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Young adults coping with disaster Page 32

NEWS AND VIEWS
WINNERS OF THE 2017 RESILIENT AUSTRALIA AWARDS
PAGE 27

RESEARCH
ENGAGING VULNERABLE POPULATIONS
PAGE 38

RESEARCH
COMMERCIAL LEASES AFTER THE CANTERBURY EARTHQUAKE
PAGE 61

Australian Institute for Disaster Resilience

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The *Australian Journal of Emergency Management* is Australia's premier journal in emergency management. Its format and content are developed with reference to peak emergency management organisations and the emergency management sectors—nationally and internationally. The Journal focuses on both the academic and practitioner reader. Its aim is to strengthen capabilities in the sector by documenting, growing and disseminating an emergency management body of knowledge. The Journal strongly supports the role of the Australian Institute for Disaster Resilience as a national centre of excellence for knowledge and skills development in the emergency management sector. Papers are published in all areas of emergency management. The Journal encourages empirical reports but may include specialised theoretical, methodological, case study and review papers and opinion pieces. The views in the Journal are not necessarily the views of the Australian Government, AIDR or AIDR's partners.

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Contents

News and views

Foreword
Dr Rob Gordon 4

Can your community cope with rising tides?
Timothy D Ramm, Dr Christopher J White, Dr Christopher S Watson and Dr Sonia Graham 5

Evaluating disaster recovery programs
Sunila Srivastava 7

A monitoring and evaluation framework for disaster recovery programs
Aaron Verlin and Dr George Argyrous 8

The impact of the Lancefield-Cobaw fire on community recovery
Nathalie Brown and Louise Scott 11

Integrated emergency risk management: building resilience in NSW communities
Matthew Thompson and Danielle Meggos 13

Community recovery: six ideas to close 'intent-to-capability' gaps
Major General Chris Field 15

Social recovery for the elderly: learnings from southwest Queensland
Annabelle VH Johnstone and Brooke R Winters 16

Post disaster temporary memorialising: psychosocial considerations for disaster managers
Shona Whitton 18

'We needed help, but we weren't helpless': the community experience of community recovery after natural disaster in Australia
Dr Margaret Moreton 19

Health and disaster risk reduction regarding the Sendai Framework
Lennart Reifels, Paul Arbon, Anthony Capon, John Handmer, Alistair Humphrey, Virginia Murray, Caroline Spencer and Diana F Wong 23

Disaster resilience: from the global to the local
Hansika Bhagani 25

Resilient Australia Awards 2017
Jacqui Douglas 27

Research

Beyond the 2009 Gippsland bushfires: Acknowledgment and young rural adults' recovery
Rouvé Jan Forbes, Dr Margaret Simmons and Dr Julie Willems 32

Engaging vulnerable populations in preparedness and response: a local government context
Dr Melissa M Teo, Marion Lawie, Ashantha Goonetilleke, Dr Alireza Ahankoob and Dr Kaveh Deilami 38

Valuing recovery through risk ownership
Celeste Young and Roger N Jones 48

Disaster recovery towards resilience: contributions of an assets-based community development approach
Helen Scott, Bruce Smith and Birgit Schaedler 55

The Canterbury earthquakes and the effect on landlords and tenants with commercial leases
Dr Toni Collins 61

How can governments enable and support community-led disaster recovery?
Carole Owen 66

Contributions in the Research section of the *Australian Journal of Emergency Management* are peer-reviewed to appropriate academic standards by independent, qualified reviewers.

Foreword

Dr Rob Gordon, Consultant Clinical Psychologist

This issue of the *Australian Journal of Emergency Management* focuses on recovery and how we best support people and communities post-disaster.

Recovery is now integral to emergency management, although the concept is barely 30 years old; being introduced in the mid-1980s. It is now a priority alongside prevention, preparedness and response, but is not yet well understood, lacking consensus about the priorities and methods for effective recovery.

Following individuals and communities after emergencies shows recovery is a complex and poorly understood process full of challenges and adjustments. During this time there is risk of losing more than was affected by the event itself.

Poorly managed recovery is often identified as 'the second disaster'; the unnecessary one. Anecdotal evidence indicates that the quality of a person's recovery depends more on how well they manage the recovery years than what the event does. To minimise long-term destructive consequences, greater understanding of recovery is needed.

Those trying to recover complain of how slowly the authorities respond, regulations that get in the way, how little they can get done and how much authorities procrastinate. They blame themselves or each other, believing that they should do better. Some regret that they made decisions too quickly, before they knew what they wanted and do not like their new life.

Some people who, in the first years, are active in rebuilding and involved in recovery found valued activities somehow got lost, including attachment to home, relationships with partners who are now 'just good friends', loss of closeness with children and family, deep hurt from the misunderstanding and judgement they received from friends and relatives or other community members. There is often a period of exhaustion after reconstruction that introduces an 'identity crisis.' They need to adjust to a changed sense of self, meaning and purpose in life that was never invited, but imposed by the emergency. It can result in the loss of the relationships, social life, activities, hobbies and interests, investment in career and the long-term life goals that are essential to the sense of self.

Many do recover well and gain meaning from the experience. They make creative changes and become clearer about what is important. However, the potential consequences involve life-changing events. The opportunity for creative adaptation (resilience) is key to recovering well. These aspects of recovery depend on quality rather than quantity; the 'how' rather than 'what' is done. The demand for government to spend more money and provide more services does not guarantee better recovery. It requires greater understanding of recovery, where early priorities are based on long-term realities and how community expectations can be enlisted. It requires knowledge, strategies and methods supported by policies and evidence.

In emergencies, recovery implies returning a person, family or community to a previous state of being, covered or immersed in the protective medium of a familiar world. It implies the emergency strips away the life-sustaining medium, leaving them exposed. This loss can be called de-covery, meaning to disrupt, damage or destroy the social, physical, built and financial medium of life.

If assistance and expectations are not coordinated and appropriate, instead of re-covery we have continuing de-covery. If it is coordinated with policies and support arrangements that understand the priorities as they unfold and help to reform the medium, then we have re-covery. Yet many people object to recovery as implying returning to pre-disaster conditions. They say their lives will never be as they were. They say recovery depends on letting go of their old life and finding a new one; forming a new medium for a changed life. They often prefer words that look to a new normal like 'renewal'. Perhaps a different word is now needed–perhaps 'pro-covery' meaning towards a new medium. Such word play points to the need to consider the recovery processes for people and communities recovering and to develop better concepts to understand and help them.

This edition brings together aspects of recovery by authors from diverse backgrounds providing their views and updates on the latest research in this most important area.

Dr Rob Gordon

Clinical Psychologist

Consultant to Victorian Department and Health and Human Services and Australian Red Cross

Can your community cope with rising tides?

Timothy D Ramm, Bushfire and Natural Hazards CRC and University of Tasmania, Dr Christopher J White and Dr Christopher S Watson, University of Tasmania and Dr Sonia Graham, University of NSW

As Texas and the Caribbean recover from the North Atlantic hurricane season, it is time for coastal communities to reflect on what makes a resilient community in the face of more frequent storm events, rising sea levels and changing coastal flooding patterns. How would you be affected? Would we fare any better in Australia?

In 2016, many Australians experienced the power of the sea with coastal storms battering houses along the east coast of Australia as well as destroying jetties and smashing beaches in South Australia. Another sort of flooding is emerging abroad—nuisance flooding—that is causing disruption to people and infrastructure in US cities like Annapolis and Miami Beach.

Rising sea levels and changing coastal flood patterns place increasing pressure on governments, business and residents to minimise impacts on people, properties and the environment. As Australia debates national energy reform and strives to meet emissions targets under the Paris Agreement[1], it is imperative that planning continues for sea level rise, which will continue regardless of future emissions stabilisation.

Preparing communities for sea level rise and increased coastal flooding is a difficult task. Scientists know that change is underway, but exactly how much will come this way is uncertain. Do coastal authorities prepare for a sea-level rise of 20 centimetres or half a metre? What population change will occur? The extent and timing of such change may be uncertain, but that doesn't mean communities can't start planning for it now.

The legacy of existing infrastructure

A 2011 report by the Department of Climate Change and the Energy Efficiency[2] suggests billions of dollars of infrastructure in Australia could be threatened by rising sea levels by the end of the century. Although such timeframes appear distant, planning and development decisions made now have consequences many years down the track. Coastal infrastructure such as roads, utilities, rail, residential and commercial buildings often last between 20-100 years and influence future developments within communities.

Over the coming decades, existing coastal infrastructure in vulnerable communities will be tested as sea level rise drives frequent inundation and erosion events. This can cause direct and indirect losses to coastal residents, businesses and government.

Rising sea level affects on people

Climate change will not only affect infrastructure, it will affect beaches and access to other coastal environments. It will have real impacts on where people socialise and undertake recreational activities.

To better understand what aspects of people's lives are important, where certain values are associated with coastal landscapes and what groups of people might be most disadvantaged by sea level rise, a study[3] was undertaken in a peri-urban seaside suburb in Tasmania. The study showed that, overall, the natural environment and the lifestyle it affords was most important to residents. Such values were consistent with those identified in other south-eastern Australian studies.

1 Paris Agreement at http://unfccc.int/paris_agreement/items/9485.php.

2 Department of Climate Change and the Energy Efficiency 2011, *Climate Change Risks to Coastal Buildings and Infrastructure. At: www.environment.gov.au/system/files/resources/0f56e5e6-e25e-4183-bbef-ca61e56777ef/files/risks-coastal-buildings.pdf.*

3 Ramm TD, Graham, S, White CJ & Watson CS 2017, *Advancing values-based approaches to climate change adaptation: A case study from Australia. Environmental Sciences and Policy, vol. 76, October 2017, pp. 113-123.*

The study segmented the seaside community into six groups based on life stage, lifestyles and unique social values. This provided an understanding of how people in the community might be affected differently by sea level rise.

The study found that while the local beach had high importance and recreational value to families and active younger residents, for others (e.g. community-minded volunteers or retirees) man-made features such as community halls and ovals were of greater importance as they facilitated important social interactions for these people. These considerations are commonly not well accounted for in traditional risk assessments and planning.

The study suggests that segmenting the community into groups to support adaptation planning can help to cater for the needs of everyone in the community. It can also improve the fairness of adaptation plans by better assigning the costs and benefits of adaptation, both socially and economically.

How does a resilient coastal community adapt?

Local knowledge about the social as well as physical effects of sea level rise can help design coastal adaptation plans.

In an earlier study[4], by comparing characteristics of current adaptation practice in Australia with two state-of-the-art methods from abroad, four key principles were identified to improve long-term planning in the face of uncertain coastal change:

- **Explore the future with hundreds to thousands of scenarios.** Scenarios answer 'what-if' questions and support learning in an uncertain world. Each scenario reflects a different combination of sea level rise, population change and other uncertain variables. Assessing physical impacts across many scenarios means a greater uncertainty 'space' can be explored to identify vulnerabilities within communities.
- **Know what change can be accommodated.** Assessing the impacts across many scenarios helps understand what environmental change will cause unacceptable impacts to people, properties and the environment. This allows tipping points to be identified that helps understand when adaptation responses are needed.
- **Develop plans that are flexible.** Planning flexible adaptation strategies allows communities to focus on near-term actions, while keeping future options open in the face of uncertainty. As more information becomes available, communities can decide an appropriate adaptation response.
- **Favour robust adaptation responses across multi-decadal timeframes.** Robust adaptation responses perform adequately across many different future scenarios. This is in contrast to optimal adaptation responses that maximise adaptation benefits based upon future assumptions. When adaptation responses are designed to last for many decades, optimisation methods can be risky as the future is likely to deviate from assumptions.

Communities and businesses have an increasing role to play in maintaining the momentum behind adaptation action. It's time to start thinking about how rising sea levels might affect communities and what local councils are doing to prepare for the future.

This article first appeared on the OzEWEX website and has been reproduced with permission. It has been modified to reflect the passage of time and is based on *A review of methodologies applied in Australian practice to evaluate long-term coastal adaptation options, Climate Risk Management*, June 2017 and *Advancing values-based approaches to climate change adaptation: A case study from Australia, Environmental Science and Policy*, July 2017.

Sea level rise predictions at Cottesloe Beach, Western Australia.

Image: Julie G (CC BY-ND 2.0)

4 Ramm TD, White CJ, Cheong Chan AH & Watson CS 2017, *A review of methodologies applied in Australian practice to evaluate long-term coastal adaption options. Climate Risk Management, vol. 17, pp. 35-51.*

Evaluating disaster recovery programs

Sunila Srivastava, Emergency Management Australia

In 2012, the Council of Australian Governments (COAG) endorsed recommendations to improve the methods and the evaluation of payments made for disaster recovery efforts.

The *Review of the Commonwealth and State and Territory Relief and Recovery Payments*, prepared by the National Emergency Management Committee, made several recommendations to improve the effectiveness, transparency and targeting of relief and recovery payments. All recommendations were endorsed by COAG, including three that provide national consistency in the assessment of recovery needs and the evaluation of recovery effort, being:

- an agreed national definition of a 'severe event'
- a framework for a nationally consistent measure to collect and record data on the severity of an event
- a measure to assess the effectiveness of disaster recovery programs.

Progress on these recommendations has resulted in two national measures; the National Impact Assessment Framework and the National Monitoring and Evaluation Framework.

The National Impact Assessment Framework (NIAF)

The NIAF was established to enable a national consensus on the severity of severe events. It provides high-level guidance to ensure consistency in impact assessments that are conducted in the immediate aftermath of an event. The National Impact Assessment Model (NIAM), which records impact data, is a component of the NIAF.

The NIAF provides:

- an overview of when to use the NIAM
- possible characteristics of a 'severe' event
- how the NIAM uses impact data to generate an event severity output
- guidance regarding the type of qualitative contextual information that could be included
- an overview of elements to consider when embedding NIAM into jurisdictional arrangements.

The NIAM is used to assess the severity of an event and its impact. Events are categorised as 'insignificant', 'minor', 'moderate', 'severe' or 'catastrophic'. The model uses quantitative data and qualitative data to produce an impact assessment. Jurisdictions can enter impact data by local government area against 50 impact indicators, which are aggregated into four established recovery domains (social, built, economic and environmental).

In the long term, the data from the NIAF will assist in understanding the impact on communities and the landscape of disasters and how communities can recover from disaster events.

The National Monitoring and Evaluation Framework (NM&E)

Effective evaluation of recovery programs is critical to identifying approaches and programs that lead to better recovery outcomes. The newly developed NM&E Framework is a recent initiative that will provide information and evidence that can used to build our understanding of the effectiveness of disaster recovery initiatives and to use that information to improve the effectiveness of the investment of money and resources in both mitigation and recovery.

The NM&E Framework is described in more detail in the following article. Essentially it:

- provides a common definition of 'disaster recovery'
- supports monitoring and evaluation plans for recovery interventions
- articulates nationally developed, uniform, high-level recovery outcomes
- provides a suite of indicators to monitor and measure the effectiveness of recovery interventions.

The NM&E is being trialled following current disaster events, and learnings will be used to refine the framework. All jurisdictions will be involved in workshops to discuss the capabilities needed to use the framework.

The NIAF and the NM&E are being used to improve the understanding of the types or recovery interventions that create resilient and sustainable communities in Australia.

Monitoring and Evaluation Framework for Disaster Recovery Programs 2011 is at www.knowledge.aidr.org.au/media/1779/a-monitoring-and-evaluation-framework-for-disaster-recovery-programs.pdf

A monitoring and evaluation framework for disaster recovery programs

Aaron Verlin, Emergency Management Australia and Dr George Argyrous, Australia and New Zealand School of Government

In recent years, there has been substantial research into how we can plan for and more effectively recover from disasters. This national discussion on better recovery outcomes is particularly important given the increasing frequency, severity and cost of disasters.

A key aspect of planning for recovery outcomes is evaluating past recovery with a view to understanding what was done well and what could be improved. The *Review of Effectiveness of Commonwealth and State/Territory Relief and Recovery Payments:* Report to COAG/SCPEM from the National Emergency Management Committee Recovery Sub Committee[1] highlighted that 'jurisdictions and the Commonwealth do not measure or report on the effectiveness of their [disaster assistance] programs'.

The Recovery Sub Committee recommended the development of a 'measure of effectiveness' that could be used to evaluate disaster recovery interventions.

To develop a nationally consistent understanding of 'effective' or 'good' recovery the subcommittee developed national recovery outcomes of sustainability and resilience:

1. Sustainability: enabling the affected community to eventually manage its own recovery.
2. Resilience: enabling the community to better withstand a future disaster.

These outcomes highlight that effective disaster recovery intervention contributes to the community's capacity and capability to manage their recovery once government assistance ends. Determining the extent recovery program activities have built sustainability and resilience in a community post-disaster reflects an underlying theory of change in Australian disaster recovery practice that can be summarised as 'community-led, government-assisted' recovery.[2]

Under the auspices of the Recovery Sub Committee, the Australian Government and all state and territory governments developed a *National Monitoring and Evaluation Framework* that provides a nationally consistent method for assessing whether a recovery program has achieved its intended outcomes. In the long-term, the framework will build understanding on what is and isn't good recovery practice through evaluative thinking to improve planning and processes.

The aim of the framework

The framework improves disaster recovery programs through the learning that can be obtained by rigorous evaluation (Winkworth 2007, Ryan 2016). In the past, few recovery programs have been evaluated. Where evaluations occurred, there was no consistency and no systematic attempt to build the lessons learnt into subsequent recovery programs. The monitoring and evaluation framework tries to overcome this by providing a common set of recovery outcomes that provides a consistent focus for evaluations and also provides a structure for feeding back the learnings from evaluations.

The framework can be applied:

- in any type of disaster; natural or human-induced, rapid or slow onset, and is scalable to all disasters regardless of severity
- to individual components of a recovery program, such as a grant scheme to support local businesses, or for the whole program

1 The Recovery Sub Committee was a sub-committee of the Australia New Zealand Emergency Management Committee.

2 This community-led, government-assisted approach is distinct from other possible theories of change that could have been adopted. For example, a 'wellbeing' approach could have been used, which would see successful recovery as contingent upon community members reaching an appropriate level of wellbeing across several generally recognised dimensions.

- in the early stages of a recovery program to assess the extent to which progress is occurring and appropriate processes are in place, or at the end to assess whether overall community recovery has effectively occurred
- by those with little evaluation expertise and by experienced consultants, non-government organisations and other recovery agents.

A program logic for disaster recovery

The framework is organised using a program logic of how the recovery process occurs. A program logic explains the way in which recovery activities are expected to lead to recovery outcomes. It captures the key aspects of a community-led, government-assisted approach, whereby outcomes are realised in the four domains of built, social, economic and environment. Activities to achieve these outcomes are guided by the *National Principles for Disaster Recovery*, although specific recovery programs will implement these principles in different ways.

The program logic in the framework emphasises the need for constant feedback between recovery activities and recovery outcomes. It recognises that recovery programs are complex and the nature of 'successful' recovery cannot be specified in detail at the start, but partially emerges out of the recovery process itself. The program logic in the framework provides an archetype by which specific program logics for any given disaster recovery program can be based.

Recovery outcomes

The main objective of the framework is to shift the focus of disaster recovery programs and evaluations towards outcomes achieved and away from activities and outputs.

The program logic identified four broad domains of recovery outcomes based on the *Community Recovery Handbook* (2009)[3]. A list of recovery outcomes was developed to capture what it would 'mean' for sustainability and resilience to be achieved in each of these domains. An example of sustainability outcomes from the social domain is provided in Table 1.

After extensive discussions with recovery agents and experts across Australia, as well as a comprehensive literature review and review of previous evaluations (Ryan *et al.* 2016), 61 mid-level outcomes were identified across the four domains.

It must be kept in mind that:

- not all outcomes or domains will be relevant to every disaster; for example, an urban epidemic may not require any recovery outcomes within the environmental domain
- the framework does not organise outcomes into any order or sequence leaves; rather the evaluation determines whether there is any hierarchy or temporal ordering to the outcomes
- 'below' the mid-level outcomes will be disaster specific outcomes that operationalise the statements according to the characteristics of the affected community or communities; for example, 'existing health clients receive continuity of their care' may be specified in terms of the types of health needs, client subgroups or vulnerable groups that characterise an affected community.

The framework provides guidance for evaluation

On the basis of the agreed list of recovery outcomes, the framework provides general guidance for selecting indicators to measure progress toward these outcomes, methodologies for collecting data, especially in a way that includes the community in the evaluation process, and also suggestions for how to monitor and communicate progress toward recovery.

The evidence base

The other significant element of the framework is an online and searchable database of critical elements of past recovery programs and their evaluations. This evidence base is under development and will be hosted at the Australian Disaster Resilience Knowledge Hub.

3 The Handbook is part of the Australian Disaster Resilience Handbook Collection. The series is available at www.knowledge.aidr.org.au/collections/handbook-collection.

Table 1: An example of recovery outcomes from the social domain.

High-level outcome	Mid-level outcomes
Community members have access and are able to meet health needs (including mental health) arising from the disaster.	Community health levels are appropriate for the community profile. Existing health clients receive continuity of their care e.g. pharmaceutical supplies. Community members have the knowledge, skills and resources for dealing with health issues related to the disaster experience. Community members can access appropriate services to deal with health needs. The community is not experiencing excessive stress and hardship arising from the disaster. The community has access to clean drinking water and basic food supplies. The community has access to adequate sewerage and sanitation services.

It will provide a searchable database of the recovery outcomes, past evaluations, indicators of recovery outcomes and activities undertaken as part of past recovery programs. The database will allow recovery specialists to record lessons learnt from the recovery process. The evidence base can be used *prospectively* by recovery agents to design recovery programs that are outcomes-focused and also by evaluators of recovery programs to plan evaluations. But, insofar as these evaluations will be guided by the framework, their findings can then be *retrospectively* added to the evidence base so that the knowledge is captured in a way that can inform future recovery planning. It will thereby assist communities, non-government organisations, emergency services providers and governments to understand what does or does not work in recovery. It will also assist in drawing links between mitigation, preparedness and improved disaster outcomes.

Implementing the framework

To ensure the framework meets real-world demands, it is being trialled using actual disaster events in two states; the Pinery bushfire in South Australia and the Mildura storm in Victoria. The framework will be assessed in terms of the extent to which it provided support to up-front *planning* of recovery programs and also the extent to which it facilitated best-practice approaches to evaluating these recovery programs.

These trials are coordinated by the Evidence and Evaluation Hub at the Australia and New Zealand School of Government and involve two consulting firms to conduct the actual trials. The feedback from these trials will be incorporated into the next version of the framework, but some preliminary findings are already emerging:

- The framework needs to clarify, by possibly providing examples, how program logics can be constructed for given disasters that capture both the specific characteristics of that disaster recovery program and also the general characteristics represented in the framework's overarching program logic.
- The framework needs to make clearer that only a subset of outcomes will be relevant to any given recovery program.
- The framework needs to be clearer about how it applies to different types of disasters and also to different scales of evaluative activity.
- Evaluation reporting requirements need to be structured in a way that facilitate easy input into the evidence base.
- The interrelationship between relief and response efforts and recovery efforts as evaluation issues needs further elaboration.
- The list of indicators for recovery outcomes needs to be refined based on the quality of the indicators and group indicators into searchable 'themes' that may be of relevance to recovery agents and evaluators.
- Examples need to be provided in the framework that illustrate the principles it embodies.

Next steps for implementation

While, the framework is a significant step to propagating outcomes-based recovery thinking, the framework alone (including the evidence base) will not necessarily change practice. For evaluative thinking and effective learning to take place, the framework needs to be supported by other elements of a coordinated and national approach. The framework needs to be, and to some extent already is, referenced in key government documents such as the *National Principles for Disaster Recovery*. Appropriate funding for recovery evaluations also needs to be factored into recovery planning.

Of primary importance is the need to build capability for evaluative thinking among disaster recovery agents. This means an ability to think in terms of outcomes rather than outputs, an ability to draw on past experiences and examples and an anticipation of data needs for monitoring and reporting. To this end, an implementation workshop was held in December 2017 that brought together recovery agents from all jurisdictions. The workshop allowed the development of evaluation plans based on the framework by experts in the field of evaluation who provided guidance. This takes the framework from paper to practice where it can materially improve the challenges of improving disaster recovery efforts.

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The impact of the Lancefield-Cobaw fire on community recovery

Nathalie Brown and Louise Scott, Department of Environment, Land, Water and Planning, Victoria

In October 2015, a Department of Environment Land Water and Planning (DELWP) planned burn in the Cobaw Forest, north-west of Melbourne, breached containment lines and formed the Lancefield-Cobaw fire. The fire burnt 3000 hectares through public and private land, destroyed four houses and many outbuildings, affected 140 properties including 123 km of fences and caused significant disruption to Lancefield, Cobaw, Benloch and surrounding communities. A multi-agency recovery effort began before the fire was contained.

