.gov.au/_data/assets/pdf_file/0003/227595/Engaging_rural_and_isolated_communities.pdf [13 September 2018].
- Tasmanian Government 2013, *Health Indicators Tasmania 2013, Population Health*, Department of Health and Human Services. At: www.dhhs.tas.gov.au/_data/assets/pdf_file/0019/132283/Health_Indicators_Tasmania_2013.pdf [13 September 2018].
- Tasmanian Government 2016, *2016 Tasmanian State Natural Disaster Risk Assessment: All Hazards Summary*. At: www.ses.tas.gov.au/assets/files/EM%20Publications/disaster_resilience/TSDRA-2016-All-Hazard-Summary.pdf [12 September 2018].
- Teo M, Lawie M, Goonetilleke A, Ahankoob A & Dellami K 2007, *Engaging vulnerable populations in preparedness and response: a local government context*, *Australian Journal of Emergency Management*, vol. 33, no. 1, pp.38–47.
- White C, Remenji T, McEvoy D, Trundle A & Corney S 2016, *Tasmanian State Natural Disaster Risk Assessment*, University of Tasmania. At: www.ses.tas.gov.au/assets/files/EM%20Publications/disaster_resilience/TSDRA-2016.pdf [11 September 2018].

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