The consequence

The community was angry and upset. For some people, this was the second time in ten years that they had been exposed to an 'escaped' planned burn from the Cobaw Forest. They wanted compensation for the damage to their properties and livelihoods, and they wanted answers.

The Victorian Government responded swiftly and DELWP was 'front and centre' for recovery efforts and established an independent investigation. However, the initial level of resourcing of the recovery project did not align with community expectations nor meet operational requirements.

Community meetings with ministers and department leaders allowed residents to be heard. These were open, transparent and inclusive ways to interact with the community. DELWP Secretary at that time, Adam Fennessy, was the senior responsible officer, which provided a focal point for the community. Ministers and department leaders also engaged with the local community, which helped rebuild community trust.

The apology

At a community meeting on 19 November 2015, Adam Fennessy took an important step by apologising for the fire event and its impact on the community. This proved to be a pivotal moment in creating trusted and positive relationships with affected landholders and the community generally.

> *I am very sorry. I am deeply sorry for the distress this fire has caused you and the disruption and the enormous impact it's had on your lives. When this planned burn escaped containment lines it threatened you, it threatened your properties, it threatened you as a community and we let you down.*
> Adam Fennessy, Lancefield Mechanics Institute Hall, 19 November 2015.

The response

The community was surprised by the apology. The media led with the story at hourly news bulletins. While many community members were grateful that the Secretary had accepted responsibility and acknowledged the consequences of the fire, others were sceptical and questioned what outcomes might result.

DELWP owned the mistakes made by implementing recommendations that resulted from the independent investigation. In this way, the anger expressed in the community and the growing anxiety was acknowledged. The department's approach set the scene for a positive way to move forward.

The apology was also a turning point in DELWP's relationship with the community as well as other government departments and agencies that were working on land stabilisation and recovery activities.

DELWP took responsibility for the damage caused to the environment, personal property and the community, and acknowledged the community's anger.

The community charter

A key outcome of the independent investigation was to establish the DELWP Community Charter. DELWP places strong focus on continual improvement based on feedback from all community members.

DELWP administered $1.5 million of grant funding to upgrade and improve a number of local community recovery projects.

The lessons

The Inspector-General for Emergency Management report *Independent Investigation of the Lancefield-Cobaw Fire* (November 2015) recognised the importance of community engagement, changes to structures, systems and processes and building stronger relationships with the community. As a result, the Safer Together program was developed and implemented in local areas. DELWP has also set up a state-wide recovery project to address issues that arose from the Lancefield-Cobaw fire as well as other recovery events.

The partnership approach adopted among various agencies has been an effective way to coordinate and deliver recovery activities. DELWP ensured it was involved in the community recovery, including aspects of community development and welfare support.

Some significant 'learnings' include adequately resourcing recovery efforts; employing functional and tested operational systems, processes and policies; using staff wellbeing programs; establishing partnerships and collaborating; providing timely and accurate communication and facilitating community-led engagement.

While there have been many operational challenges, it was the complexity of dealing with so many people at various stages of the recovery cycle that posed the biggest challenges for staff, but provided the most significant rewards.

Conclusion

Since that time the communities of Benloch, Lancefield and surrounding areas have made significant progress in their recovery. They work with agencies and each other to identify and address bushfire risk and participate in the Community Based Bushfire Planning program.

The apology by former Secretary Adam Fennessy led to an open, honest and constructive environment allowing community discussions, interactions and effective engagement. The dedication, resilience, patience and sheer hard work of many staff, contractors and community members has led to the recovery of the community.

Residents participate in regular community-based bushfire management meetings at Benloch.

Image: DELWP

Community members work together on activities that facilitate the recovery process.

Image: DELWP

Integrated emergency risk management: building resilience in NSW communities

Matthew Thompson and Danielle Meggos, NSW Office of Emergency Management

NSW communities are exposed to natural and technological hazards that threaten the safety and wellbeing of residents and cause significant death, destruction and disruption. Natural disasters alone have killed 337 people in NSW between 1990 and 2015. Between the 1966-67 and 2013-14 financial years, natural disasters in NSW resulted in normalised insurances losses of $22.4 billion.[1] While the direct economic cost of these events is unknown, it is likely to be two or three times this figure.

The scale of natural disaster effects are forecast to increase as a result of demographic changes, urbanisation and climate change.[2] This significant risk profile necessitates the implementation of effective risk management to strengthen the safety and resilience of NSW. Recent disaster events and government reviews have shown a response-focus within the emergency management sector. The need exists for improved ways to manage emergency risks with a focus on mitigation.

A training exercise involving multiple emergency service agencies was held in NSW in 2017.

Image: Sharon Quandt

To address identified gaps and disparities across hazard management, an Emergency Risk Management (ERM) Framework was developed and a State Level Emergency Risk Assessment (SLERA) was conducted in 2017. The expectation is that the framework will improve access to information, enhance decision-making and strengthen capability and capacity.

The ERM Framework

In NSW, the State Emergency Management Committee (SEMC) is responsible for ensuring there is a system to manage emergencies that is robust, effective and flexible enough to deal with hazards. Throughout 2016-17, the SEMC developed the ERM framework to provide an overarching structure for investment and prioritisation based on best available information for hazards and risks that threaten NSW.[3] The framework ensures that emergency response in NSW is integrated, systematic and efficient. Importantly, it builds on and leverages the strengths of existing hazard-specific risk management approaches to improve the understanding, prioritisation, effectiveness and efficiency of emergency risk management in NSW (see Figure 1).

1 Crompton R, McAneney J 2008, *Normalised Australian Insured Losses from meteorological Hazards: 1967-2006.*

2 Commonwealth of Australia 2011, *National Strategy for Disaster Resilience.*

3 New South Wales Government 2017, *Emergency Risk Management Framework.*

Figure 1: The NSW Emergency Risk Management Framework.

The ERM Framework builds systems, capacity and culture to identify, assess, analyse and manage emergency risks based on ten outcomes across four priority areas:

- Governance and Strategy
- Methodology and Standards
- Engagement and Communication
- Capability and Planning.

2017 State Level Emergency Risk Assessment

Essential to implementing the framework is understanding, analysing and evaluating emergency risks at a state level. The SLERA was undertaken in 2017 and profiled the 12 priority hazards for NSW. It represents a collaboration of the response agencies, government departments and private sector organisations that contribute to emergency management in NSW.[4] Engagement with these stakeholders was undertaken through face-to-face workshops, formal meetings and correspondence. This ensured that information and knowledge delivered a relevant, high-quality and meaningful risk assessment.

The methodology used in SLERA was informed by the *National Emergency Risk Assessment Guidelines 2015* (NERAG).[5] A short, intensive consultation process was conducted with representatives from response agencies and government departments with leadership roles or expert knowledge in the hazards being assessed. During the 26 workshops, key issues emerged that influenced the mitigation, response and recovery for many of the hazards. These issues require a state-wide coordinated response and resulted in ten top priorities identified for action, being:

- enhancing land-use planning
- improving data and risk modelling
- adapting to climate change
- strengthening local emergency management plans
- boosting infrastructure resilience
- embedding business continuity planning
- conducting training exercises
- aligning state funding to disaster resilience
- coordinating community engagement
- making public warnings consistent.

These priorities deliver outcomes of the ERM framework. Complementing this work will be the hazard-specific treatments that agencies can undertake and expand on to improve the resilience of NSW communities. The implementation of hazard-specific treatments, in conjunction with priority actions identified through the strategic themes, is essential for the effective mitigation and response to existing and future hazards in NSW.

These priorities and other recommendations of the SLERA will be implemented over the next five years. Lessons learnt will be incorporated into future NSW risk assessments.

Details on the integrated risk management framework are at www.emergency.nsw.gov.au.

4 New South Wales Government 2017, *2017 State Level Emergency Risk Assessment.*

5 National Emergency Risk Assessment Guidelines 2015. *At: https://knowledge.aidr.org.au/resources/handbook-10-national-emergency-risk-assessment-guidelines/.*

Community recovery: six ideas to close 'intent-to-capability' gaps

Major General Chris Field AM, CSC, Australian Army

The information in this paper draws on the experiences in 2011 as Chief of Operations and Plans at the Queensland Reconstruction Authority and in 2017 as State Recovery Coordinator for the Queensland Government. Deployments to Malaysia, Syria, Lebanon, East Timor, Kuwait, Iraq, Solomon Islands and Afghanistan also inform the six ideas on community recovery from natural disasters presented.

This paper is based on two interrelated issues common to community recovery. First, community recovery is optimised when communities lead and take credit for community achievements. Second, community-based recovery may include a mismatch between a community's recovery *intent* and a community's recovery *capabilities*. This mismatching creates an 'intent-to-capability gap'.

The following six ideas can help close community recovery intent-to-capability gaps. These ideas can:

- sustain vulnerable communities
- enable leadership-seeking collective effects
- align boundaries
- develop relationships in Phase Zero (the time encompassing all community activities prior to the beginning of a disaster event)
- enable charities and volunteers in response and recovery
- build compatible communications networks.

Community intent-to-capability gaps led recovery operation decisions in Queensland during 2011-2013 and 2017-2019. What was identified was that recovery is best when state-enabled and community-led. In other words, leaders at all levels of government and non-government organisations should employ resources and work collaboratively with stakeholders to support and enable community recovery, thereby closing community intent-to-capability gaps.

Community recovery defined

Smith and Wenger (2006)[1] suggest applicable conditions when designing, implementing and reflecting on community recovery. In 2011, the Attorney-General's Department adapted the ideas of Smith and Wenger; that the design and success of community-recovery programs depend on:

- pre-disaster community-level variables, such as local capacity and previous disaster experience
- characteristics of the disaster, such as intensity, scope, speed of onset and duration of impacts
- facilitators of disaster recovery, such as leverage of resources, self-reliance and self-determination
- impediments to disaster recovery, such as viewing disaster recovery programs as an entitlement and over-reliance on recovery programs.

Summary

These six ideas may help future leaders and planners to understand post-natural disaster response and recovery environments. The two interrelated issues common to community recovery are that community recovery is optimised when communities lead and take credit for community achievements and that community-based recovery includes mismatching between a community's recovery intent and a community's recovery capabilities; the intent-to-capability gap.

Intent-to-capability gaps can be addressed using six ideas to assist community recovery. These ideas are designed to sustain support for vulnerable communities, enable leadership-seeking collective impacts, align boundaries, develop relationships prior to disaster events, use charities and volunteers in response and recovery and build and maintain compatible communications networks.

1 Smith GP & Wenger D 2006, *Sustainable disaster recovery: operationalizing an existing agenda, in H Rodriguez, E L Quarantelli & R R Dynes (eds), Handbook of disaster research, Springer, New York, pp. 234–57.*

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Social recovery for the elderly: learnings from south-west Queensland

Annabelle VH Johnstone and Brooke R Winters, Department of Communities, Child Safety and Disability Services, Queensland

Over past decades in Australia the occurrence of natural disasters has seen the development of sophisticated disaster management responses. We have seen the development of systems for immediate disaster response, the restoration of public assets, and for longer-term human and social recovery.

Within disaster-affected areas, the elderly are identified as one of the more vulnerable groups, needing a targeted response before, during and after a natural disaster. South-west Queensland has, in recent years, experienced a number of disaster events related to extreme flooding. The physical, psychological and economic impact on some communities has been significant.

This paper looks at learnings from these experiences related to better supporting ageing populations in times of natural disasters. These learnings come from feedback from government and non-government agencies involved in managing the recovery from recent disasters in south-west Queensland, as well as from community members who lived through the disasters. The two most significant learnings are that the elderly should be involved in disaster planning in their own local areas and that disaster management planning and response communication with the elderly needs to be adapted to their needs. Ultimately, a best-practice system lies in true integrated service delivery; one that is elderly-centred, easy to access, protected by quality safeguards, accountable and, most of all, outcomes focused.

So what makes populations, particularly ageing populations 'vulnerable'? The International Federation of the Red Cross and Red Crescent Societies[1] defines 'vulnerability' as the 'diminished capacity of an individual or group to anticipate, cope with, resist and recover from the impact of a natural or man-made hazard'. While the concept of vulnerability is relative and dynamic in nature, it is most often associated with poverty, social isolation, insecurity and defencelessness. Isolation from family, friends and community through physical immobility, financial restraints, mental incapacity and limited communication can lead to insecurity and defencelessness and potentially form a lethal cocktail when a natural disaster hits. The World Health Organization defines vulnerability as 'the degree to which a population, individual or organization is unable to anticipate, cope with, resist and recover from the impacts of disasters'.[2]

Flash flooding in Toowoomba January 2011.

Image: Annabelle Johnstone

Human and social recovery focuses on the provision of immediate shelter, life support and human needs to people affected by or responding to a disaster (*State Disaster Management Plan 2014-15*[3]). Disaster recovery is the coordinated process of supporting affected communities in the reconstruction of the physical infrastructure, restoration of the economy and environment and support for the emotional, social, and physical wellbeing of those affected. During the recovery phase, the Australian Government provides funding to state and local governments that work with communities to distribute funding and assist recovery.

1 International Federation of the Red Cross and Red Crescent Societies, at www.ifrc.org.

2 World Health Organization, at www.who.int/environmental_health_emergencies/vulnerable_groups/en/.

3 *State Disaster Management Plan 2014-15*, at www.disaster.qld.gov.au/Disaster-Resources/cdmp/Pages/default.aspx.

Some elderly people need extra support during disasters. Learnings gathered from agencies and personnel who lived and worked during the 2010 and 2011 extreme flood events in south-east Queensland were studied. These people had first-hand experience of how elderly residents coped and the models of service delivery that were used to support recovery.

The results of the study highlighted the need for all levels of government to include information in their disaster management plans that is specifically aimed at older people. This information needs to be available in easily accessible formats and should include information on community supports and networks available to assist older people following disasters in each community. The study also looked at including older people in the disaster management planning process and what they have to offer in regards to historical information and about past events. Ways to reduce the impacts on older people were examined as well as how to connect older people to social recovery services and support and the types of services and support required.

The study particularly looked at human and social recovery operations in south-west Queensland following the 2010 and 2011 floods. We looked at what services and supports were delivered following the flood and how and who may have delivered these services. We are always looking for things that have worked well in recovery and response efforts but in our quest for 'best practice', it is essential to identify the processes that did not go well. During the flood response and recovery efforts challenges were identified, some of these affected all persons, some more specifically the elderly. In the study we highlight a number of the challenges that affected elderly more than younger people.

The research and knowledge of the practices adopted in the 2011 floods identified that any best practice framework for dealing with a cohort of elderly people needs to focus on a number of critical design principles. Improved communication methods and more face-to-face service delivery were effective strategies used. Some older people are socially isolated and do not have a network of people with whom they engage regularly. Any effective human and social recovery system must ensure these vulnerable people are connected early to the essential networks and services.

Ultimately, best practice lies in truly integrated service delivery; one that is elderly-centred, easy to access, protected by quality safeguards, accountable and outcomes focused.

Best practice in human and social recovery involving the elderly should not just be an ideal, it should be a right - an entitlement. While they say a society is judged by how it treats its children that is also true for how a society treats its vulnerable elders.

This abridged article will be published in full in Monograph 2, February 2018 on the Australian Disaster Resilience Knowledge Hub.

Community Recovery Centre, Goodna January 2011.

Image: Annabelle Johnstone

Information is distributed at a Community Recovery Centre, Bundamba January 2011.

Image: Annabelle Johnstone

Post disaster temporary memorialising: psychosocial considerations for disaster managers

Shona Whitton, Australian Red Cross

Temporary memorialising after community crises is 'the rule, rather than the exception' (Eyre 2007[1]). Participation in collective memorialising provides people affected by crisis with a safe space to express their grief, shock and sadness. It can also be an important first step for people in the grieving process (Rosenblatt 1997[2]).

In 2017, in Australia and around the world, there has been many examples of temporary memorialising after sudden and unexpected critical incidents. Examples include the flower tributes to those injured in killed in Bourke Street, Melbourne after a car rampage through the streets in January, the Manchester Arena bombing in May, the Grenfell Tower fire in London in July and the mass shooting in Las Vegas among others.

Despite the predictability of temporary memorials, their occurrence and evolution is rarely considered in emergency management. In many cases they are considered a problem that needs to be managed rather than a tool for supporting the recovery of the community. In addition to the rushed logistical and planning implications for emergency managers, there are implications for community healing as well as the psychosocial wellbeing of those working to manage temporary memorials.

Recent research builds on the findings from my 2016 Churchill Fellowship report and looks at practical considerations for disaster managers, government workers and others who may find themselves managing temporary memorials after a critical incident.

The paper examines themes of:

- temporary memorials will occur
- temporary memorials occur at, or near, the site of the disaster
- memorial items are emotionally laden
- messaging is influenced by social media
- moving and removing temporary memorials
- preservation of temporary memorials
- roles of preservers.

The paper proposes five guiding principles for disaster managers when dealing with temporary memorials. These are:

- be inclusive
- be supportive
- be respectful
- be consultative
- plan removal.

Conclusion

Post disaster memorialising is an integral part of community recovery. Temporary memorials become important sites of hope, social connection and recovery for people directly affected and the broader community. Planning for collective memorialising needs to be integrated into post disaster recovery planning. It also demands taking a psychosocial approach to the planning, management and preservation of both temporary and permanent memorials alike, to ensure the positive, long term recovery of individuals and community.

1 Eyre A 2007, *Remembering: Community commemoration after disaster. In Rodriguez, H, Quarantelli EL & Dynes RR (Eds.), Handbook of Disaster Research, pp. 441-455, New York.*

2 Rosenblatt 1997, *cited in Eyre A 2007, Remembering: Community commemoration after disaster, Handbook of Disaster Research, pp. 441-455, New York.*

This abridged article will be published in full in Monograph 2, February 2018 on the Australian Disaster Resilience Knowledge Hub.

'We needed help, but we weren't helpless': the community experience of community recovery after natural disaster in Australia

Dr Margaret Moreton, Leva Consulting

This article shares key findings from a study of community recovery in rural and regional communities affected by fire, flood or cyclone across eastern Australia.

Overview

The study provides a much-needed vehicle for the voices of community members to share their experience of community recovery. It reveals that communities take action to support themselves and one another and that community leadership and action are underestimated in the current understanding of the process of community recovery. Participants include high-profile leaders of recovery, and affected community members. This article highlights some differences between the perspectives of these two groups. Significant lessons can be learned by listening to the experience of affected community members. These findings have significant implications for how governments, organisations and communities themselves might understand, prepare for, respond to and support community recovery in the future.

Introduction

The aim of this research was to identify whether communities demonstrate resilience in the face of natural disaster or crisis, whether community members experience themselves as leading that disaster recovery process and what factors support (or hinder) the recovery process.

> *We needed help, but we weren't helpless. We needed someone to come along and hold our hands, with the tools and support that we needed, but knowing when to take their hands away. We didn't want people to come in and take over. Part of going through the process was to feel that we had some strength.*
> Participant

'Community-led recovery' is advocated at all levels in the Australian government and non-government sector through disaster management policies and frameworks (e.g. *National Strategy for Disaster Resilience* (COAG 2011)). A systematic literature review however, revealed little research focused on the community experience of leading disaster recovery.

Existing research increases knowledge and understanding of the social nature of disasters (Quarantelli 1978, Rodriguez *et al.* 2006, Raphael & Stevens 2007, Wisner *et al.* 2012). However, there are three significant gaps in the academic and policy discussion. Firstly, the voice of the community is missing. Frequently, research reflects the perspective of the 'expert' or the organisation with an official role in emergency planning or response. Secondly, the least addressed aspect of emergencies and disaster is that of long-term recovery. The focus of the majority of the literature is on the conceptual understanding of disaster, the phases of preparation and planning, or the crisis and emergency response. There is little research about how affected communities achieve long-term recovery. Finally, the focus of much of the literature is on the negative aspects; the human and financial costs (Deloitte Access Economics 2016) and the consequences such as increased domestic violence and mental health issues (Gentle *et al.* 2001). By focussing on risk and vulnerability, the existing research lacks a focus on community strength and action.

This study addresses these gaps by engaging with and listening to community members and by focussing on long-term recovery.

Research methods

The research occurred in three parts:

- reviewing the literature
- interviewing ten high-profile leaders of community recovery processes in Australia (Stage 1 of the fieldwork)
- interviewing 112 affected community members (Stage 2 of the fieldwork).

The crisis events included in this study are:

- bushfires in Coonabarabran and surrounds, NSW 2013
- bushfires in Dunalley and surrounds, Tasmania 2013
- floods in the Lockyer Valley, Queensland, 2011 and 2013
- cyclones Larry and Yasi that hit the Cassowary Coast in Queensland, 2006 and 2011.

Stage 1 participants were directly approached as a result of their public role as leaders of community recovery. In all cases they readily agreed to participate and to be named. Stage 2 participants were recruited by approaching local councils, community reference or recovery groups, community organisations and by local referral. Stage 2 participants were not directly approached, rather the researcher's details were circulated in the community and people sought inclusion. ABC Radio interviews in two communities resulted in community members volunteering to participate. Interviews were semi-structured, recorded and transcribed. They occurred in a place of the participant's choosing (public parks, cafes, homes, schools, etc). In each case the participant reviewed the transcript and authorised its use. Qualitative and quantitative data analysis used NVivo software.

Findings

Research findings were that:

- people within affected communities do lead their community recovery process in informal and practical ways
- a number of key factors influence the effectiveness of community recovery
- community leadership is particularly significant during and after crisis events.

Consistent with much of the literature, many participants described the crisis experience as initially being beyond the community's capacity to deal with; one filled with shock, loss and grief. It was complex and exhausting over time and, in some cases and at some moments, overwhelming (Raphael 2007, Rodriguezz *et al.* 2006, Boon *et al.* 2011). For some it was liberating, rewarding and regenerating (Splevins *et al.* 2010).

> *The sense of community, and what people do, makes all the difference. There are people here who just work in the background, absolute pillars of strength in the community.*
> Participant

Essential components of a strong community recovery were identified in Stages 1 and 2:

- Community leaders emerge before, during and after the crisis and take action to help themselves and others. These community leaders are not always pre-existing or those expected to fulfil this role. Stage 1 participants tended to identify the Mayor or the CEO of the Council or other formal community and business leaders. Stage 2 participants identified 'quiet achievers who got things done'. Both groups identified that emergent community leaders form an essential part of community recovery.
- Preparing and planning well for a crisis or emergency before it happens by community leaders, community groups and emergency services is important. Preparation and planning reduces the effects of shock and enhances the ability of the community to respond and then quickly move into the recovery process.
- A community with strong social and community capital that actively engages before, during and after a crisis is strong and connected. Members of such communities are more likely to plan and to care for one another before, during and after events.

A key component of community recovery not strongly reflected by Stage 1 participants, clearly emerged in Stage 2. People from affected communities frequently described their connection to 'place' as being core to their recovery. This included its natural beauty, the history or significance of the built environment or the history of the families within it.

Hundreds of examples of actions and activities were collected during this research. These included providing free temporary housing, clothing and food; organising an art show and donating the paintings to people who had lost their home; organising concerts or movie nights to raise money; organising a teddy bear's picnic and 'hospital' for families; the gift of a piano from a stranger provided to an affected family; establishing a Facebook page to facilitate support and shared information; organising photography and art shows to reflect the crisis and the recovery process; providing free haircuts or massages; providing free groceries or gift vouchers; providing free delivery of groceries to enable people to focus on rebuilding or repairing their home; helping to rebuild fences to secure properties and livestock; organising self-care evenings or weekends; providing handyman support; establishing a mobile laundry; establishing a community tool library; members of men's sheds rebuilding birdsnests and providing other support; Indigenous rangers helping to restore the natural environment; social groups springing up to provide opportunities and for community members to talk to and support one another.

Actions were initiated by individuals or groups from within the community and from elsewhere. People came to assist including plumbers, tradespeople, handymen, veterinarians, men and women who build fences or bring food; people who brought or sent money or who made personal gifts for those most affected (much loved homewares or personal items, baby gifts or packs, patchwork quilts or handmade Christmas decorations for children).[1]

1 It should be noted that donated goods sent to communities are often problematic and can be a burden and an unintended hindrance to community recovery. The gifts that are positive are not large-scale donations but are personal and thought through.

Actions occur at each phase of the disaster, although their purpose, focus and balance may change from one phase to the next. The focus expands from meeting immediate, individual survival and information needs, to a need for social connectedness and finally to creative expression or making meaning of the event and its longer-term consequences. Some communities are incorporating their experience into the ongoing identity and history of the community. This is reflected in the design of memorials and local exhibitions, the publishing of stories and books about the event and their inclusion in local histories of the area.

Discussion

It became clear through this research that community recovery is not about returning to 'normal' or even creating a 'new normal'. Community members described how the crisis changed their lives forever and how the concept of 'normal' was now foreign. They described community recovery as being about accepting and expressing their loss and grief in their own ways, of finding ways to adapt, to celebrate who they are and to incorporate the disaster experience into their individual and collective identity. These community members did not talk of recovery as a finite state or 'an end point' (i.e. being recovered); they talked about it as a long-term process (Norris 2008).

Initially this research appeared to indicate that these communities do not lead their own disaster recovery. Participants experienced and described recovery as 'other' led (either by governments or non-government organisations). Current consultation mechanisms and community reference groups are frustrating for many community members, even when established explicitly to facilitate community engagement and community leadership in planning, response or recovery. The most suitable community representatives were not always invited to join these groups and frequently they are chaired or led by government or non-government organisations. Community members feel disempowered and frustrated by this approach to community engagement.

However, communities *do* lead their own recovery in terms of the actions and activities that actually occur on the ground. When asked to describe what contributes most to community recovery, all participants in Stage 2 described extensive and detailed examples of community leadership and community-led action. Community leaders and members 'do what needs to be done'. They support one another and they understand a great deal about the complexity of their experience and of the recovery process. They integrate their losses into their lives and their community, renew their hope in a possible future and rebuild and renew their community socially, economically and physically. Community-led recovery is about what the community actually does in their (or another) community to enhance community resilience and support the long-term process of recovery.

Inevitably, participants shared what they believed worked against their community recovery process. Three factors work against community recovery, being loss of human life, the extent and scale of the crisis itself including its impact on the physical environment (both natural and built) and any suspected or proven human responsibility or intent in relation to the crisis.

Perhaps also inevitably, differing perspectives emerged about community leadership and community recovery. High-profile leaders of recovery processes do not necessarily share the same perspective as community members, and community members themselves vary. Further studies could identify complex and varied perspectives between the emergency management, government and community sectors working towards recovery. If a mature and nuanced understanding of community recovery is to be developed it will be essential to be open to complexity and difference, respecting varied perspectives rather than seeking to simplify or constrain understanding. It is also essential that voices of the communities be heard as they share their lived experience.

The community voice

A number of issues were repeatedly raised by community members. Firstly, community members in all sites expressed a desire to change the language of disaster. They advocated moving away from the language of 'recovery' to words such as 'renewal', 're-creation' or 'regeneration'. The term 'recovery' implies pathology, illness or weakness and the participants stated that this did not fit with their experience.

Participants expressed frustration about crisis events being described as 'unprecedented'. They pointed out that Australia has always experienced natural hazards and that preparing for and responding to these is a frequent occurrence. Although, there is evidence that the frequency and intensity of these events is increasing (Keen *et al.* 2003, Cox & Perry 2011). Affected community members would like all Australians to accept this as a shared reality.

Community members debated the concept of separating the community into those who are 'affected' and those who are not. Participants argued convincingly that anyone with a connection to a community is likely to be affected by what happens to that community. People from within the community and from elsewhere may be affected by the damage to the environment, the loss of or damage to property or the fear and trauma of the event itself. Participants argued that it is unnecessarily divisive to identify and label people as 'affected' or 'not affected'.

In fact, community members expressed discomfort about what they saw as the tendency of governments and large organisations to 'reduce real-life experience', label people and processes, and develop 'models' for understanding emergencies and disasters and recovery that label both the people and phases of any crisis. They

prefer direct and practical language when describing events and want a sophisticated, multidimensional and complex discussion that moves beyond such labels.

Finally, community members talked about the importance of not applying rigid phases or timelines to recovery, but of allowing affected communities to travel though the process according to their needs and circumstances. These communities demonstrated they are able to define what they need and when they need it. It seems reasonable that communities should determine their own phases and timing without the unnecessary complication of externally based judgement about whether their progress fits a predetermined 'one size fits all' timeframe.

> *Walk beside a person. Don't walk in front of them. Never push them from behind. People who think they are doing the right thing are often doing a totally wrong thing.*
> Participant

Implications and conclusions

This research reinforced the view that community recovery is complex and that the perspectives of community leaders and members need greater inclusion in the process of developing policy and planning, responding to crises and leading recovery. It also highlights that the view 'at the top' is not necessarily the same as the view within the community. While high-profile leaders of recovery, government and non-government organisations may believe they are working in an inclusive and empowering way, this is not the experience of many community leaders and members.

However, the resounding conclusion from this research is that the actions and activities of ordinary men, women and children, individually or in groups, do make the greatest contribution to community recovery after a crisis. This is particularly the case where these actions strengthen local community and social capital and demonstrate care and compassion for others. Responses and actions that focus on the expressed needs of the local community, rather than imposing processes or solutions onto that community, are the most powerful. Actions that incorporate an element of kindness and care are the most effective, whether the giver and the receiver already know one another or not.

In return for having received support in a time of need, affected individuals and communities are reaching out to others to share what they have experienced and learnt in the hope that their experience will help others. This research revealed an informal and emerging network of individuals, groups and communities actively reaching out to support one another. This network provides practical support combined with the expression of human kindness, care and compassion. There is clearly potential to strongly support this network of social and community capital across Australia.

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About the author

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Health and disaster risk reduction regarding the Sendai Framework

Lennart Reifels, Paul Arbon, Anthony Capon, John Handmer, Alistair Humphrey, Virginia Murray, Caroline Spencer and Diana F Wong

An expert workshop was held at the University of Melbourne in July 2017 to consider disaster risk reduction for the health sector under the Sendai Framework. Outcomes were recommendations for alliances and partnerships to link researchers and government across disaster risk reduction and health to inform policy and practice.

Introduction

Health is a pivotal dimension to be addressed within all-hazards approaches to disaster risk reduction. It is also a key point of convergence across global and national policy frameworks. The recent synchronous adoption of the five landmark UN agreements the Sendai Framework for Disaster Risk Reduction, Sustainable Development Goals, COP21's Paris Climate Conference, World Humanitarian Summit and Habitat III has created a rare and significant opportunity to build coherence across different but overlapping policy areas. Extreme weather events are projected to increase in frequency, intensity and duration over the coming decades. It is apparent that these events could potentially increase the vulnerability of individuals, communities and regions and lead to longer recovery times. Taken together these UN agreements make a more complete resilience agenda as building resilience requires action spanning development, humanitarian, climate and disaster risk reduction areas and for multi-hazard assessments. These develop a dynamic, local, preventive and adaptive urban governance system at the global, national, and local levels.

The *Sendai Framework for Disaster Risk Reduction 2015-2030* is the principal global treaty to guide disaster risk reduction efforts. The Sendai Framework reflects an important shift away from managing disasters and towards reducing disaster risk. Health resilience is strongly promoted throughout.

The Sendai Framework calls for broad disaster risk reduction (DRR) activities that reduce the effects of disasters with respect to loss of life, injury and health impacts as well as on the socioeconomic determinants that affect population health. These include property damage, loss of livelihoods and services, social and economic disruption and environmental damage. The use of scientific evidence to inform policy and formulate effective initiatives and interventions is crucial to DRR within health. The importance of health as a core dimension in DRR was emphasised within the Bangkok Principles following the UNISDR International Conference on the implementation of the Health Aspects of the Sendai Framework. These principles are further developed in the UNISDR Fact sheet: Health in the Context of the Sendai Framework for Disaster Risk Reduction and in the WHO Technical Guideline Series on Health Emergency and Disaster Risk Management.

Effective DRR hinges on concerted national implementation and it is critical to examine the implications of the DRR paradigm across societal sectors and health domains. The 2030 targets of the Sendai Framework call for substantial global reductions in disaster-related mortality, number of affected people, direct economic loss and damage to critical infrastructure. The UN General Assembly agreed to 38 indicators to measure progress against the Sendai Framework's seven global targets. Using these indicators, Australia has already prepared an initial report on its Sendai Framework data readiness. The benefits of this approach to the Australian emergency management sector are clear: improved preparedness, more effective response, rehabilitation and reconstruction and more effective post-disaster recovery and reconstruction to 'build back better'. However, it is considered a significant challenge for Australia to fully engage with this international monitoring and reporting process. Nonetheless, at the UNISDR Global Platform for Disaster Risk Reduction in Cancun, Mexico in May 2017, Senator Concetta Fierravanti-Wells, Minister for International Development and the Pacific, in delivering Australia's official statement, reaffirmed that the Australian Government is firmly committed to implementing the Sendai Framework.

Following the Global Platform meeting, an expert workshop 'Health and Disaster Risk Reduction: State of the Art and Implications for Australia' was held at the University of Melbourne in July 2017. The workshop was jointly hosted by the Centre for Mental Health, Melbourne School of Population and Global Health and the European Union Centre on Shared Complex Challenges. The workshop was conducted in collaboration with partners of Flinders University, RMIT, University of Sydney and Public Health England. The expertise of national and international

experts and practitioners was sought from the health and emergency management sectors. The intent was to explore the critical intersections of the fields of health and DRR and implications of the Sendai Framework for Australia. A number of participants who attended the Global Platform meeting, and two research papers led by the WHO Thematic Platform for Health Emergency and Disaster Risk Management Research Group informed the structure and process of the expert workshop.

What was discussed

A review of the Sendai Framework pointed towards health, science and technology to engage with transdisciplinary and interdisciplinary partners to provide evidence to inform policy and practice. The implementation of the Sendai Framework requires national reporting on indicators every two years. A summary of Australian-based resources and disaster databases was included. The need for partnerships within localities and across decision-making areas within government at all levels and with all health care, academic and private organisations was key within Australia. Mental health effects arising from all hazards have been identified as a major area of concern as all disasters impact on the health of the population; bringing about substantial losses and disruptions to health systems. The example of the impact of a recent incident ('thunderstorm asthma' in November 2016 in Victoria) on the population was used to demonstrate the complex nature of such events. The preparedness for health care response in the US was shared and the role of primary care in disasters was discussed. The Australian Red Cross reported on its work to encourage people-centred action in their RediPlan.

Workshop discussions focused on identifying principal risks and hazards across health domains and fields of practice and key strategies to mitigate these risks. Following lively discussions between the four working groups, outputs recommended that it was important to know the hazards and risks that exist but plan and train for an all-hazard approach recognising that interagency communication for preparing, warning and informing Australian communities and the wider public requires trust. It was essential to listen to and understand local community issues and to have a dialogue with mutual trust and respect. A call for the recognition of the central place of health across all national and global policy frameworks was made.

The following recommendations were made:

- Consider producing an interpretive statement of the Sendai Framework to assist all levels of government to understand its implications for Australia and its relevance to global, national and local initiatives.
- Consider developing local hazards risk assessments to develop an Australian National Risk Register, possibly using the UK National Risk Register as a model.
- Consider creating an Australian DRR research network/alliance that maintains a research registry that could reflect the UK Alliance for Disaster Risk Reduction. Suggestions for how such an alliance could be facilitated include linking to support decision makers at all levels of government and building partnerships between academics, their discipline and their universities or other relevant organisations and to celebrate the rich and diverse Australian disaster research community.
- Consider creating a partnership to enhance foresight and early warning, possibly using as a model the UK Natural Hazards Partnership, which was established in 2011. This provides a network of government and academic partners to support early warning and other activities requested by the UK Cabinet Office for communications and services for civil contingencies, governments and the responder community. This is important because no such partnership exists in Australia and it would appear from the UK experience that such a collaboration between similar organisations strengthens consistent DRR standards and guidelines and improves outcomes.

Fulfilling the Sendai Framework objectives requires concerted action from key stakeholders across government, academic, sectoral and community levels to address existing research gaps to reflect the all-hazard approach. The WHO Official Statement at the Global Platform Cancun May 2017 states it values collaboration and partnerships and that the 'recent development of WHO Thematic Platform for Health Emergency and Disaster Risk Management Research Group brings together representatives of Member States and academia who are committed to strengthening the evidence base for health policy and practice' is important. It would be beneficial if Australian academic health professionals were encouraged to engage in this activity.

This abridged article will be published in full in Monograph 2, February 2018 on the Australian Disaster Resilience Knowledge Hub.

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Disaster resilience: from the global to the local

Hansika Bhagani, Bushfire and Natural Hazards CRC

On International Day for Disaster Reduction (IDDR) 13 October, the Bushfire and Natural Hazards CRC gathered nearly 50 emergency management practitioners and researchers in Sydney to reflect on how at-risk communities are reducing their exposure to disasters.

IDDR began in 1989, after a call by the United Nations General Assembly for a day to promote a global culture of risk-awareness and disaster reduction. Held every 13 October, the day celebrates how people and communities around the world are reducing their exposure to disasters and raising awareness about the importance of reining in the risks that they face. The theme of the 2017 IDDR continued the 'Sendai Seven' campaign, centred on the seven targets of the *Sendai Framework for Disaster Risk Reduction 2015-2030*. This year the focus was on Target B, 'reduce the number of people affected by disasters by 2030'.

At the Sydney forum, speakers addressed a diverse range of topics, from understanding Australia's obligations to the Sendai Framework to local public school initiatives.

Tony Jarrett, Community Engagement Coordinator at NSW Rural Fire Service (NSW RFS), spoke of the need to apply research and evidence-based practice from around the world in Australian schools. He noted that while every school had an emergency plan, NSW RFS was helping schools examine how robust these plans were. Schools could achieve this by asking questions like: Can schools emergency plans deal with a fast onset events? Are shelter in place options well thought through? How are students involved in emergency planning? Are drills looking at historical events or worst-case scenarios or just done in a rote fashion?

The International Day for Disaster Reduction panel from left, Dr John Bates (host), Tony Jarrett, Andrew Gissing, Feargus O'Connor, Jessica Raine and Beck Dawson.

Image: David Bruce, Bushfire and Natural Hazards CRC

The challenge of moving from hazard-specific and response-focused emergency strategies was furthered by Feargus O'Connor from the Office of Emergency Management NSW. Mr O'Connor spoke of the move for the OEM to the development of consequence management strategies. Part of that involved expanding the groups the OEM engaged with in recovery and understanding community capability.

'At the moment recovery is a cold start. We have no idea under the current emergency planning arrangements who's out there that we want to talk to. We have no idea who the local business chamber is, what they can do or other social welfare and community groups. They're part of the consequence management and recovery arrangements and the two parts need to be brought together,' Mr O'Connor said.

Andrew Gissing, project leader at the Bushfire and Natural Hazards CRC and Director Government Business and Resilience at Risk Frontiers, spoke of what a catastrophic disaster in Sydney might look like, including overwhelming scale, uncertainty and the possibility of cascading events from the main disaster event.

Taking the big picture perspective was Jessica Raine from Emergency Management Australia. Ms Raine spoke on Australia's commitments to the Sendai Framework and the opportunity presented for Australia to reflect on how its policies in disaster resilience and risk reduction perform. She explained Australia will be expected to report against the indicators from March 2019. Current reporting challenges include the availability of data, making new data nationally consistent and consistent across the reporting period to 2030.

Emergency Management Australia is working with states and territories to build a roadmap for reporting with data collection trials to begin in early 2018. Other opportunities to grow engagement with the Sendai Framework include support for the National Platform for Disaster Risk Reduction and establishing a Sendai Champions Network.

Rounding at the forum was Beck Dawson, Chief Resilience Officer for the City of Sydney. Part of the 100 Resilient Cities program, Ms Dawson reaffirmed that resilience is about people. She discussed the challenges for Sydney in embedding resilience thinking.

'How do we get five million people thinking about these issues?' she asked. 'How do we connect all the dots to make it sensible and useable?'

Within a risk cocktail of urbanisation, globalisation and climate change, Ms Dawson noted that there are a number of things those involved with disaster resilience need to get better at including strong leadership, community engagement, measuring progress and making investment decisions that work for diverse and multiple outcomes.

A video of the forum is available at https://www.bnhcrc.com.au/disasterday2017.

Diversity in Disaster: Communities and emergency management building resilience

Every year people and communities across Australia experience emergencies and natural disasters.

On 17-18 April 2018, the Gender and Disaster POD (WHGNE, WHIN and MUDRI), the Victorian Council of Social Services and Resilient Melbourne will host the **Diversity in Disaster conference**. This will bring together Australian and international emergency services professionals and researchers to help build understanding about the unique risks and vulnerabilities that people face during a natural disaster.

Hear from people who have experienced first-hand the effects of natural disaster. Learn about how people from diverse, marginalised and underrepresented communities experience disasters. Discuss the unique challenges faced in their ability to respond and recover.

Diversity in Disaster is the exploration of the strengths and needs of people from a range of backgrounds. By participating, you can explore preparedness, response, relief and recovery for diverse communities and join with individuals committed to inclusive and effective emergency management.

If you work in the emergency management, resilience or diversity fields, save the date of 17-18 April 2018 and access the program online. Registration is open to emergency services organisations, professionals and volunteers, community, health and social services organisations, researchers and representatives from all levels of government.

Find out more about the conference at www.genderanddisaster.com.au/diversity-in-disaster/.

This conference is funded by the Australian Government in partnership with the Victorian Government under the National Partnership Agreement for National Disaster Resilience.

2017 Resilient Australia Awards

Jacqui Douglas, Australian Institute for Disaster Resilience

The 2017 National Resilient Australia Awards were characterised by success built through collaboration. The City of Mandurah in Western Australia saw the regional reach in a project officer's vision to increase preparedness in a community of interest. Two time zones away, Sydney's St. Ives North Public School brought community, students and emergency services together to teach STEM through the lens of bushfire risk and management. In Airlie Beach, Queensland, an image of a family's perseverance and strength in the face of disaster became a symbol of community resilience.

Equi-Evac Centre Network

City of Mandurah

The Resilient Australia National Award was presented to City of Mandurah in Western Australia for the Equi-Evac Centre Network, a project described by the judges as 'a novel approach to engagement and collaboration.' The project equipped local public equestrian facilities as evacuation points for the surrounding community of horse owners in times of emergency. The Equi-Evac Centre Network emerged out of tertiary study in emergency management undertaken by former City of Mandurah project officer Naomi Dekker. Although her local equestrian community was already close-knit, Dekker identified an opportunity to enhance preparedness for emergencies—the 2016 Waroona-Harvey bushfires had demonstrated the unsuitability of pounds and other public welfare centres as evacuation points.

Through the project, public equestrian facilities deemed suitable were provided with a comprehensive activation kit including guidelines, contacts, equipment and information on welfare standards. Dekker worked closely with the community to develop consistency in procedures, fostering greater engagement and ownership.

The City of Mandurah played a key role in recognising the value and potential reach of Dekker's work, and facilitating its implementation across the Peel and south-west regions in Western Australia. Specifically, the City worked with 14 other local governments and the community, engaging state and national bodies including the Department of Fire and Emergency Services—the state lead for bushfire management—the Department for Communities, the Department of Agriculture and Food, the Australian Red Cross and the Royal Society for the Prevention of Cruelty to Animals. Myra Giardini, Emergency Management Coordinator at the City of Mandurah, identified the importance of the work being tailored to the equestrian community, echoing broader national conversations around inclusive evacuation planning. She also attributed the success of the project to its facilitation of meaningful connection between government and community; a characteristic also recognised by the judges as key to its ongoing sustainability. Mandurah Mayor Rhys Williams celebrated the project for 'empowering people to bring their solutions forward,' describing the work as a 'good example of what happens when you trust the community to be part of the process.'

Mark Crosweller, Emergency Management Australia, Myra Giardini and Councillor Darren Lee, City of Mandurah.

Image: Australian Institute for Disaster Resilience

Bernie Hobbs, Master of Ceremonies, Greg Kelly, Logan City Council and Mark Crosweller, Emergency Management Australia.

Image: Australian Institute for Disaster Resilience

Peter Doyle, City of Melton, Councillor Kim McAliney, City of Wyndham, Andrew Mason and Councillor Ken Hardy, City of Melton.

Image: Australian Institute for Disaster Resilience

Flooded Roads Smart Warning System

Logan City Council

One of many parts of eastern Australia prone to flooding, Logan City Council in Queensland was highly commended for the development and implementation of the Flooded Roads Smart Warning System. The project deployed warning signs powered by recycled laptop batteries, to prevent drivers inadvertently crossing flooded roads. The initiative was developed by Logan City Council in partnership with Griffith University and social enterprise Substation 33, benefiting participants through work experience and the opportunity to apply academic learning in a hands-on context. Involvement of Substation 33 saw the project adopt the laptop batteries in place of acid batteries, generating significant efficiencies through increased power, and reducing size and cost.

The region had previously seen numerous incidents of drivers attempting to cross floodwaters, which had resulted in water rescues, and in some cases tragedy. However, when Tropical Cyclone Debbie hit Logan following roll out of the signs, there were no reports of drivers entering floodwaters.

Project lead Greg Kelly emphasised that 'saving lives' was the central motivator behind the work. He described the project as a 'social, environmental and economic solution,' and expressed confidence in the transferability of the system to other jurisdictions. The judges described the project as a 'creative example of how risk can be treated using a low-cost solution.'

Emergency Ready Communities

Melton City Council & Wyndham City Council

The value of social capital was also at the heart of the highly commended Emergency Ready Communities project, led by Andrew Mason and jointly implemented by Melton City Council and Wyndham City Council in the outskirts of Melbourne, Victoria. The project comprised a multifaceted approach to fostering disaster resilience, through leadership training, authentic community engagement and initiatives led by community members with tailored council support.

A key element of the project was the development of a new model for targeting engagement towards influencers across communities. The model sought to more accurately represent the nuanced interactions within communities, recognising complexity and transcending simplistic demographic segmentation. A number of community members were also supported to participate in a leadership training program, through which they led a range of local resilience projects—11 project briefs were subsequently published in a prior edition of this journal.

The Emergency Ready Communities project culminated in a forum targeted to a broad cross-section of community influencers and representatives using the newly developed model. As part of the forum, participants took an active role in assessing the resilience of their community using a scorecard developed by the Torrens Resilience Institute. The judges recognised the innovation in the project, describing the forum as a 'first of its kind.'

L-R: Barbara Ryan, Yolande Curby, Taylor Warnes & Vinson Chen (students), Sean Walsh, St. Ives North Public School, Tony Jarrett, Anthony Bradstreet, NSW Rural Fire Service.

Image: Australian Institute for Disaster Resilience

Bernie Hobbs, Master of Ceremonies, Mark Crosweller, Emergency Management Australia, Susan Jeffery, Dunalley Primary School.

Image: Australian Institute for Disaster Resilience

Project FireStorm

St. Ives North Public School

The Resilient Australia National School Award was presented to Sydney's St. Ives North Public School in recognition of Project FireStorm, an exemplary program that integrated STEM and disaster resilience education. The project saw the primary school partner with NSW Rural Fire Service (NSW RFS), utilising problem-based learning strategies to deliver bushfire education as a component of the new geography syllabus. From bunkers to robotics, students explored creative solutions to protect and prepare the community of St. Ives; the school's IT and STEM Coordinator Sean Walsh emphasised that students were encouraged to see themselves as 'active agents of change' in community preparedness. Assistant Principal Barbara Ryan described the students' enthusiasm as 'contagious,' and highlighted the importance that their ideas were 'valued and heard.' She spoke of the importance of demonstrating the students' potential to the wider community, as part of fostering greater unity and resilience.

NSW RFS Community Engagement Coordinator Tony Jarrett described the NSW RFS role as a 'critical yet supportive audience'—as the 'authentic partner' of the project, the NSW RFS were a key source of knowledge to guide student thinking. Jarrett described the result as a 'ripple-up' effect, as the student experience permeated families and the broader community. This reach was also identified by the judges as key to the project's value. The influence of Project FireStorm was also apparent throughout the state—the project is now utilised as a case study to support other teachers and schools to deliver meaningful bushfire education, fulfilling the vision of the Resilient Australia Awards as an inspiration and example to other communities.

The award was accepted by students Vincent Chen and Taylor Warnes on behalf of the school and their cohort; both expressed pride in the result and affirmed the value of the educational experience. Warnes identified the supportive influence of both teachers and the NSW RFS in the program, and the value of the work for the school community into the future.

Rebuilding Dunalley Primary School after the 2013 Bushfires Project

Dunalley Primary School

Tasmania's Dunalley Primary School was highly commended for the Rebuilding Dunalley Primary School After the 2013 Bushfires Project. The award acknowledged a mammoth cross-sector recovery effort, in the wake of devastating fires which destroyed the school along with the township's police station and bakery. In the aftermath, local government worked together with emergency services, the school community and local business—including an important volunteer contingent—to construct a temporary facility for the town's 120 primary school students and their teachers. The timely completion of the project saw the school reopen only a few short days after the scheduled beginning of term, minimising disruption to education.

Dunalley Primary School Principal Susan Jeffery reflected on the effort as an embodiment of 'resilience, determination, persistence and people pulling together from all different sectors to create a positive future.' For Jeffery, the award was an important recognition of the community's recovery journey over the years following the disaster. She also emphasised the shared vision integral to the project's success—the shared commitment to young people's education which had brought together representatives across the sectors. The judges were moved by the cooperation the project embodied, and celebrated the Dunalley community for their work to deliver 'hope and positive results.'

Lisal O'Brien, Arthur's Creek CFA, Rose Hammett, Charlotte Adams, Noah Harrison, Ruby Bradshaw, Harry McLean, Strathewen Primary School (students) and Jane Hayward, Strathewen Primary School.

Image: Australian Institute for Disaster Resilience

Strathewen Education Partnership Claymation

Strathewen Primary School and Arthur's Creek/ Strathewen Country Fire Authority

The Strathewen Education Partnership-Claymation project was also highly commended in the schools category. Strathewen is situation in a fire-prone part of regional Victoria, and the community had experienced the destructive impact of the Black Saturday bushfires first-hand including the loss of the school building. The Partnership-Claymation project was driven by a vision for students to 'love where they live again.' The project was delivered as part of the Country Fire Authority's Survive and Thrive program, and saw students of Strathewen Primary School work with the Arthur's Creek/Strathewen Country Fire Authority to develop a greater knowledge of fire risk, behaviour and management. Specifically, the project educated students about Fire Danger Rating in Victoria, including characteristics in their environment associated with different ratings. Students also learnt about information channels for bushfire warnings, and appropriate preparedness measures to undertake based on the risk.

The educational program culminated in a Claymation video produced by the students, which details appropriate preparedness measures. The creative platform allowed students to capture and communicate their learning to family and community; students also led related workshops. The value of the video as an engaging medium was affirmed by students who represented the school at the national awards. The project was described by the judges in terms of student empowerment through knowledge and skills.

First Sight of Relief

Summer Rain Photography

Summer Mulvey of Summer Rain Photography received the National Photography Award for her poignant image 'First Sight of Relief.' The photo captures Mulvey's three young children looking on as an excavator clears the road to the family's remote Brandy Creek home, in the Airlie Beach area of Queensland. In the wake of Category 4 Tropical Cyclone Debbie, the family were stranded for three days without running water, power or road access. Though Mulvey and her family were prepared with safety precautions and had endured several cyclones in a decade spent on the property, Debbie's fury was like nothing in their experience.

Mark Crosweller, Emergency Management Australia and Heather Brown, Brandy Creek resident.

Image: Australian Institute for Disaster Resilience

However, the family were resourceful and tenacious throughout the chaos, illustrated in Mulvey's recollection of the family collecting rainwater dripping from the roof, and her efforts to contact neighbours over the two-way radio and relay information to council recovery workers. In the disaster's immediate aftermath, the Brandy Creek community rallied together to meet each other's needs: neighbours in radio contact passed messages of reassurance from the Mulvey family to their loved ones, and community members exchanged essential supplies as road access was gradually restored. Reflecting on the photo's impact, Mulvey spoke of its emotional resonance with others who had experienced the disaster first-hand.

Bushfire-Ready Neighbourhoods in Action

Peter Middleton, Tasmania Fire Service

Peter Middleton of the Tasmania Fire Service (TFS) was highly commended for his image 'Bushfire-Ready Communities in Action.' The photo captures a TFS firefighter engaging members of Tasmania's Lachlan community, through a dynamic demonstration of the ferocity with which a fire can take hold. The demonstration was delivered as part of the Bushfire-Ready Communities program, a central TFS community engagement initiative. The Bushfire-Ready Communities program is implemented in communities on a tailored basis; activities ranging from information sessions to practical demonstrations are delivered based on interest and degree of risk.

Mark Crosweller, Emergency Management Australia, Peter Middleton and Chris Arnol, Tasmania Fire Service.

Image: Australian Institute for Disaster Resilience

Applications for the 2018 Resilient Australia Awards will be open between 5 March and 31 May 2018 at https://resilient.awardsplatform.com.

This paper is based on a presentation given at the ANZDMC Conference in 2017.

ABSTRACT

In 2009, four major bushfires destroyed vast areas of Gippsland in eastern Victorian including the areas around Delburn, Bunyip, Churchill and Wilsons Promontory, and are collectively known as the 2009 Gippsland bushfires. This paper explores how young adults in the rural areas are recovering from these bushfires and what psychosocial supports they perceive assists their recovery. A diversity of recovery experiences and needs were expressed reflecting that young adults are not a homogenous group. However, there were commonalities in their stories and they described the bushfires as being the most defining moment of their lives. Participants also reported low engagement with recovery supports, being 'out of the loop' when recovery information and support was distributed. Because young adults are often in the process of moving to or from the area because of life transitions such as relationships, jobs, study, or travel, participants reported exclusion from 'place-based' recovery supports. They reported ongoing emotional and physical health issues and exacerbation of chronic illness that had not been sufficiently acknowledged. Despite challenges in accessing important recovery supports, young adults in this study are moving forward with hope and optimism.

Beyond the 2009 Gippsland bushfires: Acknowledgment and young rural adults' recovery

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Introduction

Australia experiences extreme weather events and repeated natural disasters. The region of Gippsland in eastern Victoria is prone to flood and drought and is an at-risk area when it comes to bushfires (Department of Sustainability and Environment 2009). In January and February 2009, south-east Australia experienced the most severe heatwave in recorded history (Australian Bureau of Statistics 2013, Australian Medical Association 2008, Department of Human Services 2009, Teague, McLeod & Pascoe 2010). The last weeks of the heatwave coincided with the Black Saturday bushfires on 7 February 2009, which killed 173 people, injured over 800 people and adversely affected many others (Teague, McLeod & Pascoe 2010). These fires provide the background to this research with a focus on the Delburn, Bunyip, Churchill and Wilsons Promontory bushfires. This study is part of a larger study exploring young adults in these areas and their longer-term recovery.

There is a paucity of literature defining recovery from the perspective of young people and so it is important to glean young adults' specific recovery perspectives and journeys. 'Personal recovery' here refers to an ongoing, holistic process of individual growth, restoration and self-determination following a traumatic event (Slade 2009, Onken *et al.* 2007). Stories from young adults of loss and dislocation following the 2009 bushfires were complex, nuanced and fluid; reflecting the liminal predicament of young adults at this age. Of note, there were some commonalities. All participants indicated acknowledgment as a key factor in their recovery.

Methodology

This research was exploratory and was informed by social constructionism, which views the world as being produced and upheld through processes of social interactions (Creswell 2013). It is an appropriate methodology for exploring complex areas such as the recovery of young adults, where there has been little first-hand research (Creswell 2013, Braun & Clarke 2013). There is a reflexive interplay between intentional acts such as the language

used in stories that are the source of social reality and the social reality that, in turn, informs these intentional acts. As Drevdahl (1999) puts it, 'language speaks as much as we speak it' (p. 1). In other words, language socially constructed, in turn, socially constructs. Further, recovery is progressively seen as a social process (Marino 2015). The exploration of these recovery experiences was filtered through the lens of language, rural location, and the current state, national and global recovery frameworks. This epistemology provided an understanding of the personal constraints and compounding issues that may influence young rural adults during their recovery.

Method

A purposive sample of young rural adults aged 24-34 affected by the 2009 Gippsland bushfires was used. The 24-34 cohort was chosen as it has been under-represented in previous research studies (Durkin 2012, Grealey *et al.* 2010).

The research data was constructed from data collected via a qualitative online survey and in-depth audio recorded telephone interviews with transcripts analysed using qualitative thematic analysis. Socio-demographic data collected included gender, age at the time of the 2009 bushfires, current age, where participants considered home to be, the postcode at the time of the bushfires and any relocation due to the bushfires. The qualitative survey and interview questions included bushfire exposure and effect, recovery social networks and supports, community attitudes and support, information exchange and communication, physical health, mental health and wellbeing, personal growth and any final thoughts.

Ethics

This research was approved by Monash University Human Research Ethics Committee. All publically available information about the participants is anonymous and is confidential. Names and identifying information were not used in the data analysis nor in the final report. Names and identifying features such as a specific place of residence were excluded. Participants were allocated pseudonyms.

Participation process and procedure

The recruitment process is outlined in Figure 1.

As a result of the broad call for participants, 20 respondents participated. Figure 2 summarises the participation procedure.

Recruitment following permissions

- Participants were recruited via Gippsland ABC radio, local newsletters, bushfire websites and bushfire Facebook communities.
- Invitation flyers and postcards were left at local shops, post offices, tertiary institutions, youth and community health spaces and community bulletin boards in the 2009 bushfire-affected areas of Gippsland.

In addition

- A 'snowball' recruitment method was used. Participants passed on information about the research project to potentially interested acquaintance(s) by word-of-mouth or an invitational postcard.

Potential participant contact

- Potential participants contacted the researcher at Monash University by email, telephone or invitation postcard in a reply-paid envelope.

Figure 1: Recruitment summary.

Participant choice

- Consent form signed and returned.
- Survey completed.
- Subsequent face-to-face or telephone interview conducted.

Qualtrics survey participants

- Participants received either an on-line Qualtrics survey URL link or a paper copy with a reply-paid envelope.
- The survey and an explanatory letter, consent form and a reply-paid envelope was mailed to participants who did not have access to, or preferred not to use, electronic devices such as computer, tablet or smart phone.
- Surveys were posted at least 10 days before an agreed interview.

Interview participants

- Interview participants who chose to do the survey, and had signed the consent form, completed the survey before the interview.

Figure 2: Participation procedures.

Thematic analysis

Thematic analysis followed Braun and Clarke's (2013) six-phased approach. Specifically, the thematic analysis comprised of creating the initial report through familiarisation with the data generating initial codes, identifying the themes, reviewing the potential themes, naming and defining the themes and a final thematic analysis, discussion and write up. This approach was not a linear process. Rather, it involved traversing back and forth throughout the data.

Six themes emerged from the analysis of the data. The themes align with and were organised according to the five interlinking recovery processes described in the existing CHIME personal recovery framework of Mental Health Coordinating Council (MHCC): connectedness, hope, identity, meaning and empowerment (Leamey *et al.* 2011). The CHIME framework provides a useful matrix for the personal recovery research efforts in this study. Both personal recovery and the wider social context of participants' lived recovery experiences coincided with many aspects of recovery for young adults using the modified Child and Adolescent Mental Health Service (MHCC 2015, 2016) model. Modifications to CHIME definitions and language advocated by Child and Adolescent Mental Health Service (2015) and the MHCC (2016), also reflected most of the participant language used in the surveys and interviews. From the data, a further theme, 'acknowledgment', was identified as a sixth overarching theme. This sixth theme is key to participant engagement with psychosocial supports and their recovery and is the focus of this paper.

Results and discussion

Young adults talked about the 2009 Gippsland bushfires as being the most defining moment of their lives. All said that they felt unfamiliar in their previous home environment due to the loss of the physical reminders that anchored them to place, and they expressed a sense of losing their 'whole lives' including their childhood. Recovery effectively occurs in the context of community and personal relationships where the reality and the unfairness of traumatising events are acknowledged (Xu *et al.* 2015). Tamsin said 'feeling as though your story has been heard, understood, [helps recovery]'. The theme of acknowledgment underpinned all CHIME recovery themes.

Acknowledgment

Meuller and colleagues (2009) define 'acknowledgment' as a social understanding of a person's unique experiences. Social, in this context, refers not only to family and friends but also to service providers, workplaces and community. In the recovery literature and information, it is directed towards and is about young adults. Social acknowledgment, as a concept, includes social acceptance, peer pressure and judgements (Maercker *et al.* 2009). It can also impact on illnesses such as post-traumatic stress disorder (PTSD). Meuller and colleagues (2009) found 'that disapproval from family and the social environment was related to higher PTSD symptoms' (p. 160). Further, Maercker and colleagues (2009) determined that social acknowledgment should be viewed as a protective factor for PTSD symptoms because a higher level of social acknowledgment was associated with fewer PTSD symptoms. Acknowledgment appeared as a powerful theme and even more so because in all cases, young adults in this research said it was the single most important way that their recovery could be improved.

According to Gibbs and colleagues (2016) the protective, affiliate and affirmative role of relationships, connectedness and acknowledgment of trauma performs a positive role in promoting resilience and recovery. The aspect of acknowledgment was interwoven through all participant stories and underpinned all CHIME themes. Young adults said they were disempowered due to lack of consultation and acknowledgment of their particular needs. Participants commented on several factors that led to unacknowledged needs. A recurrent theme was the importance of understanding, acknowledgment and validation both by others and of their own feelings through the opportunity to tell their story. As Karen stated, 'I think the more that you tell a story the more it…becomes your truth…and so in that way I think telling the story is really helpful and validating'. Felicity also recognised that talking and being understood was essential to recovery. She commented:

> *Just talking is the main thing in recovery! It is important to have someone to talk to who understands, and our family is quite close so we spent the whole time together. I was lucky to have supportive parents, and my sister and a new business to distract me.*
> Felicity

In contrast, Karen felt that because she had not had a forum to tell her story, her experience was 'unacknowledged' and was 'illegitimate or false'. She explained:

> *I didn't want to be in the way. I didn't talk to anyone, not my mum or partner or anyone for a few years. Now I am angry enough to start to get some help. I understand that for some people telling their story might be harmful and bring things up or that they might ruminate on the negatives, but I feel that I have not had a forum to tell my story so it feels illegitimate and false. It feels like it didn't really happen.*
> Karen

Later, after the interview, Karen commented that telling her story via the interview process offered, 'an opportunity over repeated telling to validate and understand [her] experience of the fires'. In all instances, the participants considered that others seldom acknowledged the trauma they experienced or their subsequent support requests.

Overlaying this, because they were not commonly property owners, participants said they were

disadvantaged when it came to receiving a fair share of recovery supports. Beth commented on this sense of inequity, saying, 'I gained some support, but was overlooked for most. Everything went to my parents first, because they were officially recognised as having lost their house, whereas I was not'. Adam said, 'I think that if you didn't have your house burn down then your pain is seen as less important'. Laurel reflected, '[I wanted] acknowledgment that I suffered and lost the same as my parents and others'.

Participants cited that a lack of acknowledgment of their needs led to being 'overlooked' and therefore inequities in distribution of recovery resources. Laurel's following point of view about young adults' inadequate access to recovery resources and information reflects the final reports on the 2009 bushfire access and distribution of psychosocial recovery supports (VCOSS 2012, Grealy *et al.* 2011, DHS 2009). Laurel commented:

> *A lot of people were extremely dismissive of the young adult demographic and what they were entitled to. I know a lot of funding was handed out to households; it might've just been one adult per household. So, parents or under 18 got quite a bit of support but between 18 to 35 years old there was a massive hole where information was just falling through gaps, and it was like that demographic was forgotten, and then when people did try and advocate for them a lot of people were very dismissive.*
> Laurel

Because of their age and financial dependence on parents, young adults said they were often ineligible for support services, such as case management and material aid. Laurel concurred with others on the general lack of support, commenting:

> *I gained some support but was overlooked by most. Equity? Barely at all. Not for my age. I had to seek out and pay for my own professional support.*
> Laurel

William said:

> *Young adults were definitely missed when it came to funding, psychological support, Blue cards and case management. It felt like there was nothing available.*
> William

The objective of the Victorian Bushfire Case Management Service was to facilitate access to services, grants and information and to assist recovery. One case manager was allocated per household not to children or young people. Case managers worked with parents to support all members of the family. This was aimed at supporting the integrity of the family unit, particularly post-disaster, where supporting parent confidence and capacity can be important aspects of the work (Hawe 2009). Many young adults relocated elsewhere after the bushfires and were not living with their family and missed out on this support. Young adults who left the bushfire-affected area said that their ongoing predicament was unacknowledged.

Young adults in this study said that they were silent in order to protect their parents from further stress. Mary explained that she wanted to shield her family from her own distress, 'because they were already stressed and I did not want to add to this stress'. Laurel concurred, saying, 'yeah, young adults were not talking in order to protect their parents from further stress, this is what I did and this is what I heard others did'. Participants recognised that this behaviour reduced their voice, meant their needs were not acknowledged and further disempowered them. Inevitably, this abnegation of voice contributed to lack of acknowledgment.

If young adults are not acknowledged for their specific loss and needs then they may be left adrift from essential recovery supports. Jack's opinion was that young adults' needs were sometimes overlooked because the community failed to acknowledge their vulnerability. He pointed out that those who were independent with limited social networks did not always have the capacity to source the support they needed after the bushfires.

Jack explained:

> *I don't think there is an issue with the community's attitudes or support towards young adults. It is probably just the lack of awareness that community needs may be so varied and that young adults' needs are different to [older] adults. Young adults' abilities to be proactive, make good choices, cope with stress and have positive role models can be all over the place from person to person, and after disasters, have potential to leave them helpless unless looked out for by other grown-ups. Probably just recognising that age group for its vulnerability and needs is the biggest thing. Further, those who were independent would have had to source [support] information. I know a few that didn't do that and basically got no support. It makes it harder if you had very little or no social networks in the affected community.*
> Jack

Tamsin said that the recovery process needs to be non-judgemental and accepting of the effect of different experiences and recovery rates for young adults. Tamsin felt strongly that it was important to acknowledge everyone's experiences without judgement. She pointed out that it is not simply the loss of property that leads to a sense of grief and strong emotional response. She said there is a need to:

> *Reiterate at school, work, home, groups etcetera that ANYONE is allowed to feel grief, sadness, anger etcetera about these fires for as long and as deeply as they need to. I saw first-hand a person telling another off for being so visibly affected because they didn't lose their house or family.*
> Tamsin

How young adults are recovering

Despite the reported lack of acknowledgment of their needs and the consequent deficits in psychosocial

supports, all young adults in this research demonstrated resilience, initiative, creativity and a capacity for posttraumatic growth. Nonetheless, when asked how they were recovering from the Gippsland bushfires, the majority reported that although there was a lengthy time when they were 'not OK', they were now doing 'OK'. The term 'OK' informally means, 'satisfactory but not especially good' (Oxford Dictionary 2017). It is worth noting that in their responses to the survey, many participants described their physical and emotional health as being 'good' but not 'very good'. Five out of 20 young adults in this study reported having medically-diagnosed PTSD. Six participants reported poor physical health in the aftermath of the catastrophic event. In addition, three participants cited exacerbation of their chronic illnesses.

When asked what would have improved recovery, they all said it would have helped to be acknowledged as independent adults who needed advocacy and support; that it would have helped to have access to case managers and material aid and better access to appropriate and affordable psychosocial support in general. Most importantly, participants commented that they wanted to be recognised and acknowledged as suffering the same trauma as their parents and others in the community and entitled to the same recovery supports.

In coming to terms with the bushfires, most participants said that despite the fact that the bushfires had left them with an emotional and sometimes physical imprint, they had grown personally because of the bushfires and felt they were wiser, stronger and had a greater appreciation of life. Tamsin's view of her present life was upbeat and optimistic and she demonstrated an awareness of how the disaster has imbued her with strengths and given her capacities that she offered to others:

> *Sometimes it takes a horrible event like that to kind of show what weaknesses are currently apparent in emergency situations and subsequent generations can benefit from events like that … My experiences offered me advantages in my career where I gained 'cred' and respect from others in the bushfire industry, within which I continued to work, and still do. I think I'm doing extremely well. Obviously it's still a part of my life. However, for such a horrible situation to go through, I've turned it into positive, the best positive outcome possible, and then used it as leverage to make me resilient.*
> Tamsin

Limitations

There are several limitations to this study. Firstly, coding and theme development requires a reflexive process and it inevitably imposes the researcher's imprint on the data analysis (Denzin & Lincoln 2011). Nevertheless, participants could choose to either answer or not answer the questions, so the focus on certain aspects of their individual recovery remains largely self-driven. Secondly, the generalisation of the socio-demographic aspects of this study has limitations due to the relatively small sample size. While the findings of this study may not necessarily be generalisable to other young adults who have been subjected to a catastrophic event, the study offers an important insight and may be of use to other service providers, policy makers and researchers. In addition, a salient feature of qualitative study is that the number of participants is often small. Scale is not crucial in qualitative studies and there is no need for estimates of statistical significance because the number of a phenomenon may only occur once in order to be significant (Braun & Clarke 2012).

Conclusion

Acknowledgment was a pivotal and overarching theme that emerged and the key missing factor that young adults said would improve their recovery. Acknowledgment means listening to young adults' stories, gaining an understanding of their predicament, consulting with them and validating their needs. It also means acknowledging that young adults are not a homogeneous group and recognising that young adulthood is a particular developmental stage. The current focus of community recovery models on 'place-based' and 'on-the-ground' recovery activities meant that this mobile and transitional cohort of young adults was often left to their own devices once they left the area. A recommendation of this study is to enhance localised disaster recovery responses by outreach to young adults who have relocated elsewhere.

Young adults in this research reported that not having their recovery needs acknowledged meant they felt disconnected from important psychosocial recovery supports. Listening to young adults' stories is an important part of understanding and acknowledging their particular experiences and consequent needs. An imperative for recovery responders is to listen to young adults' stories and for support services to facilitate their engagement.

To help young adults, community planners must develop ways of providing access to supports that acknowledges their longer-term recovery needs. This research suggests that acknowledgment could be considered first in the CHIME personal recovery process so that losses and predicaments of young adults are validated. It is recommended that further research examine the utility of expanding the CHIME process to include 'acknowledgment'.

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ABSTRACT

Engaging communities proactively in preparedness and response is key to building a cohesive and resilient community. In Australia, responsibility for community engagement often falls to local government. While community-level engagement in emergency and disaster management is necessary, two demographic groups: low socio-economic; and culturally and linguistically diverse populations (hereafter referred to as vulnerable population groups) are of particular interest from an emergency and disaster management planning perspective as they are often exposed to, and are least prepared for, emergency and disaster events. This is due to factors including a lack of housing affordability, low literacy levels and diversity in cultural backgrounds. A community survey was conducted in Logan, a city south of Brisbane, to better understand the challenges of engaging vulnerable population groups in preparedness and response. The survey identified a trend of passivity towards preparedness. It also found that information from traditional mass media and family members was preferred and trusted. Based on these findings, a two-pronged approach is recommended that combines the use of traditional mass media and digital media with proactive face-to-face engagement to improve outcomes.

Engaging vulnerable populations in preparedness and response: a local government context

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Introduction

In Australia, there is a government-sanctioned mandate to proactively engage communities in decision-making on issues that may affect them directly. Community engagement is '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' (Australian Institute for Disaster Resilience 2013). In the case of emergency and disaster management, the need for community engagement is central to promoting a sense of collective responsibility and the recognition that everyone benefits when contributing to a safer environment. It also means individuals and communities can exercise choice and take actions to safeguard themselves, their families, neighbours and other stakeholders in the event of an emergency (Hansen *et al.* 2013)

For government agencies involved in emergency management planning, community engagement is a critical process to identify how the local community understands and interprets disaster-related information. Vihalemm and colleagues (2012) show that community perceptions and concerns in relation to disaster risk often contrast widely from that of experts and government bodies that use scientific methods to analyse disaster consequences and outcomes. People often rely on visual evidence, narratives and personal experience when deciding what to do in emergencies (Vihalemm *et al.* 2012). By engaging communities in emergency management planning, government agencies and non-governmental organisations (NGOs) can establish effective and trusted ways to disseminate information, strengthen government-community partnerships and break down socio-cultural barriers that may hinder disaster risk reduction and management processes.

Defining vulnerable populations

Disasters impact on people regardless of their background, ethnicity, age and demographic characteristics. The weight of impact can be 'profoundly discriminatory', with vulnerable populations the most adversely affected

(Donner & Rodríguez 2016). The World Health Organization (2017) suggests an umbrella definition of vulnerability that refers to 'the degree to which a population, individual or organisation is unable to anticipate, cope with, resist and recover from the impacts of disasters'. Similarly, in Australia vulnerability is defined as a 'situation of individuals, households or communities who are exposed to potential harm from one or more risks. It also refers to the inability of these people or groups to anticipate, withstand, and recover from the damage resulting from an adverse shock' (Morrone *et al.* 2011, DCCSDS 2016).

Vulnerable populations are of interest for disaster management planning as they are often the least prepared for such events.

This study identified three challenges to engaging vulnerable populations for effective preparedness and response activities:

- A lack of disaster preparation is a consistent trend across vulnerable populations that often have limited resources and a reluctance to invest in disaster preparedness activities that are often deemed a low financial priority (Lindell & Perry 2003). People in low-income groups are often in financial survival mode and are more focused on spending to support day-to-day living rather than prepare for the future. Beckjord and colleagues (2008) reported cases where low-income people, when provided with pre-packed meals to use in the event of an emergency, often consumed those meals ahead of time because they could not afford to feed themselves on a regular basis. Similarly, due to limited resources, vulnerable groups are less likely to respond to emergency messages even if they receive them. For example, individuals may not evacuate because they lack transportation options or may require special assistance that they feel is unlikely to be met if they evacuate (Rowel *et al.* 2012).
- Difficulty in reaching vulnerable population groups experiencing isolation due to social, cultural, linguistic and economic factors. People from vulnerable population groups often have weak or limited social networks or connections to the wider community beyond family or cultural groups. This is particularly the case for those with limited or poor English (Beckjord *et al.* 2008).
- Vulnerable population groups often lack trust in the disaster response community due to negative past experiences or inability to communicate (language or cultural barriers). As a result, vulnerable individuals tend to be reluctant to add their names to vulnerable population registries, to seek preparedness information or to ask for emergency assistance (Palttala *et al.* 2012).

The aim of this research was to better understand the needs of vulnerable population groups in the case study context to engage the local community more effectively in preparedness and response, contributing to a more cohesive and resilient community.

Case study

Logan City is a local government area of 957 km^2 in south-east Queensland, with Brisbane to the north and the Gold Coast to the south. It is the sixth largest local government area in Australia by population with 308,000 residents. While geographically small, the city has 68 suburbs, covering both urban and rural areas and exhibits significant socio-economic and cultural diversity (Logan City Council 2017). Logan City experiences a range of natural hazards. This study took an 'all hazards' approach while recognising that the two most common hazard types are bushfires and floods. Figure 1 shows an overlay of areas exposed to floods and bushfires. Overall, 12 per cent of Logan is rated as vulnerable to both hazards.

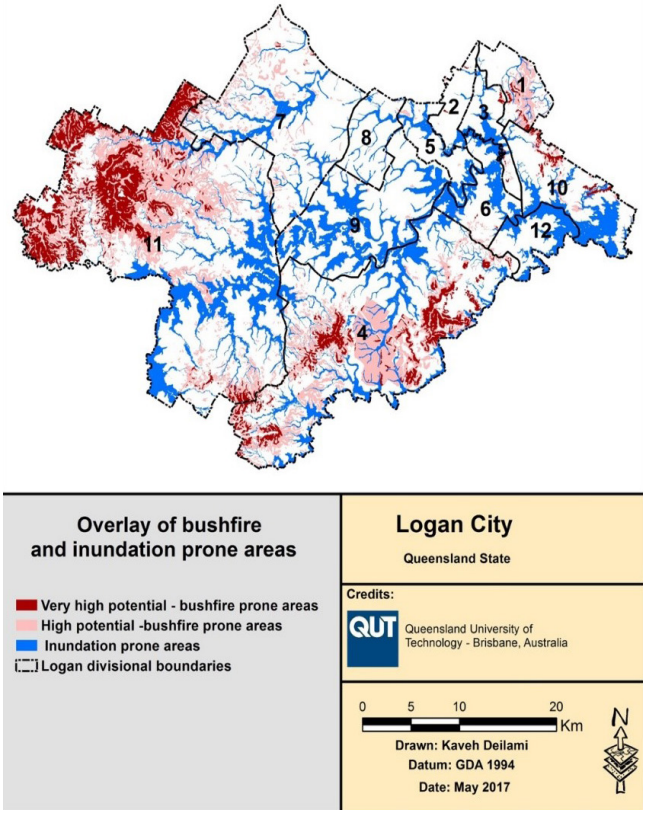

Figure 1: Overlay between bushfire and inundation prone areas for the Logan City.

Low socio-economic population

The Socio-Economic Indexes for Areas[1] (SEIFA) is an Australian Bureau of Statistics tool used to rank areas in Australia according to relative socio-economic status. Table 1 shows the value of the SEIFA for local government areas in Queensland with the SEIFA index for Logan being lower compared to other areas in the state.

1 Socio-Economic Indexes for Areas are at www.abs.gov.au/websitedbs/censushome.nsf/home/seifa.

The index of relative socio-economic disadvantage for Logan rose from 962 in 2006 to 971 in 2011, indicating that the situation is improving but remains lower than many Australian local government areas (2016 data were unavailable at the time the fieldwork was undertaken). Table 2 presents a comparison of low socio-economic populations across Queensland local government areas. This table shows that Logan has a comparable low socio-economic population to other Queensland areas.

Table 1: SEIFA index of various local governments areas in Queensland (Logan City Council 2017).

Local government area	SEIFA
Logan City	971
Greater Brisbane	1018
Moreton Bay	1000
Ipswich City	966
Gold Coast City	1014
South-East Queensland	1016
Queensland	1001

Table 2: The percentage of low socio-economic people in local government areas of Queensland (Logan City Council 2017).

Local government area	Number	Total households	Percentage (%)
Logan City	15,441	97,641	15.8
Greater Brisbane	123,256	796,339	15.5
Moreton Bay	24,717	148,963	16.6
Ipswich City	9,999	63,978	15.6
Gold Coast City	34,521	202,702	17.0
South-East Queensland	184,825	1,143,107	16.2
Queensland	298,359	1,699,819	17.6

Cultural and linguistic diversity

Logan City has a multicultural population with at least a quarter of its residents born overseas and 215 different nationality and ethnic groups. As shown in Table 3, Logan is comparable to other Queensland local government areas in terms of percentage of residents born overseas (27.3 per cent). In Logan City, the top three languages spoken at home other than English are Samoan, Mandarin and Hindi.

Tables 1, 2 and 3 show that Queensland local government areas, including Logan, have sizeable vulnerable population groups. This research, while focused on Logan City, has broader application and the lessons learnt in emergency and disaster management can be transferred to other local government areas.

Table 3: Percentage of residents born overseas (QGSO 2016).

Local government area	Total overseas born	Total persons	Proportion of persons born overseas (%)
Brisbane	346,365	1,131,155	30.6
Gold Coast	157,194	555,721	28.3
Moreton Bay	83,393	425,302	19.6
Logan	82,880	303,386	27.3
Sunshine Coast	57,554	294,367	19.6
Ipswich	39,003	193,733	20.1

Methodology

A survey was conducted in May 2017 to assess levels of community preparedness and to understand how and where vulnerable population groups are obtaining disaster-related information. The survey targeted Logan residents over 18 years of age and was conducted face-to-face in community locations where the target population groups are known to frequent. These included takeaway diners, shopping centres, libraries and places of worship. The survey was conducted in English and translated into other languages to facilitate participation by target population groups. Potential survey respondents were approached at community locations and were invited to participate in the survey, which they could complete on the spot. Coincidentally, this data collection took place two months after flooding caused by Tropical Cyclone Debbie in March and April 2017. Participants were encouraged to answer the survey questions based on their experiences of the cyclone, where applicable. The survey data was analysed using IBM SPSS statistic in three ways: frequency analysis, cross-tabulation and Chi-Square test of independence.

Overall profile of survey respondents

A total of 263 respondents completed the survey. After excluding for missing data, a total of 249 surveys were analysed. Table 4 provides an overview of the characteristics of survey respondents. Survey participants represent a diversity of ethnic backgrounds (see Table 5), which were categorised using Australian Standard Classification of Cultural and Ethnic Groups.

Ethnic background and household income

Participant household income was analysed based on ethnicity. Table 6 shows 53.9 per cent of respondents had a household income greater than $600 per week (i.e. non-low socio-economic population). Based on the survey, the average number of family members living in Logan City was 2.04, which is close to the 2011 average household size of 2.89 for the entire of Logan (Logan City Council Social Atlas 2017).

Crosstab analysis revealed that in five ethnic groups the number of people who earned above $600 per week was higher than those who earned less than $600 per week. These five ethnic groups are: Central Asian (60.7 per cent), North-West European (52.4 per cent), Oceania (56 per cent), People of the Americas (100 per cent) and Sub-Saharan African (62.9 per cent). The majority of people from South-East Asian (72.7 per cent), North African and Middle Eastern (57.1 per cent) groups had household income below $600 per week (i.e. low socio-economic population). Approximately half of those surveyed (46.1 per cent) fell into vulnerable population groups.

Table 4: Characteristics profile of survey respondents.

Characteristics		Frequency (N)	Percentage (%)
Gender	Male	110	44.53
	Female	137	55.47
Age Band	18 to 24	47	19.00
	25 to 34	47	19.00
	35 to 44	49	19.80
	45 to 54	37	14.90
	55 to 64	27	10.90
	Over 65	41	16.50
Household income	Below $600/week	102	45.54
	Above $600/week	122	54.46
Duration of living in Logan	Under 2	52	21.22
	3 to 5 years	42	17.14
	Over 6 years	151	61.63
Number of family members	1 person	33	13.36
	2 to 5	172	69.64
	6 and more	42	17.00
	None	52	21.31
Internet connection at home	Yes	183	75.00
	Sometimes	9	3.69

Top five sources of information

Among culturally and linguistically diverse (CALD) population groups, television was ranked as the most common source of information during an emergency or disaster. Receiving phone calls and text messages on mobile phones from family members was the preferred first choice for people of North African and Middle Eastern backgrounds (77.8 per cent), as shown in Table 7. The findings also show that people with Sub-Saharan African, North African and Middle Eastern ethnicities were less likely to use the Bureau of Meteorology (BOM) website as a source of information compared to other ethnic groups. People with South-East Asian, Sub-Saharan African, Southern and Eastern European backgrounds were less likely to use the radio than other groups, which may be attributed to language barriers.

A Chi-Square test of independence was carried out to examine the relationship between ethnic background and the top five information sources. Table 8 shows a partial significant relationship between ethnicity and the BOM website while other important sources of information are in the equation (X^2 (8, N=249) =14.332, p=0.074).

Table 9 shows that television ranked first as the main source of information for low socio-economic groups while FM radio ranked fifth as the main source of information.

A partial significant interaction was found (X^2 (1, N=249) =3.404, p=0.065) between respondents' household incomes and use of the BOM website. Participants with household income above $600/week (50 per cent) reported using the BOM website more than people with household income below $600/week (37.6 per cent) (see Table 10).

Table 5: Ethnic background represented by survey respondents.

Ethnic subgroup		Frequency (N)	Percentage (%)
Oceania	Australian Peoples	71	29.30
	New Zealand Peoples	19	7.90
	Melanesian and Papuan	1	0.40
	Polynesian	38	15.70
	Total	**129**	**53.30**
Central Asian	Central Asian	4	1.70
	Southern Asian	29	12.00
	Total	**33**	**13.70**
North African and Middle Eastern	Arab	6	2.50
	Other North African and	2	0.80
	Middle Eastern People of the Sudan	1	0.40
	Total	**9**	**3.70**
North-East Asian	Chinese Asian	13	5.40
	Other North East Asian	5	2.10
	Total	**18**	**7.50**
North-West European	British	9	3.72
	Northern European	2	0.83
	West European	44	4.55
	Total	**22**	**9.10**
People of the Americas	Central American	**1**	0.40
	South American	1	0.40
	Total	**2**	**0.80**
South-East Asian	Mainland South-East Asian	9	3.70
	Maritime South-East Asian	3	1.20
	Total	**12**	**4.90**
Southern and Eastern European	Eastern European	1	0.40
	South-Eastern European	3	1.20
	Southern European	5	2.10
	Total	**9**	**3.70**
Sub-Saharan African	Sub-Saharan African	5	2.10
	Central and West African Southern	1	0.40
	and East African	2	0.80
	Total	**8**	**3.30**

Degree of comfort in asking for help in the event of a disaster

CALD population groups as a whole felt most comfortable asking family members for help in an emergency (see Table 11). This was followed by friends, which was cited by all ethnic groups except Central Asians and people from Sub-Saharan African. Police and Queensland Fire and Emergency Services were highly cited by all except North African, Middle Eastern and People of the Americas. Neighbours were highly cited by Central Asians, People of the Americas and South-East Asians

A significant relationship was found between ethnic background and the level of comfort to ask for help from neighbours X^2 (16, N=249) = 27.074, p<0.05 (see Table 12). People of the Americas (100 per cent) and Central Asian (82.1 per cent) ethnicities were more likely to ask for help from neighbours. Sub-Saharan African (25 per cent) were less willing to ask for help from their neighbours.

The results were similar for low socio-economic groups (see Table 13) who indicated they were most comfortable asking family members for help, followed by Police and Queensland Fire and Emergency Services, and then friends. The results suggest that an individual's household income did not affect the degree of comfort to ask for help in an emergency.

From the Chi-Square test of independence (see Table 14) a partial significant relationship was found between respondents' household incomes and levels of comfort in asking for help from friends (X^2 (2, N=249) = 5.636, p=0). People with household incomes below $600/week (70.2 per cent) were less likely to ask for help from their friends than respondents with higher reported income above $600/week (82.9 per cent).

Table 6: Comparison of household income and ethnicity.

Ethnic background	Household income number (%)		Total
	Below $600/ week	Above $600/ week	
Central Asian	11 (39.3)	17 (60.7)	28 (100.0)
North African and Middle Eastern	4 (57.1)	3 (42.9)	7 (100.0)
North-East Asian	10 (55.6)	8 (44.4)	18 (100.0)
North-West European	10 (47.6)	11 (52.4)	21 (100.0)
Oceania	51 (44.0)	65 (56.0)	116 (100.0)
People of the Americas	0 (0.0)	2 (100.0)	2 (100.0)
South-East Asian	8 (72.7)	3 (27.3)	11 (100.0)
Southern and Eastern European	4 (50.0)	4 (50.0)	8 (100.0)
Sub-Saharan African	3 (37.5)	5 (62.5)	8 (100.0)
Total	**101 (46.1)**	**118 (53.9)**	**219 (100.0)**

Table 7: Top five sources of information for CALD population groups.

Ethnic background	BOM website	Family members via mobile phone	Friends via mobile phone	Television	FM radio channel
	count (percentage %)				
Central Asian	17 (53.1)	16 (50.0)	14 (43.8)	25 (78.1)	12 (37.5)
North African and Middle Eastern	1 (11.1)	7 (77.8)	3 (33.3)	6 (66.7)	3 (33.3)
North-East Asian	8 (44.4)	12 (66.7)	9 (50.0)	12 (66.7)	10 (55.6)
North-West European	13 (59.1)	6 (27.3)	7 (31.8)	12 (54.5)	8 (36.4)
Oceania	53 (41.7)	63 (49.6)	58 (45.7)	106 (83.5)	56 (44.1)
People of the Americas	2 (100.0)	2 (100.0)	1 (50.0)	1 (50.0)	0 (0.0)
South-East Asian	4 (36.4)	7 (63.6)	7 (63.6)	9 (81.8)	3 (27.3)
Southern and Eastern European	6 (75.0)	4 (50.0)	2 (25.0)	6 (75.0)	2 (25.0)
Sub-Saharan African	2 (25.0)	3 (37.5)	3 (37.5)	7 (87.5)	2 (25.0)
Total	**106 (44.7)**	**120 (50.6)**	**104 (43.9)**	**184 (77.6)**	**96 (40.5)**

Table 8: Chi-Square test results for ethnicity and the top five sources of information.

Variables	Pearson Chi-Square		
	Value	df	P (2-sided)
Ethnic background and BOM website including radar	14.332	8	0.074
Ethnic background and family members calling/ texting on mobile phone	12.613	8	0.126
Ethnic background and friends calling/texting on mobile phone	5.210	8	0.735
Ethnic background and Television	12.588	8	0.127
Ethnic background and FM Radio Channel	6.596	8	0.581

Table 9: Top five sources of information for low socio-economic groups.

Sources of information	Household income number (%)		Total
	Below $600/ week	Above $600/ week	
BOM website including the radar	38 (37.6)	60 (50.0)	98 (44.3)
Family members calling and texting on mobile phone	52 (51.5)	57 (47.5)	109 (49.3)
Friends Calling texting on mobile phone	42 (41.6)	54 (45.0)	96 (43.4)
Television	76 (75.2)	97 (80.8)	173 (78.3)
FM radio	37 (36.6)	54 (45.0)	91 (41.2)

Level of preparedness

Table 15 shows that only 38 per cent of the CALD population groups perceived themselves as being prepared or very well prepared for an emergency. This low level of preparedness together with high exposure of Logan City to various hazards implies that Logan City

Table 10: Chi-Square test results for household income and the top five sources of information.

Variables	Pearson Chi-Square		
	Value	df	P (2-sided)
Household income and BOM website including radar	3.404	1	0.065
Household income and family members calling/ texting on mobile phone	0.348	1	0.555
Household income and friends calling/texting on mobile phone	0.260	1	0.610
Household income and Television	1.006	1	0.316
Household income and FM radio	1.585	1	0.208

Council could adopt a targeted approach to increase preparedness of residents from ethnic backgrounds. The majority of respondents who did not have a high degree of preparedness were people with Central Asian (35.5 per cent), North-West European (40.9 per cent) and Oceania (40.9 per cent) backgrounds.

Table 16 shows reported levels of disaster preparedness were low for both low socio-economic and non-low socio-economic groups. This suggests that an individual's household income did not affect the level of preparedness.

Conclusion and recommendations

The survey findings suggest that overall, attitudes towards emergency and disaster events are passive and this is a trend consistent across the vulnerable population groups. Television and contacting family members via mobile phone were the top information sources for the vulnerable population groups surveyed. Logan City Council's resources (e.g. website, Facebook) did not rank highly as preferred sources of information for the target population. Fieldwork feedback indicated that residents perceived a lack of day-to-day engagement by Logan City Council.

Respondents indicated that they were most comfortable asking family members and friends for help, followed by Queensland Police Service, Queensland Fire and Emergency Services and Queensland Ambulance Service. Neighbours, workmates and community groups were rated low by respondents as preferred and trusted sources of information. This suggests a low level of social capital in these communities.

Table 11: Degree of comfort in asking for help by CALD populations groups.

Ethnic background	#1 Most comfortable asking for help from	# 2 Most comfortable asking for help from	# 3 Most comfortable asking for help from
Central Asian	Family members (89.7%)	Neighbours (82.1%)	Police and Queensland Fire and Emergency Services (80.8%)
North African and Middle Eastern	Family members (87.5%)	Logan City Council (87.5%)	Friends (75.0%)
North-East Asian	Family members (94.4%)	Friends (77.8%)	Police and Queensland Fire and Emergency Services (72.2%)
North-West European	Friends (94.7%)	Police and Queensland Fire and Emergency Services (94.1%)	Family members (86.4%)
Oceania	Family members (92.1%)	Police and Queensland Fire and Emergency Services (82.0%)	Friends (75.8%)
People of the Americas	Family members (100.0%)	Neighbours (100.0%)	Friends (100.0%)
South-East Asian	Family members (90.9%)	Friends (81.8%)	Neighbours (72.7%)
Southern and Eastern European	Police and Queensland Fire and Emergency Services (100.0%)	Family members (87.5%)	Friends (75.0%)
Sub-Saharan African	Family members (100.0%)	Police and Queensland Fire and Emergency Services (85.7%)	Friends (75.0%)

Table 12: Chi-Square test results between ethnicity and level of comfort to request help.

Variables	Pearson Chi-Square		
	Value	df	P (2-sided)
Ethnic background and family members	11.390	16	0.785
Ethnic background and neighbours	27.074	16	0.041
Ethnic background and friends	13.194	16	0.658
Ethnic background and Colleagues and workmates	17.225	16	0.371
Ethnic background and Logan City Council	14.456	16	0.565
Ethnic background and Police and Queensland Fire and Emergency Services	14.245	16	0.580

Table 13: Degree of comfort to ask for help for low socio-economic population groups.

Household income	#1 Most comfortable asking for help from	#2 Most comfortable asking for help from	#3 Most comfortable asking for help from
Below $600/ week	Family members (90.7%)	Police and Queensland Fire and Emergency Services (79.3%)	Friends (70.2%)
Above $600/ week	Family members (93.2%)	Police and Queensland Fire and Emergency Services (83.9%)	Friends (82.9%)

Table 14: Chi-Square test results between household income and level of comfort to request help.

Variables	Pearson Chi-Square		
	Value	df	P (2-sided)
Ethnic background and family members	0.574	2	0.750
Ethnic background and neighbours	3.199	2	0.202
Ethnic background and friends	5.636	2	0.060
Ethnic background and Colleagues and workmates	0.757	2	0.685
Ethnic background and Logan City Council	1.020	2	0.601
Ethnic background and Police and Queensland Fire and Emergency Services	0.754	2	0.686

Table 16: Level of preparedness for low socio-economic population groups.

Level of pre-paredness	Household income count (percentage %)		Total
	Below $600/ week	Above $600/ week	
Not prepared at all or slightly prepared	31 (31.6)	34 (28.3)	65 (29.8)
Somewhat prepared	31 (31.6)	43 (35.8)	74 (33.9)
Prepared or very well prepared	36 (36.7)	43 (35.8)	79 (36.2)

Table 15: Level of preparedness for CALD population groups.

Ethnic background	Level of preparedness count (percentage %)			Total
	Not prepared at all or slightly prepared	Somewhat prepared	Prepared or very well prepared	
Central Asian	9 (29.0)	11 (35.5)	11 (35.5)	31 (100.0)
North African and Middle Eastern	4 (50.0)	1 (12.5)	3 (37.5)	8 (100.0)
North-East Asian	5 (27.8)	9 (50.0)	4 (22.2)	18 (100.0)
North-West European	4 (18.2)	9 (40.9)	9 (40.9)	22 (100.0)
Oceania	38 (29.9)	37 (29.1)	52 (40.9)	127 (100.0)
People of the Americas	0 (0.0)	2 (100.0)	0 (0.0)	2 (100.0)
South-East Asian	4 (36.4)	3 (27.3)	4 (36.4)	11 (100.0)
Southern and Eastern European	2 (28.6)	3 (42.9)	2 (28.6)	7 (100.0)
Sub-Saharan African	2 (28.6)	2 (28.6)	3 (42.9)	7 (100.0)
Total	**68 (29.2)**	**77 (33.0)**	**88 (37.8)**	**233 (100.0)**

Drawing on literature and the survey findings, a two-pronged collaborative approach is proposed to facilitate effective engagement with vulnerable population groups. Firstly, community engagement activities should incorporate the use of traditional mass media (e.g. television and radio) and social media tools as part of an integrated approach for effective dissemination of information. One effective strategy could be to proactively engage television stations to develop newsworthy disaster-related segments in the lead-up to key disaster messaging periods, while maintaining a consistent and active social media presence and messaging across multiple platforms, e.g. Facebook and Twitter. This can be complemented by a partnership approach with Queensland Police Service, Queensland Fire and Emergency Services and Queensland Ambulance Service to develop a complementary methodology for information-sharing and dissemination.

Secondly, proactive and face-to-face engagement with vulnerable population groups would help to build trust that can be tapped into in an emergency and disaster event. This may be achieved through collaborative community partnering that focuses on the role that grassroots and other community groups (including NGOs) can play in engaging, educating and involving community members from vulnerable population groups as active participants in community and personal preparedness.

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ABSTRACT

As the risks encountered by natural hazards change and become more dynamic, so too, does the task of recovering from them. To manage natural hazards, planners must plan for the unexpected; building resilience before, during and after events. Currently, recovery funding is limited to a two-year window. Devastated communities that do not recover during this time rely on ad hoc funding to support patchy recovery beyond this. Planning for long-term recovery needs to be embedded throughout the risk assessment process to be effective. This presents a number of challenges. By identifying the longer-term risks and their consequences in advance, sustained recovery can be planned for all social, environmental and economic values (assets). This will determine what recovery interventions may be needed and when they are likely be most effective.

Valuing recovery through risk ownership

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Introduction

Natural hazard risks are systemic and are becoming more dynamic and complex in nature due to a number of drivers, including climate change, changing demographics and new technologies. They cascade through social and ecological systems in unpredictable ways and the effects and consequences that result can continue for years. There is a broad consensus that natural hazard risk management requires a systemic approach, but there is also a growing awareness of the need for long-term planning to support management in this area, particularly in relation to recovery.

Despite preparation and planning, natural hazard events result in some degree of damage and loss. Thus, a better understanding of how to build resilience before, during and after events is required. This extends recovery from being a set of a short- to medium-term responses, to a suite of actions that support long-term outcomes. Even though the recovery phase is a defined area of disaster risk management, recovery planning needs to be embedded across the whole assessment process for it to be effective.

This presents a number of challenges. Recovery requires the recuperation of social, environmental and economic values (assets) and identification of the benefits they provide within a particular setting (e.g. a community, place or sector). This makes identifying longer-term risks and their consequences, and ascertaining what interventions are likely to be most effective and important. In Australia, funding for recovery, such as the *Natural Disaster Relief and Recovery Arrangements* (Attorney-General's Department), is limited to short- to medium-term recovery and is primarily focused on rebuilding physical assets such as roads and key infrastructure. Funding for longer-term recovery of 'softer' social and environmental infrastructure is largely ad hoc. In addition, economic evaluation of many intangible values and the benefits derived from them is not a straight forward process and building a business case for longer-term interventions can be difficult.

As part of the project 'Mapping and understanding Bushfire and Natural Hazard Risk at the Institutional Scale', a Risk Ownership Framework was developed for emergency management policy and practice (Young *et al.* 2017). It also provides guidance on how the risk ownership tasks can be integrated into the National Emergency Risk Assessment Guidelines (AIDR 2015). The framework extends the concept of risk ownership to all key values at risk over planning horizons that take in potential future hazard events and the full recovery cycle. This paper describes aspects of planning long-term recovery using risk ownership and how it supports resilience building and recovery outcomes for the longer-term.

Changing risk

In the last four years natural hazards have emerged as a key risk in global risk assessments. This is illustrated in the World Economic Forum Global Risk Reports 2012, 2014 and 2016 Risk Interconnection Maps. In the 2012 map, the only mention of natural hazard risk is 'persistent extreme weather' and the only risk it is connected to it is 'rising greenhouse gas emissions'. This changes dramatically in the 2014 map where natural catastrophes, extreme weather events and man-made environmental disasters feature as key risks, with multiple connections to areas such as food crisis, failure of key infrastructure and global governance. In the 2016 map, these remain key risks. The connections remain similar to 2014 but become more complex with connections to other areas of risk including water crisis, large scale involuntary migration, and failure of urban planning. To further complicate this, new risk areas are emerging particularly in relation to cyber and social risks. This dynamic landscape makes questions about what are we recovering from, and, more importantly, what are we recovering to, critical for recovery planning.

What is not well understood are the flow-on effects of these events, which can amplify into the future. At an economic level, these events can be devastating, particularly in regional areas where businesses may not have the resilience, resources or plans to deal with such events. For example, the Black Saturday bushfires in Marysville in 2009 resulted in a decline in tourist numbers to the area. From June 2009 to June 2013, 19 properties were sold, 12 of those in 2012–2013 (Argoon 2014). Six years later, the population had dropped to 250 from the 700 recorded before the fires (Morris 2015). In 2017, Marysville is still recovering.

During this project, it was observed that it could take at least seven to ten years to achieve basic recovery in hard-hit communities and that some communities might never recover. Bryant and colleagues (2014) found significant health effects such as post-traumatic stress and depression in some communities five years after the Black Saturday bushfires. At a recent Australian Institute of Disaster Resilience seminar in Melbourne, Dr Patricia Watson, a Senior Education Specialist at the National Centre for Posttraumatic Stress Disorder, stated that psychosocial recovery of communities could take 'fifteen years or longer to achieve'. Yet there is an absence of longer-term recovery strategies or guidelines following events for social or environmental values (Young, Symons & Jones 2015). This is important because without these, there is no overarching direction for how recovery should be managed to achieve long-term recovery or a strategic 'destination' for communities to guide programs. This can result in poor recovery outcomes that do not meet the needs of communities.

> *The big lesson we've learnt is: before you go putting in any infrastructure, make sure you do your planning. Do your social planning, do strategic planning about what your community's going to need.... What we saw I think has been unprecedented with the generosity and how it's been managed needs for the future to be managed a lot better.*
> (Morris 2015)

Recovery itself is context-specific and no two communities recover in the same way. Recovery is dependent on many factors including the geographical, social and economic context, type of hazard and the level of impact. That is why risk ownership is useful as it provides a constant thread through the dynamic planning landscape. Quite simply, where there is a risk there needs to be a risk owner. If there is no owner it is very likely that it is not being managed.

Risk ownership and recovery

'Risk ownership' is used to define who owns a risk and how they own it. There are two ways a risk can be owned: through the ownership of assets (Productivity Commission 2014) and through the ownership of activities related to mitigating or reducing the risk and the consequences of its impacts (International Risk Standard ISO 31000). Here the focus is on values at-risk, expanding the concept of assets from conventional tangible assets to include economic, social, environment and built assets and the activities associated with them in relation to natural hazard risk.

The Risk Ownership Framework for Emergency Management Policy and Practice (Young *et al.* 2017) was developed in collaboration with emergency management organisations and risk practitioners as part of a Bushfire and Natural Hazards CRC project and provides a basis for implementation.

The framework is intended for use by governments, communities and businesses that are part of, or work with, the emergency management sector. The framework has three components:

- Key concepts and knowledge areas that support risk ownership and strategic decision-making.
- A values-based companion process that links ownership of values to ownership of risk (Figure 1).
- Tools that can be used to support the assessment process.

The companion process is designed so that key tasks can be integrated into current risk planning and assessments. For example, Figure 2 shows key tasks placed within the phases of the NERAG process. The orange squares show where new steps need to be included. The white squares show common risk tasks that may need to be adjusted to accommodate strategic timeframes and also assessment of values. This approach allows the user to determine what is most relevant to their organisation and adapt tasks to suit their decision-making context. Negotiating consensus is a critical aspect of enabling stakeholder support and buy-in.

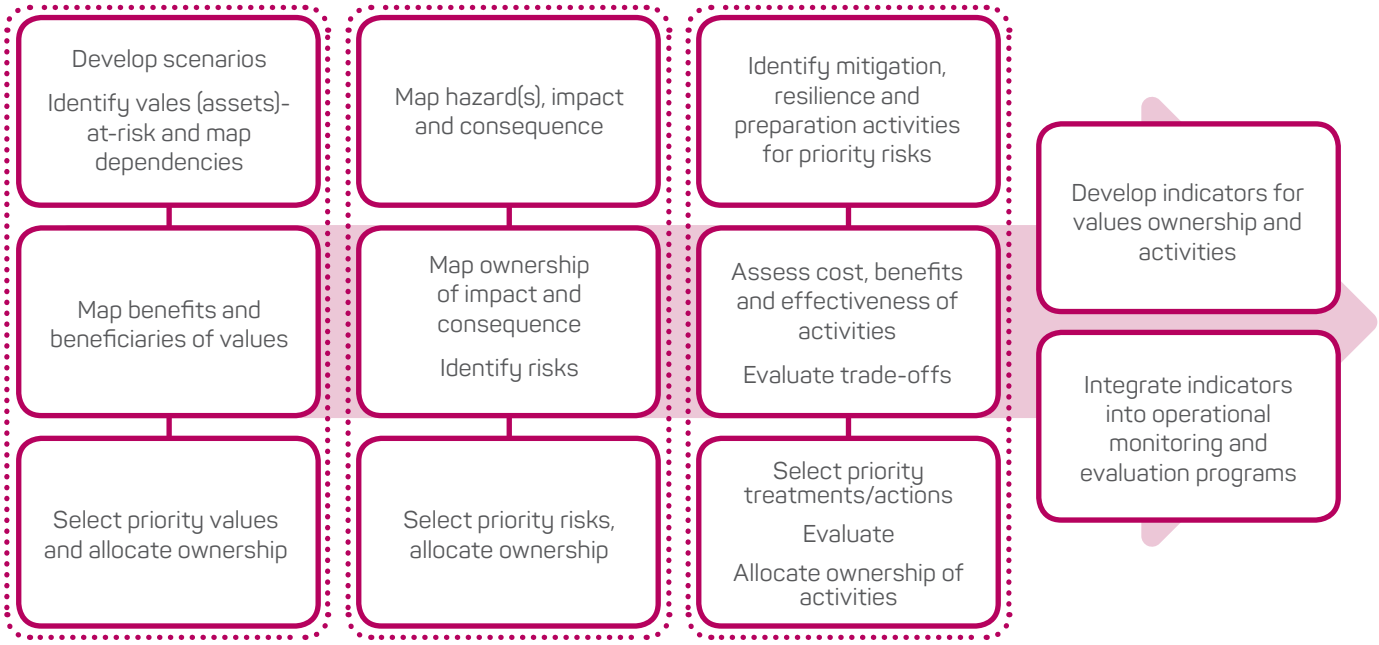

Figure 1: Values-led decision-making process.

NERAG				Negotiate consensus	
Establish the context	1. Develop hazard based scenarios	2. Identify values (assets) and map dependencies	3. Map benefits and who benefits from values	4. Select priority values	5. Allocate ownership of values
Identify, analyse and evaluate risk	6. Map hazard/s, impact and consequence across short – long term timeframe	7. Map ownership of impact and consequence	8. Identify risk	9. Select priority risks	10. Allocate ownership of risk
Risk treatment	11. Identify risk mitigation/ resilience/ preparation activities	12. Assess potential cost, benefits and effectiveness of actions	13. Evaluate trade-offs	14. Select treatments/ actions for priority risks	16. Evaluate and allocate ownership of actions
Monitor and review	17. Develop indicators to monitor progress and outcomes			18. Integrate indicators into ongoing monitoring and evaluation program	

Figure 2: Key tasks within the phases of the NERAG process.

The framework allows 'owners' to be categorised as institutions, groups and individuals. Each category helps classify the different actors who make up the ownership system and can be used to define how they exercise ownership (Table 1). Institutions provide many of the formal structures for recovery. Communities and groups have a largely informal but critical role. Individuals have personal responsibility and can take on roles at the community level. These definitions are fairly porous and offer the potential for public-private ownership and shared ownership arrangements.

Ownership pertaining to recovery can be divided into the three decision-making areas identified in the framework (Table 2).

The questions in Table 2 show the complications inherent in anticipating the recovery process. There is significant literature on recovery from natural disasters, but although it often concentrates on all values, the ones typically enacted are the more tractable values where costing, financing and rebuilding are more straightforward.

Part of the complexity is that every event is different and even with thorough pre-planning and preparation, much of the damage and loss experienced may not have been anticipated. Rapid appraisal will quickly identify which key values have suffered the most damage and will identify areas where recovery is most needed. However, one of the most important aspects of recovery is to quickly

Table 1: Levels of risk ownership.

Level	Definition	Emergency management context
Institutional	Formal or informal structures and arrangements that provide 'the rules of the game' (North, 1990) that govern and shape behaviour of a common set of groups and individuals.	Community, state, local and federal government, boundary organisations, business and industry.
Group	Groups of individuals who share a common interest or purpose.	A particular community, organisation, agency or network (this can also be a virtual community).
Individual	Individual person or legal entity.	Risk manager, house owner, property manager.

Source: Young *et al.* 2017

Table 2: Areas of decision-making related to risk ownership and relevance to recovery.

Decision-making area	Focus	Recovery questions
Ownership of assets at risk from natural hazards.	Identification of key values that sustain a community, place or sector.	What values do we most need to sustain our community into the future? Who owns these values?
Ownership of the risks associated with natural hazard event impacts and short to long-term consequences (both direct and indirect).	Identification of how impacts and consequences to key values result in damage and loss.	What values are likely to need some form of recovery after an event or events? Who are the owners of the impact and consequences for those values over the short to long-term? Who are the owners of the recovery process for the community, place or sector?
Ownership of actions in relation to strategic risk management over the planning–preparation, event and recovery cycle.	Identification of specific actions to identify, recover and sustain key values. Identification of actions to build resilience that will support the recovery process.	What interventions are needed and when? What short-term actions can contribute to the longer-term recovery outcomes and resilience? What are we recovering to?

return people to a state of safety and security so they can recover and avoid the ongoing sense of dislocation and flow-on effects and consequences that may result. This requires a collaborative effort from multiple agencies and organisations including peak bodies, not-for-profit organisations and community groups that play a specific role in supporting and facilitating recovery. Consideration should be given these organisation as a separate institutional group during allocation of risk ownership across the planning process (Young, Jones & Symons 2016).

Complexities of ownership

There are complexities related to risk ownership. Shared ownership can lead to a lack of clarity as to how a risk is owned or what aspects may be unowned. This is the case with overarching, intangible values that depend on multiple stakeholders, such as resilience and community wellbeing that are critical for recovery. For example, for consequences such as mental health issues, a government may be accountable and pay for overall community health, provide welfare support and specific programs, but an agency may be responsible for managing and delivering those programs and the community and individuals also take on an aspect of responsibility and payment. In such cases, ascertaining who is responsible, who is accountable and who pays is critical.

Ownership may be unacknowledged until an event occurs. Unprepared owners may not be able to fulfil their ownership obligations. In some cases, the size of the event can exceed the capacity of risk owners to effectively prepare for an event and ownership can be transferred as a result. For example, the cost of recovery from the 2011 floods in Queensland resulted in Australian taxpayers paying a flood levy (Carter 2012). Ownership

may also change as the associated natural hazard risks and the consequences evolve over time and this can create new risks that require new owners. A further complication is many areas of ownership are allocated through social contracts or informal arrangements and often not documented.

Unowned risks may also occur that result in poor management of them. For example, the landslide in 2011 in the Grampians, Victoria resulted in estimated tourism losses of $25.5 to $30.5 million. There was no dedicated state agency responsible for landslide (Ollerenshaw *et al.* 2014). This has since been rectified and Emergency Management Victoria has accountability for recovery of these events, with responsibility for activities being shared across different government agencies.

Valuing recovery

Long-term recovery requires understanding what is of value and the role of that value in sustaining a community beyond the event. Ascertaining this can be challenging as it is subjective and will often depend on who is doing the valuing as to what is given priority. Values-based approaches are useful in this context as they define what is most important through meaningful deliberation and often rely on levels of consensus between stakeholders. They also assist with the identification of potential risk owners at the beginning of the planning process. They provide a pathway for negotiating trade-offs across different groups and agendas by bringing together multiple perspectives in a way that supports decision-making (Hall & Davis 2007).

Evaluating values across tangible and intangible values is complex because it is not a case of measuring apples with apples and oranges with oranges; it is a case of making an 'economic fruit salad' that applies different methods to evaluate different values. Methods for calculating damage and loss to intangible values, particularly social and environmental values compared to those used for built infrastructure and the local economy, are still relatively under developed. This can make it hard to quantify the benefits of recovery of 'soft' values and balance them against the investment needed for their recovery. As a result, 'hard' infrastructure which has a more readily quantified return on investment, is often given preference, even if intangible losses in the long run may be greater.

Value and trade-off

Trade-offs during the risk ownership process are very different to those carried out during conventional processes. For example, in a conventional setting, efficiency and cost minimisation of potential measures are prioritised. In an environment of high uncertainty, committing greater resources can be a better strategy to manage risk, but is rarely followed because it is at odds with conventional economic management. Convention says, the higher the uncertainty, the more conservative investment should be. This sets up an environment of perverse outcomes, where short-term savings can promote long-term losses.

Risk ownership has the potential to counteract this 'race to the bottom'. For example, if ownership of specific values in 2030 is accepted by a community of risk owners, they are more likely to invest accordingly. Trade-offs will involve comparing 'hard' measures that require direct funding with 'soft' measures that involve community effort and volunteerism with limited financial investment.

Trade-offs between a broad variety of actions across the different phases of strategic risk management (preparedness, prevention, resilience and recovery) cannot always be assessed through the standard economic methodology of calculating return on investment via cost-benefit analysis. Many of the values that are important such as community health and welfare, connectedness and resilience, which are highly valued, cannot easily be costed.

By locating and using the skills and priorities of risk owners at the individual, group and institutional levels, delegations of ownership for different actions can be assessed and trade-offs made between different owners. For example, benefits of an action may be partly public and partly private, opening up the potential for co-funding arrangements between different institutional partners. It also broadens the scope of investment from 'who pays' to incorporate time, material resources and skills.

Starting simply and bringing in more complex assessments when needed is the best strategy. Ideally, the criteria for assessment are determined during the scoping phase. This is where stakeholders set up their rules of engagement for agreeing on what is of most value. Criteria can be based on factors such as:

- cost effectiveness
- return on investment
- maintenance of specific values
- legal and statutory requirements
- available resources and finance.

Methods for evaluation can range from informal voting, ranking methods, multi-criteria analysis, return on investment and cost effectiveness (Young *et al.* 2017, Jones *et al.* 2017). Qualitative and robust measures that use simple criteria to sort options can be used as a starting point. It is also important that the process is negotiated throughout as it requires combining expert and local knowledge with economic understandings to ascertain ownership.

Resilient recovery

Resilience is fundamentally changing how we need to think about natural hazard risk and who owns it, as everyone is now a potential owner. How resilient a community is and understanding possible thresholds of resilience is important for determining what type of recovery actions might be needed. For this to be fully

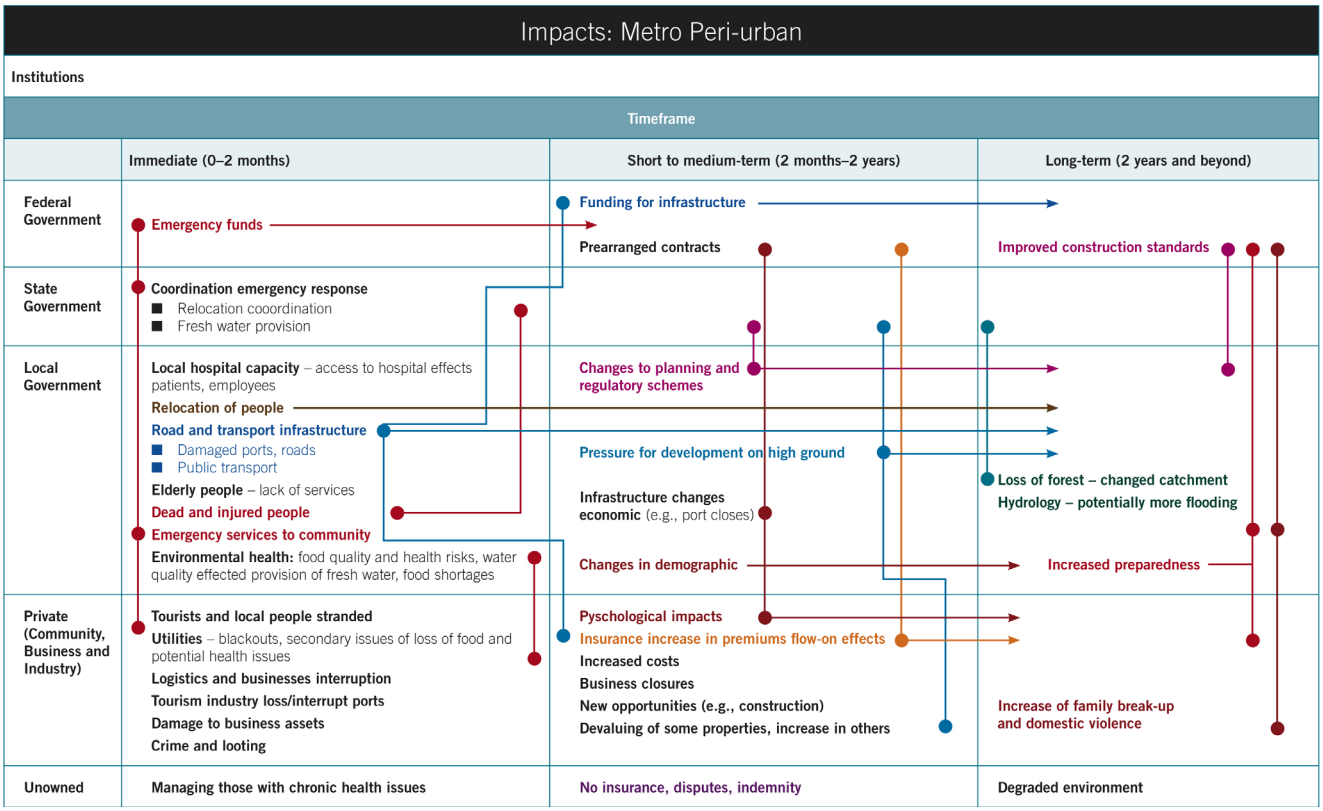

Figure 3: Mapping exercise providing a visual representation of impacts mapped from the response phase across a strategic timeframe.

Source: Adapted from Jones, Young & Handmer 2013.

realised, people need to understand the risks they are faced with, be willing to accept them and have the capability to undertake the actions associated with that ownership. Mapping risk across a timeline can assist this process by identifying future risks and what might be recovered from (Figure 3); also where these risks may increase or impede recovery and where resilience can be built. Strategic risk mapping exercises can be used to provide focus on what interventions are needed in the short-term against what longer-term outcomes may be served by these actions.

Pre-planning of risk ownership and community-scale recovery processes can also help identify the key actions that would be needed to galvanise this process. It is part of the sequence of robustness, redundancy, resourcefulness and rapidity proposed to assist communities to recover after extreme events (Bruneau *et al.* 2003). Recovery actions can be pre-planned:

- Specific recovery tasks outlined in national, state and local recovery plans can be better integrated at community level through the development of shared ownership structures involving local actors.
- The generic development of community resilience will cope better with unanticipated and sometimes very serious outcomes.
- Exploring the scenario-based decision-making process in Figure 3 will identify areas where current plans either do not exist or are immature.

Using this understanding of what we are 'recovering from' to where they will 'recover to' supports the development of more responsive and less reactive recovery arrangements

Conclusion

'People don't value what they don't understand, and I think some values and risks get dismissed because they are seen as too much hard work.' (workshop participant, Young, Jones & Symons 2016)

If we are to achieve broader and more effective recovery and build resilience within and beyond the emergency management sector, these 'difficult conversations' about what values are at risk and how we need to respond to this must be embraced. Natural hazard risks are increasingly complex as the social, environmental and economic systems that shape them change. Negotiation through this complexity to a point of consensus, where ownership of actions is accepted and acted on, is a crucial aspect of effective management. This requires collaboration and well-structured processes and facilitation, which is a long-term proposition. Maintaining

trust during this process is pivotal and requires the creation of spaces where people with different agendas can reflect, discuss and achieve consensus beyond the pervading 'just in time' decision-making context. Discomfort is part of the process, particularly at a community level where emotions and passions need to be acknowledged.

Planning extends recovery beyond surviving an event and rebuilding, to focusing on sustaining the values most treasured by planning for the future we want in the face of changes that go beyond previous experience. It is important for communities to identify what is most important and to identify the risk reduction and resilience strategies needed to protect these so recovery can occur. Different valuation methods can build a comprehensive understanding of how to make long-term investments to avoid damage and loss.

Currently in Australia, recovery funding largely focuses on tangible aspects such as the rebuilding of roads and key infrastructure. By taking ownership of this broader range of values in advance, communities can plan for long-term recovery under a variety of plausible scenarios. This involves what values should be managed, what roles the community and government play in longer-term recovery and who should be responsible, accountable and pay for this. Business cases for planning longer-term recovery need to evaluate the worth of both tangible and intangible values and the benefits derived from them, in order to support structured funding or planning for longer-term recovery of social and environmental values that sustain community wellbeing.

There is a growing appetite within emergency services and government for engagement with the community that includes a reimagining of current roles in relation to natural hazard events and how we prepare, mitigate and recover from them.

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Disaster recovery towards resilience: contributions of an assets-based community development approach

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ABSTRACT

As the likelihood of extreme weather events increases under a changing climate, organisations tasked with disaster risk reduction and emergency management are exploring new approaches to help communities recover from these events. Community-directed initiatives place control back with those who are most affected. However, implementing such initiatives can be challenging. Assets-based community development is one community-directed approach that draws on existing social networks, organisations and community assets. This paper considers how an assets-based community development approach might inform community recovery programs so that recovery efforts support longer-term community resilience. Drawing on the evaluation of a modified assets-based community development approach that was implemented as a recovery and resilience-building program after a bushfire in East Gippsland, Victoria, this paper examines how the key elements of assets-based community development can guide recovery programs. Findings indicate that an assets-based community development approach has significant potential to guide community-directed recovery programs that may contribute to longer-term resilience. This provides insights into disaster recovery practices that shift from responsive post-disaster actions to proactive resilience-building.

Introduction

Climate change is very likely to lead to the increased frequency and intensity of extreme weather events such as heat waves, fire and intense rainfall (IPCC 2014, Wang *et al.* 2017). Many governments and emergency management organisations recognise that the future environment will be different from today and that their responses cannot necessarily be extrapolated from past experiences (Bosomworth & Handmer 2008, Owen *et al.* 2014). Some are exploring new approaches to prepare for and respond to more frequent and severe natural hazards and, importantly, helping communities recover after disasters. This paper identifies how a modified assets-based community development (ABCD) approach may contribute to community-directed recovery and to longer-term community resilience, based on the experiences of communities in East Gippsland, Victoria, impacted by bushfire in 2014.

The term 'recovery' has long been associated with returning communities to pre-disaster conditions. Recovery efforts are adept at rebuilding homes and infrastructure and re-establishing key services; the tangible elements of a community (Alesch *et al.* 2009, Leadbeater 2013). However, many recognise the importance of rebuilding and strengthening the less-tangible, social infrastructure of a community (Aldrich & Meyer 2015). Once the initial activity of responding to a disaster passes, it is often local governments that are responsible for managing longer-term recovery efforts to rebuild the social fabric torn apart during a disaster (Alesch *et al.* 2009). Local governments bring varying skills and capacities to this protracted and diverse task and different approaches have been employed (Coles & Buckle 2004). There is no standard approach that works in all situations. Recovery is dependent on the nature of the event and the context-specific elements inherent in the community (Alesch *et al.* 2009).

Victoria's emergency service providers have long-recognised the value of active community participation in recovery (Coles & Buckle 2004, Gordon 2009, Leadbeater 2013) but 'how best' to engage communities in recovery remains a challenge. Numerous community-based or community-directed

approaches exist. The *Disaster Recovery Toolkit for Local Government* (Dibley & Gordon 2014) provides guidance and principles for engaging community in recovery efforts pre- and post-events. After the Black Saturday bushfires in Victoria in 2009 for example, Yarra Ranges Council implemented an approach to recovery, informed by Disaster Social Process Theory (described in Gordon 2004), and established a Municipal Recovery Committee with staff and local community representation (NLT Consulting Pty Ltd 2012). The community of Strathewen, on the other hand, established their own Strathewen Community Renewal Association (an incorporated body) to lead the area's recovery and renewal after the fires, independent of local government (Leadbeater 2013).

East Gippsland Shire Council (EGSC) in the east of Victoria, found that community engagement for recovery mostly follows a 'top-down' pattern, where government agencies lead decision-making and implementation of recovery support. Many recovery projects are conceived and developed by people outside the affected community. This top-down process risks limiting community input to the recovery agenda, resulting in people feeling disengaged from guiding recovery efforts.

Complementing the discussion of community-directed recovery has been an increased discourse around building community resilience to natural hazards (Cutter *et al.* 2014). Community resilience can be considered a localised (often geographically defined) ability to respond to and recover from disruption, to cope with or absorb impacts, to adapt, to reorganise and change in response to a crisis through communal actions (Cutter *et al.* 2008, Cretney 2015). Resilience also suggests emergent behaviour and creativity (Coles & Buckle 2004) and can encompass the opportunities that disturbances and stresses open up (Folke *et al.* 2010). Many documents concerned with disaster preparedness, response and recovery, including the *National Strategy for Disaster Resilience* (Council of Australian Governments 2011), are underpinned by some form of resilience framework. Many of these frameworks incorporate a focus on social capital (Aldrich & Meyer 2015).

However, resilience cannot be imposed on a community from external authorities. The understanding that 'resilience relies on citizens and communities, not the institutions of state' (Edwards 2009) highlights that for communities to reduce vulnerability to disaster events, they need to look at community assets and how they might provide the opportunity to adapt to changes, in the short and long-term.

To help communities emerge from traumatic events, to reconnect social fabric and build resilience, there is a need for leaders to emerge from within the community to guide recovery efforts (Leadbeater 2013) and for community needs to be expressed (Coles & Buckle 2004). This requires timelines that are longer than currently allowed for by government recovery efforts and for recovery to be shaped internally (Leadbeater 2013). It also requires flexibility in project design so that different community needs can be met in creative ways (Coles & Buckle 2004). Above all, recovery efforts need dedicated specialists to assist community efforts (Gordon 2009, Horney *et al.* 2016).

The EGSC Adaptation for Recovery project, implemented after fires in the region in 2014, sought to address issues of government-led, top-down, decision-making while improving resilience in the fire-affected communities. Drawing on the ABCD approach, the project facilitated a recovery effort that offered communities the time and flexibility for local leaders to emerge and to draw on community assets to re-develop social connections and, in the process, contribute to shaping their own form of community resilience. The Adaptation for Recovery project was evaluated to determine if the project contributed to community ideas of resilience and in what way the ABCD approach may contribute to a more empowering, community-directed recovery.

East Gippsland, early 2014

Several fires occurred in East Gippsland from January to March 2014. The two most severe were the Mt Ray-Boundary track fire north of Glenaladale and the Goongerah-Deddick Trail fire in the remote communities of Deddick, Tubbut, Bonang and Goongerah. These were intense fires that burnt for 67 and 70 days, respectively (Emergency Management Victoria 2014b, Emergency Management Victoria 2014a).

Glenaladale is a predominantly farming community 30 minutes from Bairnsdale. It also incorporates several lifestyle properties and a plantation forest. The population is approximately 400 people (Australian Bureau of Statistics 2016). Goongerah, Bonang, Tubbut and Deddick are in the remote, forested hills in the east of the shire. Bonang, Tubbut and Deddick are chiefly farming communities, while Goongerah has smaller-scale farms and an 'alternative lifestyle' population. These remote communities have a combined population of less than 200 (Australian Bureau of Statistics 2011a, b and c) and were hit by severe fires in 2002-2003.

During the 2014 fires, no lives were lost, however, several homes and over 1000 livestock perished. Nearly 200,000 hectares of private and public land burnt (Emergency Management Victoria 2014b, Emergency Management Victoria 2014a). The trauma of the extended exposure to the fire threat, and for the remote communities the compounding effect of two large fires just over a decade apart, was evident. Members of both communities expressed hurt and anger at elements of the fire response by emergency services.

Several recovery projects, delivered by government agencies or non-government organisations, were implemented concurrently. The Goongerah, Bonang, Tubbut area had five additional projects running simultaneously, including the East Gippsland Mental Health Initiative (EGMHI), while Glenaladale had the EGMHI and council-led recovery events delivered alongside the EGSC Adaptation for Recovery project.

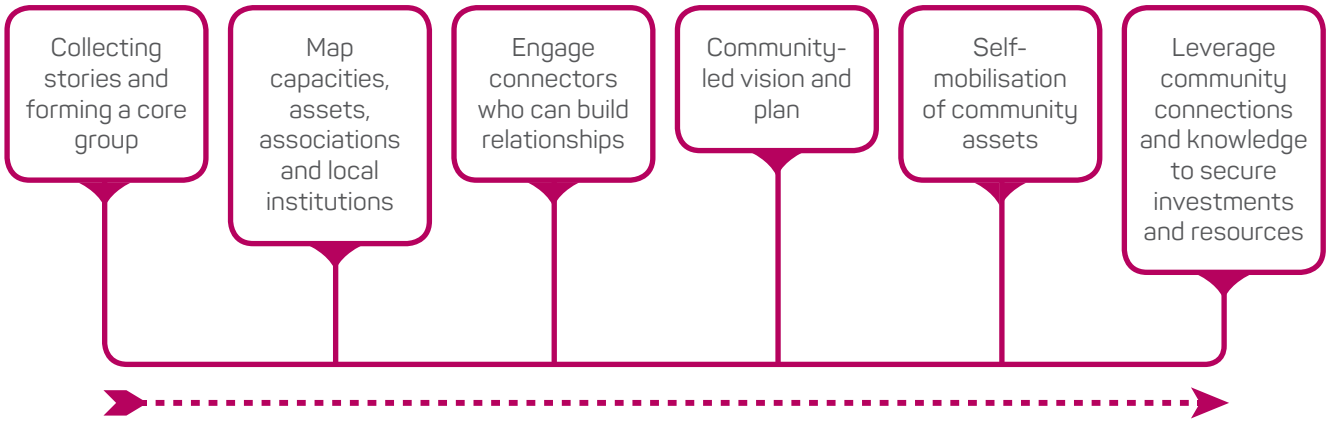

Figure 1: One representation of the assets-based community development process.

ABCD model for community recovery

The ABCD approach has been used in community development since the 1990s when the concept was outlined by Krezmann and McKnight (1993). The approach recognises that traditional forms of community development focus on needs and deficits in a community and efforts to fill those deficits often come from external sources. Over time, this deficits-based model leads to increased dependence on external resources and assistance (Kretzmann & McKnight 1993). The alternative assets-based approach identifies and builds on the assets and strengths that exist in a community and mobilises individuals, local organisations and institutions to come together to use and build on those assets. Five types of assets are recognised:

- individual skills and knowledge
- associations such as clubs and groups
- institutions such as government agencies
- place-based assets such as the land or heritage of an area
- connections including social networks (Kretzmann & McKnight 1993).

Implementation of ABCD varies between projects but can be represented by Figure 1. The ABCD process begins by listening to people's stories and their perspectives on a situation, and forming a core group of community members to lead the process. It then maps the assets in a community to create awareness of latent strengths and draws on them to identify community aims, and to facilitate connections that can help achieve them.[1] Internationally, the approach has been used in both developed and developing countries. In Yates County, New York for example, ABCD was applied in a rural health improvement program (ABCD Institute 2011) and in the Solomon Islands in a program building sustainable livelihoods (Coady International Institute n.d.). In Australia, ABCD was first implemented in 1999 in Victoria in the Latrobe Valley Community Environmental Gardens and Santa's Workshop projects that focused on community and economic development (Sustaining Community 2015).

EGSC recognised that the recovery model employed in the past focused on 'needs and deficits'. They sought a different method and proposed ABCD as an alternative model for recovery and community resilience. This aligned with Victoria's Emergency Relief and Recovery Plan, which notes that a resilient community 'uses personal and community strengths, and existing community networks and structures' (Emergency Management Commissioner 2015, p. 8).

The Adaption for Recovery project developed differently in each of the fire-affected communities and was modified from the generic ABCD approach.[2] With guidance from facilitators, Glenaladale and Bonang-Tubbut established local emergency management groups that led the project in the respective areas. Establishing these core project groups was proposed at community meetings but they were ultimately formed from local volunteers rather than through an electoral process. Membership included men and women, farmers and non-farming community members. Some were representatives of the local hall committees, others held no previous formal role in the community. Their focus was connecting with their communities and preparing for future emergency events. Unlike Glenaladale and Bonang-Tubbut, the community of Goongerah did not establish a formal group. Instead they opted for interested individuals to meet on a regular basis to plan for and progress initiatives.

The traditional asset mapping that underpins ABCD was not undertaken. Handmer (2003) notes that while assets

1 For a detailed explanation of ABCD, see Kretzmann and McKnight (1993) or visit the ABCD Institute at https://resources.depaul.edu/abcd-institute/about/Pages/default.aspx.

2 Refer to Adaptation for Recovery Evaluation Report (www.cur.org.au/cms/wp-content/uploads/2017/06/east-gippsland-afr_final-_v5.pdf) or Adaptation for Recovery in Bushfire Affected Communities Final Project Report, Dec 2015 for a description of the project in each of the communities.

such as networks and linkages can be mapped under normal conditions, during a crisis, emergent networks may be more critical, but are not easily mapped. Thus, an iterative process of identifying assets emerged. For example, in Glenaladale, as ideas emerged to move the community forward, the facilitator worked with the project group to identify specific tasks and the skills and assets that were needed. The project group members identified where those skills and assets might be sourced, with the facilitator encouraging the group to enhance their own capacities and skills.

Each project group and the Goongerah residents, helped by the facilitators, identified activities and initiatives that were particular to their local community and met community needs of feeling prepared and connected. They took the lead in mobilising community assets, coordinating and implementing the initiatives. The group members also leveraged connections and knowledge to secure additional funding by applying for grants, and to draw additional resources into the community.

East Gippsland community recovery and resilience

The Adaptation for Recovery project was evaluated during 2016 through 22 interviews with organisational stakeholders and community members, five community evaluation meetings and a vox pop session at a community recovery event. The evaluation found that the project delivered immediate and tangible outputs for the communities, as well as longer-term, less-easily quantifiable outcomes (Scott *et al.* 2017).

Tangible outputs included numerous initiatives in each of the project areas targeting individual capacity needs as well as community preparedness. Initiatives included community events (e.g. emergency services days and fire preparation planning days), capacity building and training activities (e.g. multiple conference attendance opportunities and Bolder Bushbeats workshops for children), local infrastructure projects (e.g. static water supply and information shelter) and establishing local incident management plans. Feedback about these activities was generally positive, for example, a comment about the children-focused Bolder Bushbeats workshop was:

> *There was great benefit to our students to be able to participate in this program….The feedback from the parents and general community at the concert was very positive and the clear message around fire safety and preparedness from the children was powerful and timely for all.*
> (Goongerah community member)

Those who contributed to the evaluation perceived that less-easily quantifiable resilience outcomes, which were defined by each community, occurred as a result of the project. This included improved access to resources and better engagement with government. Interviewees felt the project had improved communications, strengthened connections and contributed to a sense of self-reliance, community commitment and participation. It also provided mechanisms to enhance practical preparedness at individual and community levels. As noted by one Bonang-Tubbut resident, 'The sprinkler day—that was a useful exercise. It gave me some ideas'.

For those who participated in the project, they reported positive attitudes and behaviours such as more confident outlooks, feeling empowered and a sense of pride in their achievements; feeling more connected to their community and a willingness to take more responsibility. One community member noted: 'I've really grown as a person. I feel more educated, more empowered. I'm better at handling difficulties' (Community member, Glenaladale). In addition, community and government agency representatives reported that healthier relationships were established with better two-way communication.

While the project engaged over 200 people in different activities there were several people in each of the communities who did not actively participate, even with the support of the EGMHI mental health professional. For some of these people, there were concerns about the legitimacy of the project groups, perceptions related to lack of transparency and accountability and feelings of being 'outside' the process. Recognising these perceptions of the project pilot will contribute to enhanced future project design.

ABCD contribution to community recovery and resilience

The evaluation found that several elements inherent in the ABCD approach enabled the project achievements, particularly the recovery facilitators and the community-directed nature of the project, as well as the flexible project design and budget and extended project timeframe. Importantly, it was the addition of the mental health professional working for the concurrent project, EGMHI that enabled greater psychosocial benefits to occur, particularly in the remote project areas. The mental health professional worked alongside the recovery facilitator in meetings to enhance connections and linkages, by encouraging bridges for outsiders and drawing out attributes of tolerance and care. This requires professional skill and is an important feature to add to the traditional ABCD approach when implementing it in a recovery situation. The project, working with the mental health professional for EGMHI, encouraged tolerance and care by mobilising all community members to participate. Kesselring (2016) emphasises that such efforts of inclusion and mobilisation decrease a 'victim' response scenario.

The recovery facilitators were vital to the project. Project group members noted that without them, 'there wouldn't be an impact on anything' (Community member, Bonang). They were regarded as crucial in directing community attention towards the future. They developed strong relationships and trust with community members;

actively motivating the community project groups and individuals. Additionally, the facilitators provided an important link to government agencies and helped to establish contacts and resourcing opportunities.

The non-prescriptive project design and flexible budget supported the emergence of creativity. This flexibility allowed the project to evolve according to local conditions and requirements, to draw on and build local assets and enable collaboration with concurrent recovery projects. Importantly, the flexibility enabled community-directed recovery. In each community, the voluntary project group coordinated project efforts, or in the case of Goongerah, individuals volunteered to coordinate particular initiatives. This allowed community members to identify the priority issues for their area, as well as how they could be addressed. Drawing on and building on existing skills and capacities in the community enabled a sense of ownership and achievement. Additionally, allowing the project to be delivered over a two-year timeframe provided the space for leaders to emerge and for social connection processes to occur in a more natural way.

The project groups also created a focal point for agencies to liaise with the community, with local project governance left largely up to each group. A locally convened project group created some challenges, however, such as reinforcing perceptions of those 'within' the group and those 'outside'. The EGMHI mental health professional worked to minimise these perceptions, not only directly by professional efforts with individuals, but also by influencing the way the facilitators and project groups worked with the community, encouraging inclusiveness.

The pilot of the ABCD approach has shown promising results but can be further enhanced. Future projects could incorporate an early and robust, facilitated process to address community anger and frustration. Also, earlier and explicit involvement of mental health professionals to engage with the emotionally vulnerable in the community, and to enable existing community divisions to be recognised and minimised to allow open inclusion of as many of the community as possible. Future applications of ABCD may explore how dynamic asset mapping might be incorporated. Finally, although the community came to embrace the project's flexibility and openness, it was confusing for them at the start. Developing a simple, cohesive message about the aims of a community-directed recovery and resilience project and its functioning would assist understanding and adoption.

Conclusion

The application of the ABCD approach to post-disaster recovery and community resilience-building demonstrates a promising method for community-directed recovery. The Adaptation for Recovery project delivered in fire-affected communities in East Gippsland shows that the approach can build individual capacities as well as social connections and bonds in communities. The facilitators were vital to the project by helping to identify and draw on local assets and strengths. The addition of a mental health professional working alongside project facilitators was an important element that contributed to the project's outcomes (even though their role was part of a separate, concurrently run project).

Evaluation of the two community project groups demonstrated a preference to enhance preparedness for future events, both individually and as a community. This suggests the approach could provide insights into proactive resilience-building and recovery planning.

Future applications of the ABCD approach may explore dynamic asset mapping and how this might serve recovery and resilience. To improve the potential of ABCD, additional elements such as a facilitated process to address community anger and frustration, explicit incorporation of a mental health professional early in the project, as well as simplified, consistent project messaging at the start of the initiative should be incorporated.

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The Canterbury earthquakes and the effect on landlords and tenants with commercial leases

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ABSTRACT

The Canterbury earthquakes in 2010 and 2011 had a significant impact on landlords and tenants of commercial buildings in the city of Christchurch. The devastation wrought on the city was so severe a cordon was erected around the central business district for two and a half years while buildings were demolished, repaired or rebuilt. This was an unprecedented response to a natural disaster in New Zealand. Nevertheless, despite the destruction not all buildings within the cordon were damaged; many were still capable of being occupied and used. The difficulty was that tenants could not access them. As time went on and it became clear the cordon would be in place for a significant period, tenants did not want to pay rent for buildings they could not use. They wanted to end their leases to set up business elsewhere. The problem was that landlords and tenants were unclear about their legal rights because the law was unclear; their leases did not cover an inaccessible building and neither did the legislation. This paper argues there is a possible solution: the application of the doctrine of frustration. This doctrine enables contracts to be terminated in situations where an extraordinary event has such an effect on a contract that it radically changed the parties' contractual obligations. It is argued the doctrine should apply to enable landlords and tenants with commercial leases of buildings affected by the Canterbury earthquakes to terminate them.

Introduction

In the years following the Christchurch earthquake disaster, research was undertaken to look at how commercial landlords and tenants were affected by the earthquakes. Landlords and tenants directly affected and lawyers who had experienced earthquake-related lease issues were interviewed. The most common problem raised by participants was that their building was inaccessible.

Hundreds of buildings were damaged in the February 2011 earthquake and an extensive cordon was set up around the central business district (CBD) closing off 75 blocks. Entry to this restricted area was manned by the New Zealand Defence Force and the Christchurch Police. Over time, the cordon reduced in size as buildings were demolished or made safe. However, it was not until June 2013, nearly two and a half years later, that the cordon was completely removed.

Despite the devastation, there was a large number of buildings that were not damaged. They could have been used except that they were located behind the cordon. Landlords and tenants did not know their legal rights in this situation. Did tenants have to continue paying rent? Could the lease be terminated? Some tenants just stopped paying rent and set up business elsewhere. Others were told by their landlords they had to pay rent. One tenant, a charity, reported the following:

> *I contacted the landlord and said I have signed up a lease for another building. I said I understand we are not going to be able to get back into the building for some time so we would no longer be paying the rent. He said 'Read your contract; your contract states that if you don't pay you will have penalties to pay as well'. I made a decision to continue paying the lease because the penalty was 25 per cent and we were paying nearly $9,000 a month for our lease, so it was a lot of money to be penalised if we didn't pay.*
> [Participant FQ208]

Tenants, more than landlords, wanted to terminate their leases. They did not want to pay rent for, or be held to, a lease of a building they could not use for a prolonged period. Most simply could not afford this expense. Yet they were unable to end their leases because their leases did not provide for termination in this situation and nor did the legislation. The law was unclear.

One possible solution could have been to apply the doctrine of frustration. If it had been applied it would have terminated the leases and freed the parties from their obligations under them.

The doctrine of frustration

The doctrine of frustration is a principle developed by the common law over many years. It applies in situations where a supervening event affects a contract in a way that prevents one or both parties from being able to carry out their obligations. It was established to provide justice in cases that would have produced unfair results had the terms of the contract been literally and strictly applied.

The doctrine was first recognised in 1863 in *Taylor v Caldwell*.[1] A party contracted to use the Surrey Gardens and Music Hall for the purpose of giving four concerts over a period of three months. Six days before the first concert the Music Hall was destroyed by fire although neither party was at fault. There was no express provision in the contract to cover this situation. If the terms of the contract had been strictly upheld the hirer would have been liable for the rental of the hall even though it had been destroyed. The court decided that as the hall was no longer in existence the contract came to an end. In other words, the contract was frustrated.

Many attempts have been made to define the doctrine of frustration. The most often quoted definition is that of Lord Radcliffe. He said:[2]

> *... frustration occurs whenever the law recognises that, without default of either party, a contractual obligation has become incapable of being performed because the circumstances, in which performance is called for, would render it a thing radically different from that which was undertaken by contract.* Non haec in foedera veni; *It was not this I promised to do.*

The doctrine has been applied in many situations where a contract has been affected by a supervening event the parties had not contemplated and therefore had not provided for. Owing to the variety of situations that could potentially arise to frustrate a contract, every case has to be determined on its own facts.

When considering whether a lease has been frustrated, there are added complications. A lease is not only a contract but also a vested interest in land that can be registered under s 115 *Land Transfer Act 1952*. Furthermore, a lease is an ongoing contract where the parties' rights and obligations continue for many years. It is not just a one-off transaction like a contract for the sale of goods. Owing to these differences, there has been much debate over the years about whether a lease could ever be frustrated. Fortunately the law has now been clarified by the House of Lords in *National Carriers Ltd v Panalpina (Northern) Ltd*,[3] when it confirmed that the doctrine of frustration applies to leases as to any other contract. It did, however, restrict its application by saying that the circumstances in which it would apply to leases would be rare. In that case, a warehouse became inaccessible for 20 months when the local council closed the only access road to it. The tenants claimed the lease was frustrated. Despite having confirmed the application of the doctrine to leases, the House of Lords decided the lease in this case was not frustrated. The disruption of 20 months of a lease for ten years was insufficient to cause frustration, particularly when there was still five years of the lease to run.

The test for the doctrine

The leading case on the doctrine of frustration in New Zealand is a recent 2013 decision of the Supreme Court in *Planet Kids Ltd v Auckland Council*.[4] This case did not involve a lease but is nevertheless important because it clarified the test to be applied to determine if frustration has occurred. The test requires a multi-factorial approach which involves consideration of the following factors:

- the terms of the contract, its matrix or context, the parties' knowledge, expectations, assumptions and contemplations, in particular as to risk, as at the time of the contract, the nature of the supervening event and the parties' reasonable expectations and objectively ascertainable calculations as to the possibilities of future performance in the new circumstances
- the demands of justice
- a number of tests put forward by judges over the years, and affirmed by the courts[5]
- the test to be applied is an objective one
- the court identifying, and taking into consideration, the circumstances in which the parties intended the contract to operate.

When the contract is a lease there is one other important factor the courts must consider as part of the assessment and that is the effect of the disruption on the lease. This involves a comparison of the length of the term of the lease, the length of the disruption and the length of the term remaining after the disruption ceases. The longer the term of the lease, the less likely any disruption will be considered frustration because even a lengthy disruption is unlikely to have much of an impact on the lease. Alternatively, a lease with a short term is more likely to be frustrated because even a small disruption could have a significant impact. It depends on the facts of each case.

The nature of the earthquake

For the doctrine of frustration to apply there must have been a supervening event that changed the nature of the obligations under the contract in a way the parties had not contemplated.

1 *Taylor v Caldwell* (1863) 3 B&S 826.

2 *Davis Contractors Ltd v Fareham UDC* [1956] 1 AC 696 at 729.

3 *National Carriers Ltd v Panalpina (Northern) Ltd* [1981] 1 AC 675.

4 *Planet Kids Ltd v Auckland Council* [2013] NZSC 147.

5 Construction of contract theory by Lord Reid in *Davis Contractors Ltd v Fareham Urban District Council* [1956] 1 AC 696; the 'radically different' test by Lord Radcliffe also in the *Davis Contractors Ltd* case and quoted earlier; the 'significant change' test by Lord Simon in *National Carriers Ltd v Panalpina (Northern) Ltd* [1981] 1 AC 675 and Lord Sumner's 'common object' test in *Hirji Mulji v Cheong Yue Steamship Co Ltd* [1926] AC 497.

The essence of a lease is that a landlord provides a building for a tenant to use and in return the tenant pays rent. The cordon in Christchurch meant tenants could not access their buildings and therefore could not use them. In this way they were not receiving what they had expected or contracted for. Furthermore, landlords and tenants had never contemplated their leases being affected in this way. One landlord said:

> *I had never considered the city would be damaged in such a way by an earthquake. The main reason I would have thought the building might be damaged would be by a fire or maybe temporarily inaccessible due to a flood.*
> [Participant FQ200]

The earthquake and its consequences were not foreseeable

Previous cases had raised the question of whether the doctrine of frustration would apply if the supervening event was foreseeable; the rationale being that if it was foreseeable the parties could have, and should have, provided for it in their contract. In the Planet Kids case, the Supreme Court confirmed that foreseeability is not decisive on its own; it is but one of a number of factors that must be considered. Moreover, the court confirmed it is not just the supervening event that must be foreseeable but also the consequences of the event.

In New Zealand, earthquakes have been held to be a foreseeable risk.[6] However, it could be argued that a number of unusual features made the Canterbury earthquakes different and therefore unforeseeable. These include the cumulative effect of a number of significant aftershocks, their occurrence in a low-to-moderate zone of seismic activity on unknown faults close to a high density urban area, a high amount of energy was released for earthquakes of their size, the vertical accelerations were extreme and the faults were shallow. In particular, the February 2011 aftershock was centred close to the city centre and caused significant damage. Nevertheless, even if the earthquakes were foreseeable, the consequences must be too. Here, there is a strong argument the erection of the cordon was not. This is supported by evidence from all participants who said they never expected nor contemplated the CBD being cordoned. One tenant commented:

> *Nobody could have foreseen that a whole city would be fenced off. Whether your building was damaged or not, you wouldn't be able to access it and if you could access it, you couldn't use any of the services because your toilets wouldn't work, you wouldn't have water coming in, there was no power, gas pipes were ruptured … it's a whole new world.*
> [Participant FQ306]

Furthermore, the participants did not expect to be denied access to their buildings for such a long time, in some cases nearly two and a half years.

The leases and the legislation

The doctrine of frustration will not apply to a contract that has provision covering the situation that has occurred. It will also not apply if there is applicable legislation. In Christchurch, neither the leases nor the legislation dealt with the issue of an inaccessible building.

A standard form lease, the Auckland District Law Society lease (2008, 5th edition), used extensively throughout New Zealand, was the lease most commonly used by landlords and tenants in Christchurch at the time of the earthquakes. This lease contained provision that covered buildings if they were destroyed or damaged. If the building was destroyed or untenantable, the lease would terminate. If the building was only damaged, the rent would be abated until the building was repaired or reinstated. However, the lease did not cover the situation of an inaccessible building. This was a problem because landlords and tenants looked to their lease for answers. One lawyer said:

> [The lease] *was more unhelpful as an immediate source of guidance for tenants who were facing a practical lock-out situation, not knowing what to do when the circumstances were not described in the lease at all. Their building might have been fine but they weren't allowed to get anywhere near it. The lease just didn't have answers for that.*
> [Participant FQ002]

There was no provision in the legislation that covered an inaccessible building either. *The Property Law Act 2007* governs commercial leases unless specifically excluded, as does the *Property Law Act 1952* (repealed) that still applies to leases entered into prior to the enactment of the current legislation. They imply certain covenants into leases where the leases have no provision.

In relation to the 2007 Act, two of the covenants specifically refer to earthquakes; one providing for the payment of rent and the other requiring the lessee (or tenant) to keep and yield up the premises in their existing condition. The covenant that provides for the payment of rent simply states that rent is payable unless the premises are destroyed or damaged by certain causes, one of which is an earthquake.[7] In this situation the rent will abate until the premises are repaired and are fit for occupation. However, there is nothing in this covenant that allows either party to terminate the lease.

The other covenant requires the lessee to keep and yield up the premises in their existing condition.[8] However, the lessee is not bound to repair damage caused by any of a number of listed causes, one of which is an earthquake. But this covenant does not help landlords or tenants if they want to terminate the lease either.

6 *Hawkes Bay Electric Power Board v Thomas Borthwick & Sons (Australia) Ltd* [1933] NZLR 873.

7 *Property Law Act 2007*, s 218(1), Schedule 3, cl 4 and *Property Law Act 1952* (repealed), s 106(a).

8 *Property Law Act 2007*, s 219, Schedule 3, cl 13(1) and *Property Law Act 1952*; *Property Law Act 1952*, s 106(b).

There are three other covenants that might apply in an earthquake. The first allows the lessee to terminate the lease if it is an express or implied term that the leased premises may be used for one or more specified purposes and the premises cannot be used for those purposes.[9] This covenant would probably apply where, for example, local government made zoning changes which, as a consequence, meant changes were made to the permitted use of the premises within the new zone. This issue, however, does not relate to access to the premises; it relates to legal use of the premises which is different. Therefore it is unlikely this covenant could be used to terminate leases where premises were inaccessible.

The second and third covenants can be grouped together as they are similar in effect: the covenant that the lessor will not derogate from the lease and the covenant of the lessor to ensure the tenant shall have quiet enjoyment of the leased premises.[10] The covenant not to derogate from the lease means the landlord may not do anything that is inconsistent with the purpose for which the premises were let. The covenant of quiet enjoyment protects the tenant from interference with possession of the premises by the landlord. In both of these situations the covenant is breached where the landlord has done something that has interfered with the tenant's rights to the property. This was not the issue in the case of an inaccessible building. It was not the landlords' fault the earthquake occurred and the cordon was erected. It was not the landlords who had interfered with tenants' rights to use the buildings. Tenants would be more likely to claim a breach of this covenant if landlords carried out noisy or lengthy repairs to their buildings.

The property law legislation was clearly drafted in contemplation of earthquakes. However, it is not comprehensive in its coverage. Like the Auckland District Law Society lease, it only applies to buildings that are damaged and does not cover an undamaged, inaccessible building.

Risk at the time of the contract

Landlords and tenants had not turned their minds to the problem of an inaccessible building. When the issue did arise, they were surprised the lease did not provide for it. The ADLS lease was widely used and considered to be a good document prepared by a committee of specialist property lawyers. However, the risk that the parties might not be able to access their buildings was not considered nor provided for in the lease. In this way the risk was not allocated to either party.

Future performance of the contract

Tenants were also surprised their leases did not provide for termination in the event their building became inaccessible. They were certainly very clear that they did not expect to keep paying rent for a building they could not access. One tenant's view was shared by many:

> *I did not look at the terms of the lease. I just assumed that anyone in their right mind would know that if you can't occupy a building then you shouldn't have to pay rent. It was only later that I realised from stories in the press that some tenants had to keep paying rent. The building might be able to be used but the cordon prevented them from using it; so they were liable to pay.*
> [Participant FQ214]

Tenants were also keen to end their leases. They wanted to set up business elsewhere and enter into new leases. They did not want to be liable for two leases. One said:

> *If I hadn't got new premises that would have been the end of my business. If the landlord had required me to go back into the building after its repair, I don't know what I would have done.*
> [Participant FQ214]

A lawyer said:

> *I don't see much point of having leases that [mean the tenants] will go and lease somewhere else for six months while the work is done and then come back. It just seems, in most cases, tenants will want to find another place and keep going from the [new] place … they would rather terminate and move on.*
> [Participant FQ005]

Tenants were also concerned at how long it would take to clean up the CBD and did not want to return until there was business for them in the city centre.

The majority of landlords did not consider that leases should be terminated if the buildings were inaccessible. However, they held mixed views about whether rent should be paid. Some thought that, on a moral basis, they could not charge rent in such circumstances. Others relied on the fact that there was nothing in the lease that imposed the risk on them. Their argument was they should not have to bear that risk:

> *… we are strongly of the view the landlord is only responsible for erecting the building and maintaining essential services. A landlord should not provide a warranty as to continued occupation … The inability to access the premises does not directly relate to the fabric of the building and is in essence a business risk. Those business risks should be borne by the tenant and not the landlord.*
> [Participant FQ301]

Effect of the disruption on the lease

The majority of tenant leases were for terms of between three and six years while landlords reported longer

9 *Property Law Act 2007*, s 218(1), Schedule 3, cl 10(1).

10 *Property Law Act 2007*, s 218(1), Schedule 3, cls 8 and 9.

leases of six to ten years. The length of time tenants were unable to use their buildings varied from six weeks to four years. For those leases of three years or under, a disruption of six months or more would likely have had a significant impact, as would a disruption of two years or more for leases of six years and upwards.

The demands of justice

The final overarching consideration in the test for the doctrine of frustration is the question of what does justice demand be done in this situation? Should the doctrine be applied to terminate the leases in these circumstances?

Tenants were generally the owners of small to medium-sized businesses. They suffered financial hardship when they were unable to terminate their leases. They had costs to cover such as relocation expenses and rent for new premises. In some cases tenants were also required to pay for the lease of their inaccessible building. Those whose rent had been abated on the inaccessible building were still potentially liable for two leases once the cordon was removed and the CBD was accessible again. This is because new landlords signed tenants up for lengthy terms knowing it was likely they would move back to the CBD once it reopened.

Tenants also faced uncertainty about their future. They did not know how long the cordon would remain in place. They did not know if they would have to return to their buildings in the CBD. They did not know what the city would be like when they returned and whether there would be any business there for them.

Landlords also suffered hardship after the earthquakes. Their hardship, however, related to tenants not paying rent. If they did not have insurance or the insurance was insufficient to cover the length of time the rent remained unpaid, it had a financial impact on them. Landlords were keen to keep the leases in force and collect rent.

It is clear that justice demands tenants be granted relief in these circumstances. Tenants should be released from leases where their rights and obligations have substantially changed from those originally contracted for and where they could suffer serious financial hardship. Landlords, being in the business of leasing, are in a better position to protect themselves and should therefore be responsible for insuring against the risk of an inaccessible building.

Conclusion

Landlords and tenants of commercial buildings were significantly affected by the CBD cordon set up after the Canterbury earthquakes. Their buildings became inaccessible. However, they did not know their legal rights because their leases did not provide for this situation and the law was unclear. The application of the doctrine of frustration to leases was not decisively tested after the Canterbury earthquakes. The uncertainty in the law meant litigating the issue was risky. However, it continues to be a potential solution for future events. For example, as a consequence of the 2016 north Canterbury earthquake, cordons were erected around various dangerous buildings in Wellington. This restricted access to office blocks and shops that could otherwise have been occupied and used. The earthquake also caused landslips across State Highway One to the north and south of Kaikoura, which meant the town became inaccessible. Although tenants were still able to access their buildings, the lack of access to the town affected their ability to conduct business and pay their rent. Landlords and tenants would have relied on insurance to cover their losses in these situations.

The doctrine could also be helpful to landlords and tenants in urban areas damaged by flooding or fire if buildings are cordoned for a prolonged period. Similarly it might apply in other situations such as the threat of a volcanic eruption or its actual occurrence, or the threat of or an act of, terrorism, a global epidemic or any other situation that might result in an urban area being closed for a lengthy period.

It is vital the law provides certainty in uncertain times. In this paper it is argued that the doctrine of frustration remains a viable solution for landlords and tenants whose buildings are affected by a disaster. This is important to know to be prepared for the future. For it is not if the next disaster should happen, it is when.

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ABSTRACT

The national recovery principles state that disaster recovery should be community-led. However, reports from various recovery processes in Australia and overseas consistently identify that governments too often, in practice, do not support this. This research examines ways in which governments can enable communities to lead their recovery after emergency events. This is a preliminary report of a continuing study. To date, semi-structured interviews have been held with over 20 experienced individuals about their involvement in community recovery. Participants are community members from disaster-affected communities, government employees from all levels of government and across departments, and representatives from community sector organisations. These preliminary results show the complex interplay between communities, governments, and community sector organisations in disaster recovery, and the varying expectations and experiences of those involved. These initial findings show potential to influence policies, processes and systems across governments and communities, and better support community-led recovery.

How can governments enable and support community-led disaster recovery?

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Introduction

Community recovery is complex, involving multiple players with competing priorities and expectations acting in highly stressful situations (Mooney *et al.* 2011, Ryan, Wortley & Ní Shí 2016). Archer and colleagues (2015) found that there is little peer-reviewed literature relating to recovery; the bulk of material relating to 'good recovery' is in the grey literature, is difficult to find and is not comprehensive. While it is common practice for governments to release reports evaluating specific recovery efforts, there is a sense that these are often sanitised. Candid contributions by all parties, including government employees, are rare.

Both Archer and colleagues (2015) and Winkworth (2007) identified the importance of community-led recovery. However, tensions remain between government-led and community-led recovery activities. Further consideration needs to be given to the relationships between these approaches (Archer *et al.* 2015, Drennan, McGowan & Tiernan 2016)

The national recovery principles state that disaster recovery should be community-led (Community and Disability Services Ministers Advisory Council 2009). This is echoed by most state and territory emergency management frameworks and plans. While frameworks and emergency management plans can provide overarching principles and directions, the underlying assumption is that these documents exist in a government and political system that is unified, coherent and stable. In reality, such static documents exist in an environment that is influenced by ever-changing contexts, political imperatives and the experiences, expectations and priorities of those involved.

This paper gives a brief synopsis of some of the themes emerging from the research to date. A larger study will contextualise and test the concept of community-led recovery and examine ways in which governments can enable and support community-led disaster recovery. The study will consider the complex interplay between governments, community sector organisations and affected communities. To date, semi-structured interviews have been conducted with 20 individuals who are, or have been, involved in community recovery from a number of Australian events over several decades. The primary concern of this study is the subjective experiences of participant understandings and knowledge of community recovery.

Palmer (2001) states that much of the academic literature in emergency and disaster research uses a positivist approach and ignores the complexity, power relationships and ambiguities that exist. Using qualitative methods

including data gathering through semi-structured interviews acknowledges that everyone experiences recovery differently and brings to their experiences their individual history, preconceptions and interpretations. Participants answered questions about their understandings of recovery, the roles and responsibilities of government, communities and community sector organisations as well as any lessons learnt.

Participants were community members from disaster-affected communities, government employees from all levels of government and across departments and representatives from community organisations. They were recruited non-randomly, using a snowball technique, accessed initially through members of the Australia-New Zealand Emergency Management Committee's National Social Recovery Reference Group (SRRG) that encouraged its networks to participate. The method for recruiting participants could be considered to bias the sample, in that SRRG members are government representatives for their jurisdiction. However, SRRG members encouraged a wide cohort of people to participate offering a diversity of views, including those critical of government actions. These participants also suggested others for interview.

The data gathered was analysed using Nvivo software. Common themes were drawn out that related to understandings of community recovery and the expectations of the roles and responsibilities of governments, particularly state and local governments.

Community recovery and community-led recovery

There are many different understandings of what community recovery is and, more specifically, what community-led recovery is. The majority of participants in this research, aside from those employed in emergency management, said they had not really considered these questions until the emergency or disaster happened. Their understanding of recovery developed as they were immersed in the process. This included government participants who had been brought into a unit or taskforce from other government services after a disaster.

> *To be honest, I had no idea what community recovery was…it really wasn't on the radar, so …it was breaking new ground as we went.*
> (Community participant)

> *I've managed plenty of projects and I've worked with communities. I've never worked in emergency or recovery before so I went from having very little understanding other than probably an intuitive sense of what it might be.*
> (Government participant)

In terms of community-led recovery, participant responses fell into one of two viewpoints. One was that communities did not necessarily have the capacity, knowledge or skills to lead the recovery process, at least initially, because of disruption and trauma. Many government participants reported feeling a sense of responsibility to 'get the ball rolling' by drawing on experience and knowledge of previous recovery efforts and establishing structures and services that communities were likely to need. For example, one government participant said:

> *I entirely accept the premise… but actually, disentangling the waffle is really important… Because community-led recovery does not mean standing back and having people who've just had all their houses and property and whatever destroyed. You've got to intervene in particular ways that work for them and establish systems and processes that work for them and with them. But it's a bit of a tightrope, particularly in those early days.*
> (Government participant)

Another government participant thought governments should provide the 'scaffolding' for community-led recovery given that most communities may not have been through disasters before and were inexperienced in what support might be needed. Government participants, at both local and state levels, spoke of the need for governments to be involved to smooth over or address fractured relationships in communities.

> *Community-led recovery is great provided the community has the necessary tools to be able to lead its own recovery. You need certain skillsets to be able to plan, to get people together, to manage conflict … and lots of our emergencies happen in fairly isolated places where you don't have a pool of people to pull from. You might not have that necessary skillset.*
> (Government participant)

The other view was that communities were the obvious leaders of recovery from the moment of the emergency event. Community participants in particular said that community members and groups are usually the first responders and gave examples of the processes and activities communities put in place to support recovery from the outset. Several community participants were of the view that the arrival of 'help' from government can actually be a hindrance and that government 'interference' can sometimes fracture relationships and harm communities, albeit inadvertently. Interestingly, some government respondents recounted similar experiences.

Specific examples of governments 'taking over' were given by three community members who work for local community services from two communities that had experienced floods. They expressed dismay that local and state government-provided services disregarded existing structures and plans and people did not consult or involve local service providers who had a good knowledge of their communities.

One community sector participant reported that local and state government service providers had arrived in the town the week after the event and had taken over their building as the recovery centre. This was without

consultation or consideration of the impact on existing clients.

> *The lady from the Council said that this building would be a great building for the recovery centre and she instructed me to cancel all our bookings in our meeting rooms, our youth centre and our playroom. We had regular people and services in there. We had to ring them the next day and cancel them indefinitely for two to three months. The disaster team took over the youth centre, which has two offices… and the big meeting rooms here. We were told by Council 'you do your thing and let us do ours, don't interfere'. They wouldn't let us in the meeting room.*
> (Community sector participant)

The participant also spoke about the frustration of the effect of new services coming into the town without consideration of existing local knowledge, experience or services.

> *We've got over 20 services [operating from the centre]. All those services were duplicated by government services. None of them knew the local area; none of them knew the local services.*
> (Community sector participant)

Another community sector participant was concerned about the transition from locally established recovery services and specialised government recovery services.

> *It was all working fine for the first week but then when the recovery centre started opening up and all the services went in there, and I totally understand the need for it and the role and everything else, and I'm really grateful that it comes with the level of support and backing that it does, but it was not an easy transition. The community did not like going to the recovery centre. It wasn't warm. They had to retell their story.*
> (Community sector participant)

Not all participants were negative about government involvement. Examples were given of successful partnerships between governments (local and state) and communities. Some participants suggested that recovery worked best when governments led from behind or 'sidled up alongside the community', as one participant said. An example was given by a community participant who reflected that the state's recovery unit had given him the mandate, support and encouragement he needed to chair the local recovery committee, which had set up a good process for community-led recovery.

> *'B' was the overriding woman involved from the government agencies and there were three of us community members who weren't affected… so we could lead the recovery forward. And it was to her credit, I suppose, that even though she was the boss, she made me the chairman of that recovery committee.*
> (Community sector participant)

However, the question also arose about the process of nominating people for community recovery committees; who should be on them and how representative of the community they were. For example, a community participant said:

> *I probably don't want to say too much about [the] community recovery committee. In my humble opinion, it wasn't particularly representative of the community. A lot of the people who ended up on the community recovery committee were just government appointees. People who were very happy to acquiesce to what government was doing.*
> (Community sector participant)

What is a community?

This leads to what is probably the most fundamental question in relation to community recovery: 'what is a community?' There is no single perspective. This was recognised, particularly by government participants, with many stating that local communities are complex and often not of one accord. A government participant said:

> *There's a sort of a myth that communities are cohesive, that they have, if you like, a shared perspective. Often communities are quite fractured [before a disaster] but you don't notice it because people just get on separately doing their own thing.*
> (Government participant)

The notion of 'squeaky wheels' came up a number of times; that is, people whose voices are heard often on quite specific issues and who are able to get the attention of others in the community or in government. A community participant said:

> *There's always somebody that thinks [the support given] is not good enough. They look back and say 'why didn't I get this, why didn't I get that?' I know it's always the case of the squeaky wheel gets the oil and we noticed that back in the flood.*
> (Community sector participant)

Inequities within communities in terms of participation in community life came up as a reason for friction. Another government participant said:

> *…within the community there are the people that regard themselves as the 'doers' and that's part of their identity, and they distance themselves from that portion of the community that they perceive could be doing a bit more around the place. So, without wanting to paraphrase Joe Hockey's 'lifters and leaners,' you could see it there.*
> (Government participant)

A number of participants identified that community divisions arose relating to the provision of financial assistance to people who weren't insured. A government participant said:

> *I think the thing that surprised me was the strength of the feeling of moral hazard, the idea that you as a government would pay for people who hadn't bothered to get insurance was stronger than I thought, and it trumped the community sense that we look after our vulnerable.*
> (Government participant)

The need to look after vulnerable groups in the community was identified by several participants, particularly those from government and the community sector. They talked of the need for government involvement and leadership to ensure that the most disadvantaged people in communities were considered in recovery efforts.

> *As a department, our business is about vulnerability... So the most vulnerable or groups with vulnerabilities, like public housing, child protection, disability support... we reach into lots of service systems to get a sense of that vulnerability.*
> (Government participant)

> *Our tenancy worker was dealing with homeless people that were actually homeless before the floods that got wiped out anyway, but because they actually weren't in a building they didn't get assistance.*
> (Community sector participant)

Coordination

One role of government identified by many participants was to coordinate across government departments, other levels of government, community sector organisations and the community. The practice of establishing a specific taskforce, or working with a recovery unit centrally located in the state government, was identified as a key element of a good recovery process. Bringing together several departments into one unit was seen to improve knowledge about, and coordination between, services already in existence.

Having a central unit was seen to help communities to access services and support. Many participants, again across sectors, stated that community members are often unaware of the services and support available to them. A community participant expressed the role of government:

> *Obviously they've got that pool of all the agencies – Housing, Families, Red Cross and all that, which the community itself hasn't got the contact details for, and that's what they do in 'peace time', they set all those things up. ... [For] both these major events, the flood and the fire, right from the start there's a lot of... organisations getting involved... and they drop off as their job is done or as things develop. The ones that are still involved have certainly got the work there to do. You always think, are there too many public servants in the state, or in Australia, and most who answer would say 'yes' but you know, when the need arises...well, there's never enough.*
> (Community sector participant)

Conclusion

The issues that emerged in this research highlight the complexity of the recovery process as well as communities. The experiences of participants from communities, different levels of governments and community sector organisations reflects this complexity. There are no easy answers to the question of how governments can best support community-led recovery. However, some preliminary suggestions could include that governments are transparent with communities about possibilities and constraints, listen to the diversity of views in a community, ensure that those who are vulnerable have a voice and are looked out for and that community strengths and assets are acknowledged and built upon.

The participants interviewed for this study have generously and thoughtfully reflected on their experiences. All, regardless of whether they were from government, the community or the community sector, showed immense goodwill and a strong commitment to helping disaster-affected communities. The willingness of participants to consider ways that processes and systems can be improved provides potential for rich research, policy and practice in this area.

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About the author

Carole Owen was out-posted to the Tasmanian Bushfire Recovery Unit in 2013 to lead the Department of Health and Human Services recovery programs. A former resident of the bushfire-affected area, Carole became interested in the relationships between community and government. Her PhD research examines how governments can better support community-led recovery.

Building community preparedness

The New Zealand 'Get Prepared' website is an initiative of the Wellington Region Emergency Management Office. The site provides information on New Zealand earthquake preparedness and offers guidance related to individuals, households, schools and businesses.

Resources include the downloadable Earthquake Preparedness Guide, templates for business continuity, a searchable index of school emergency management plans and guides for Community Emergency Hubs that are places for communities to coordinate their efforts to help each other during and after a disaster.

The website also features a calendar of events about community preparedness, workshops for schools and childcare centres and business continuity workshops around the region.

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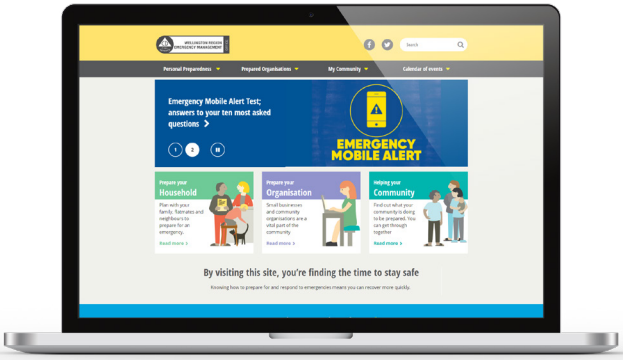
Access the Get Prepared website at www.getprepared.nz/.



Research: recovering from collective trauma events

Recent violent and traumatic public incidents have prompted a new research project led by Australian Red Cross to prepare for and support positive recovery.

Red Cross teams provided psychological first aid to members of the public caught up in traumatic events in Flinders Street, Melbourne; Dreamworld on the Gold Coast; and the Lindt Café siege in Sydney.

These incidents – all leading to death and injury in a violent manner - can challenge perceptions of safety and social trust. They have also provoked public outpourings of grief amid intense media exposure, and may be highly politicised.

Red Cross has been responding to collective trauma events for many years. The new research will provide emergency management practitioners with consensus guidelines on best practices to support a positive recovery.

The scope of this research will cover diverse themes from psychological first aid to internal and external communication, memorial management, and avoidance of minority discrimination. Findings will be valuable for the emergency services sector, including state and local government, and other agencies and personnel who prepare for and respond to collective trauma.

The research is conducted by the Emergency Services and Research and Insights teams at Australian Red Cross in collaboration with Professor Lou Harms (University of Melbourne), Kate Fitzgerald (Emergency Management Victoria), and Dr Rob Gordon (clinical and trauma psychologist).

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If you have practical or managerial experience of recovery from trauma events, research expertise in this field, if you have been personally impacted by a collective trauma event, or to learn more or contribute to the research, please contact Agathe Randrianarisoa, Senior Research and Insights Consultant at Australian Red Cross at arandrianarisoa@redcross.org.au.

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Australian Institute for Disaster Resilience

Abstract submissions close Monday 12 February 2018.